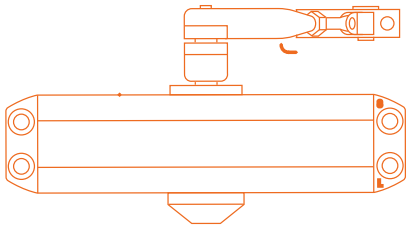
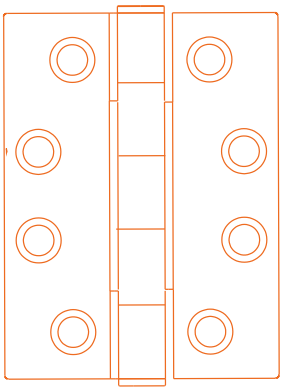
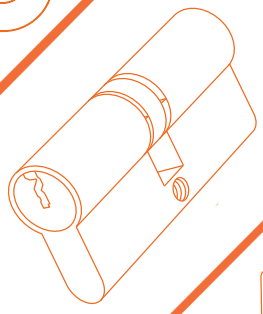
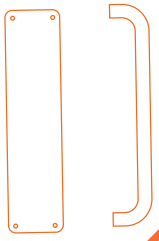
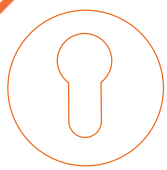
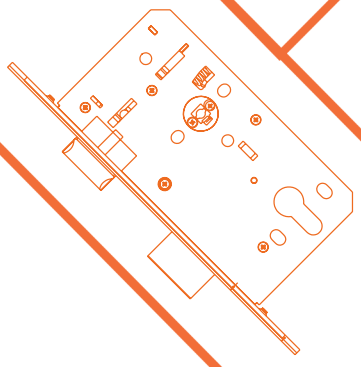












www.d4eme.com

Architectural

Ironmongery

European 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.

ANTIMICROBIAL COATING AVAILABLE

Door Hardware Spreads Bacteria

It is encouraging to see the reduction in instances of Methicillin-resistant staphylococcus aureus and subsequent (MRSA) and subsequent reduction in mortality in the health services over recent years.

However the number of infections remain significant. Simple solutions like educating staff and visitors to wash their hands thoroughly and regularly often does not have a lasting impact.

Having touch surfaces that self clean preventing bacteria from spreading will have a significant and lasting contribution to reducing infections. Door Handles are a major contributor to the spread of bacteria, depending on the frequency of use, temperature and humidity, large colonies can survive on handles for relatively long periods.

Format offers a solution to the specific threat posed by bacteria on door handles. Our factory applied coating has been independently tested by Evans Vanodine pic.

A very large colony of Staphylococcus aureus much larger than would be possible in normal conditions was applied to a stainless-steel disc coated with Format a 99.99 % kill rate was achieved.

An interesting if not a little worrying study of 400 internal toilet doors in 136 airport washrooms in 59 countries* that were swabbed and subsequently analysed showed substantial amounts of bacteria deposited on the door handles.

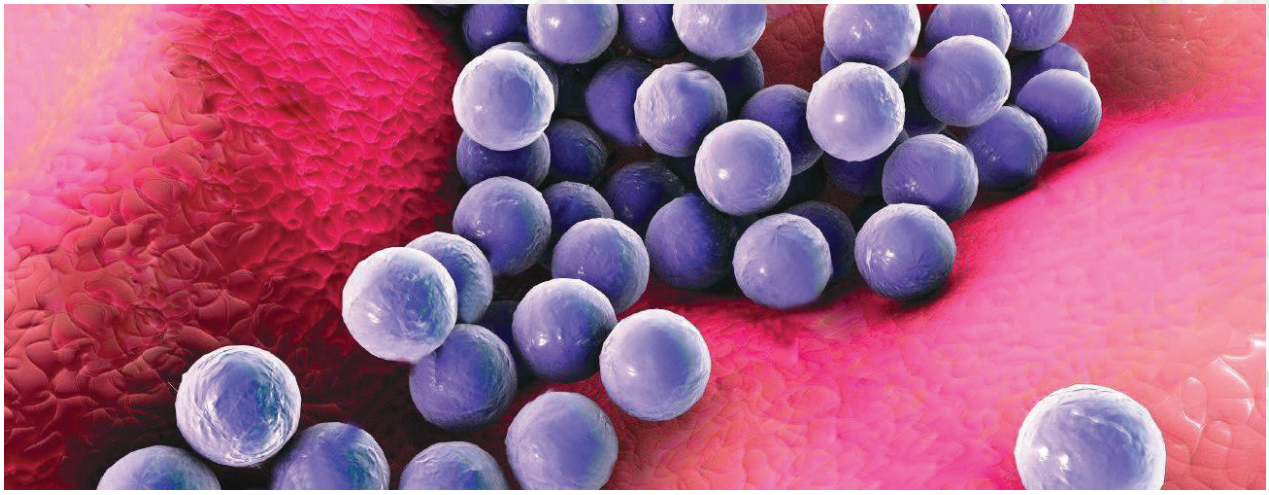
The majority of bacteria found was staphylococcus aureus however substantial amounts of bacteria showing the common signs offaecal contamination were also detected, a clear sign travellers are not washing their hands after using the toilets.

Most worrying fact however was the discovery of bacteria that is resistant to antibiotics and is being spread around the globe.

A simple solution is to force travellers to wash and sanitise their hands by having signs asking them to do so however the conclusion found can only suggest that this is widely ignored.

Fitting Format door hardware would make a positive contribution to combating this threat to world health.

*Study source Frieder Schaumberg University Hospital Munster Germany



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Finish Chart

Finish Code Numbers

Code	Description	Base Material
600	Primed For Painting	Steel
601	Bright Japanned	Steel
603	Zinc Plated	Steel
604	Zinc Plated And Dichromate Sealed	Steel
605	Bright Brass, Clear Coated	Brass
606	Satin Brass, Clear Coated	Brass
607	Oxidized Satin Brass, Oil Rubbed	Brass
608	Oxidized Satin Brass, Relieved, Clear Coated	Brass
609	Satin Brass, Blackened, Satin Relieved, Clear Coated	Brass
610	Satin Brass, Blackened, Bright Relieved, Clear Coated	Brass
611	Bright Bronze, Clear Coated	Bronze
612	Satin Bronze, Clear Coated	Bronze
613	Dark Oxidized Satin Bronze, Oil Rubbed	Bronze
614	Oxidized Satin Bronze, Relieved, Clear Coated	Bronze
615	Oxidized Satin Bronze, Relieved, Waxed	Bronze
616	Satin Bronze, Blackened, Satin Relieved, Clear Coated	Bronze
617	Darkened Oxidized Satin Bronze, Bright Relieved, Clear Coated	Bronze
618	Bright Nickel Plated, Clear Coated	Brass, Bronze
619	Satin Nickel Plated, Clear Coated	Brass, Bronze
620	Satin Nickel Plated, Blackened, Satin Relieved, Clear Coated	Brass, Bronze
621	Nickel Plated, Blackened, Relieved, Clear Coated	Brass, Bronze
622	Flat Black Coated	Brass, Bronze
623	Light Oxidized Statuary Bronze, Clear Coated	Bronze
624	Dark Oxidized Statuary Bronze, Clear Coated	Bronze
625	Bright Chromium Plated	Brass, Bronze
626	Satin Chromium Plated	Brass, Bronze
627	Satin Aluminum, Clear Coated	Aluminum
628	Satin Aluminum, Clear Anodized	Aluminum
629	Bright Stainless Steel	Stainless Steel 300 Series
630	Satin Stainless Steel	Stainless Steel 300 Series
631	Flat Black Booted	Steel
632	Bright Brass Plated, Clear Coated	Steel
633	Satin Brass Plated, Clear Coated	Steel
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
637	Bright Bronze Plated, Clear Coated	Steel
638	Satin Brass Plated, Blackened, Satin Relieved Clear Coated	Steel
639	Satin Bronze Plated, Clear Coated	Steel
640	Oxidized Satin Bronze Plated Over Copper Plate, Oil Rubbed	Steel
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
644	Dark Oxidized Satin Bronze Plated, Bright Relieved, Clear	Steel
645	Bright Nickel Plated, Clear Coated	Steel
646	Satin Nickel Plated, Clear Coated	Steel
647	Satin Nickel Plated, Blackened Satin Relieved, Clear Coated	Steel
648	Nickel Plated, Blackened Relieved, Clear Coated	Steel
649	Light Oxidized Bright Bronze Plated, Clear Coated	Steel

Finish Code Numbers

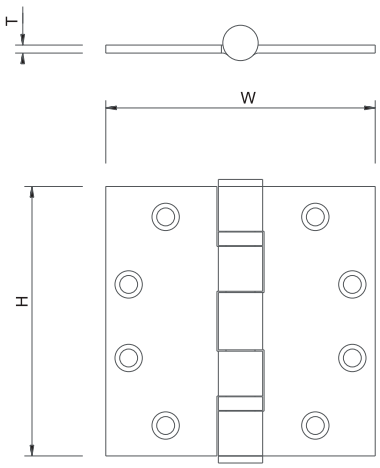
Code	Description	Base Material
650	Dark Oxidized Statuary Bronze Plated, Clear Coated	Steel
651	Bright Chromium Plated	Steel
652	Satin Chromium Plated	Steel
653	Bright Stainless Steel	Stainless Steel 400 Series
654	Satin Stainless Steel	Stainless Steel 400 Series
655	Light Oxidized Satin Bronze Bright Relieved, Clear Coated	Bronze
656	Light Oxidized Satin Bronze Plated, Bright Relieved, Clear	Steel
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
667	Satin Brass Plated, Clear Coated	Aluminum
668	Satin Bronze Plated, Clear Coated	Aluminum
669	Bright Nickel Plated	Aluminum
670	Satin Nickel Plated	Aluminum
671	Flat Black Coated	Aluminum
672	Bright Chromium Plated	Aluminum
673	Aluminum Clear Coated	Aluminum
674	Primed For Painting	Zinc
675	Dichromate Sealed	Zinc
676	Flat Black Coated	Zinc
677	Bright Brass Plated, Clear Coated	Zinc
678	Satin Brass Plated, Clear Coated	Zinc
679	Bright Bronze Plated, Clear Coated	Zinc
680	Satin Bronze Plated, Clear Coated	Zinc
681	Bright Chromium Plated	Zinc
682	Satin Chromium Plated	Zinc
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
689	Aluminum Painted	Any
690	Dark Bronze Painted	Any
691	Light Bronze Painted	Any
692	Tan Painted	Any
693	Black Painted	Any
694	Medium Bronze Painted	Any
695	Dark Bronze Painted	Any
696	Satin Bronze Painted	Any
697	Bright Brass Plated, Clear Coated	Plastic
698	Satin Brass Plated, Clear Coated	Plastic
697	Satin Bronze Plated, Clear Coated	Plastic
700	Bright Chromium Plated	Plastic
701	Satin Chromium Plated	Plastic
702	Satin Chromium Plated	Aluminum
703	Oxidized Satin Bronze Plated, Oil Rubbed	Aluminum
704	Oxidized Satin Bronze Plated, Oil Rubbed	Zinc

Notes:

Hang The Door

TE4100 Series Full Mortise Hinges

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.



* Stainless steel 304
* Stainless Steel ball bearing, With imported damping oil
* Optional 2 ball bearing(-2BB) or 4 ball bearing (-4BB)
* Door weight up to 120 kgs with 3 hinges
* Packed with wood & metal screws

Certification:

* CE certified Grade 13
* BS EN 1935 :2002 Standard performance test
* BS EN 1634 Fire test

Dimension:

Model No:	Size	W	H	T
TE 4110	4 x 3 x 3	102mm	76mm	3mm
TE 4120	4 x 3.5 x 3	102mm	89mm	3mm
TE 4130	4 x 4 x 3	102mm	102mm	3mm

Finish:

* Satin Stainless Steel
* Polished Stainless Steel
* Other finishes 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		HT-Hospital Tip	ETW -Electric Through Wire	626
				PIC -Plug in Connector	625
				RC -Radius Corner	606
					605

Ex: TE4110.2BB.NRP.630

1

TE4160 Rising Hinges

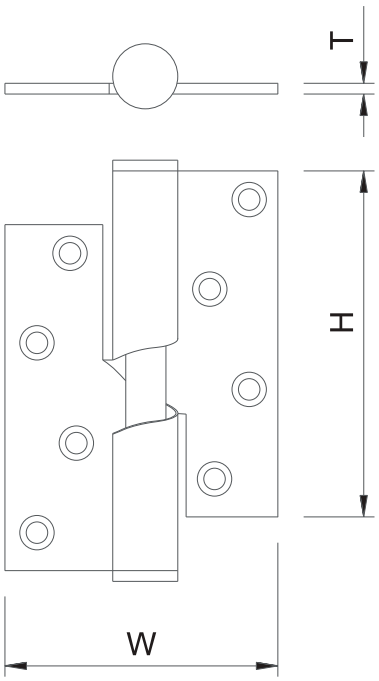
* Stainless steel 304
* Applicable to wood flush door
* No bearing, Pin with lubricating oil
* Simple construction, Easy for mount & dismount
  Door self-closed by gravity
* Door weight up to 80 kgs with 3 hinges
* Handed hinge
* Packed with wood screws

Dimension:

	W	H	T
4 X 3 X 3	102mm	76mm	3mm

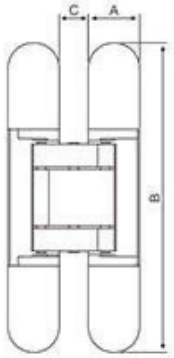
Finish:

* Satin Stainless Steel
* Polished Stainless Steel
* Other finishes Available upon request



3D Adjustable Concealed Hinges

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

Model No:	Weight
TA 4630	80kg
TA 4640	120kg
Options:	US26D
	RC

Features And Technical Data

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

Finish:

* Satin Stainless Steel
* Polished Stainless Steel
* Other finishes Available upon request

Data Unit (mm)	Zinc Alloy Body									
Product Code	Size	Min Door Thickness	Max Door Weight	A hinge Width	B hinge Length	C	D Mostice Length	E Dimansion from Door Edge	F Mortice Depth	G Plate Depth
TA 4630	28 X 177	40mm	80kg	28	117	16	145	3.5	25.5	9
TA 4640	34 X 246	45mm	120kg	34	246	18	212.5	3.5	36.5	9

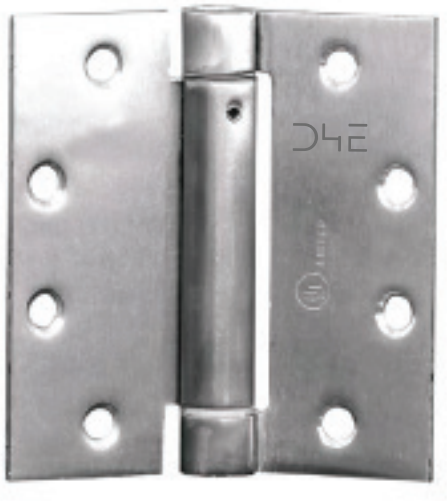
How to order

Brand Identity	Model No:	Type	Size	Finish
TA	4630	3D	80kg	630
	4640		120kg	629
	4650		200kg	604
	4660		300kg	606
				625
				626
				612
				613
				619

Ex: TA4630.3D.630

Spring Hinge- Standard Weight

Single action hinges



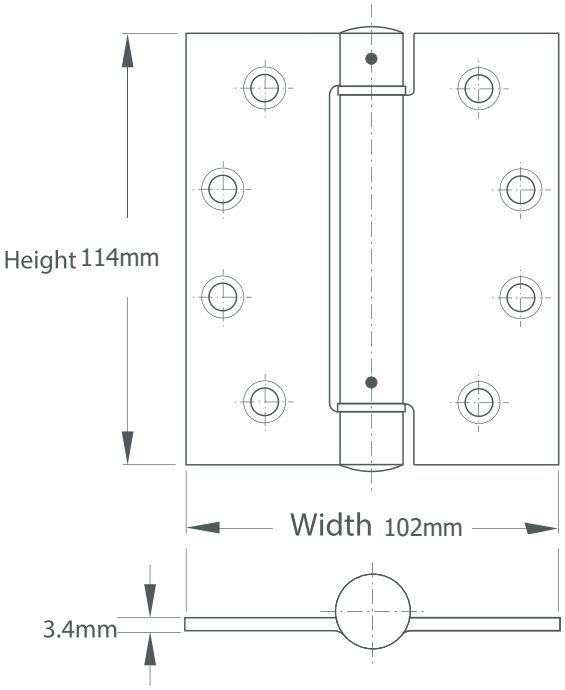
TA4400

Certification: ANSI A156.17

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

TE4400 Heavy Duty Double Action Spring Hinge

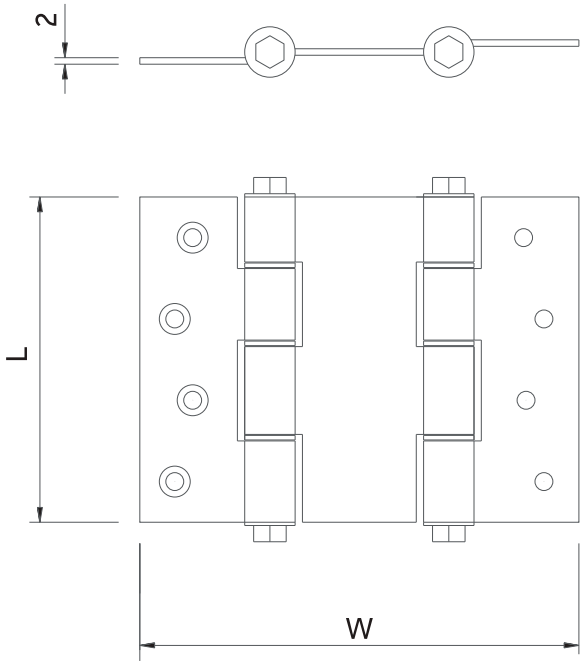
* Stainless steel 304
* Applicable to flush wood door
* Double action.Open to 180 degree
* Door weight up to 60 kgs with 3 spring hinges
* Optional wood & metal screws

Dimension:

	W	H	T
TE4470.DA	180mm	135mm	2mm
TE4460.DA	150mm	135mm	2mm

Finish:

* Satin Stainless Steel
* Other finishes Available upon request



ABHM Best practice guide: Single-axis hinges to BS EN 1935

• ABHM BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European product standard. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standards.

• BS EN 1935 Single-axis hinges

This standard provides details on product types, classification by use, test cycles, door mass, corrosion resistance, as well as definitions, product performance requirements, test apparatus, test methods and marking of products. In addition, the published standard includes annexes with details for special applications .

Extracts from BS EN 1935 are reproduced with the permission of the British Standards Institution under licence number 2003/SK0014.

Note: This standard has replaced BS 7352:1990: Specification for strength and durability performance of metal hinges for side hanging applications and dimensional requirements for template drilled hinges.

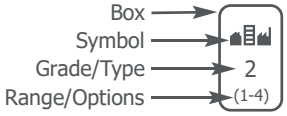
• SCOPE

This European standard specifies requirements for single-axis hinges for windows and doors opening in one direction only, whose rotation axis is no more than 30mm from the face of the sash or door. It covers both fixed pin and lift-off hinges, and contains additional requirements for hinges intended for use on fire doors.

• CLASSIFICATION

BS EN 1935 classifies door furniture by using an 8 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

The ABHM recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 2 in the Category of Use classification, where EN 1935 stipulates a range of four possibl

Digit 1
Category of use

Four categories of use are identified:

- grade 1: light duty
- grade 2: medium duty
- grade 3: heavy duty
- grade 4: severe duty

Digit 2
Durability

Three Grades Are Identified For Single-axis Hinges Manufactured To This European Standard:

- Grade 3: 10 000 Test Cycles, For Light Duty Hinges On Windows Only
- Grade 4: 25 000 Test Cycles, For Light Duty Hinges On Windows And Doors
- Grade 7: 200 000 Test Cycles, For Medium. Heavy And Severe Duty Hinges On Doors Only

Digit 3
Test door mass

Eight door mass grades related to single-axis hinges are identified in this European standard as shown in Table 1 below.

Table 1

Test door mass grade	Door mass
0	10 kg
1	20 kg
2	40 kg
3	60 kg
4	80 kg
5	100 kg
6	120 kg
7	160 kg

Digit 4
Suitability for fire/smoke door use

TWo Grades Of Suitability Are Identified For Single-axis Hinges:

- Grade 0: Not Suitable For Fire/smoke Resistant Door Assemblies
- Grade 1: Suitable For Fire/smoke Resistant Door Assemblies Subject To Satisfactory Assessment Of The Contribution Of The Single-axis Hinge To The Fire Resistance Of The Specified Fire/smoke Door Assemblies. Such Assessment Is Beyond The Scope Of This European Standard (See En 1634-1).

Digit 5
Safety

Single-axis hinges are required to satisfy the essential requirements of safety in use. Therefore, only grade 1 is identified.

Digit 6
Corrosion resistance

Five grades of corrosion resistance are identified in accordance with EN 1670:

- grade 0: no defined corrosion resistance.
- grade 1: mild resistance.
- grade 2: moderate resistance.
- grade 3: high resistance.
- grade 4: very high resistance.

Digit 7
Security

Two grades of security are identified for single-axis hinges:

- grade 0: not suitable for use on burglar-resistant door assemblies
- grade 1: suitable for applications requiring a degree of security. Annex C of this European standard details the hinge grade to use for the level of security required.

Digit 8
Hinge grade

Fourteen grades are identified in this European standard and are detailed in Table 2 below. The full classification is shown in the standard.

Table 2

Hinge grade	Usage	Test cycles	Door mass
1	Window	10 000	10 kg
2	Window	10 000	20 kg
3	Window/Door	25 000	20 kg
4	Door	200 000	20 kg
5	Window	10 000	40 kg
6	Window/Door	25 000	40 kg
7	Door	200 000	40 kg
8	Window	10 000	60 kg
9	Window/Door	25 000	60 kg
10	Door	200 000	60 kg
11	Door	200 000	80 kg
12	Door	200 000	100 kg
13	Door	200 000	120 kg
14	Door	200 000	160 kg

• EXAMPLE

Example: the following marking denotes a single-axis hinge for use in medium duty situations, tested to 200 000 cycles, for use on doors with a mass up to 60 kg, with stated fire door suitability, satisfying the essential requirement of safety in use, high corrosion resistance, suitable for burglar-resistant doors and with a hinge grading of 10.

• MARKING

Each single-axis hinge manufactured to this European standard must be marked with the following:

(a) manufacturer's name or trademark, or other means of identification.
(b) the hinge grade (eighth digit of classification code).
(d) number of this European standard.

Note: This information can be in coded form

• CE MARKING

Single axis hinges intended for use on fire resisting doors and smoke control doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, this standard is regarded as a "harmonised" standard and compliance with it, supported by suitable evidence, allows the application of the CE mark.

As fire/smoke door hinges have a critical safety function, application of the CE mark will require the involvement of a notified certification body to provide verification of the compliance claims. This will involve initial type-testing of the product to EN 1935, initial inspection of the manufacturer's factory production control and continuing surveillance and approval of the factory production control. On satisfactory completion of these tasks, the notified body issues an EC Certificate of Conformity which then permits the manufacturer to declare compliance and affix the CE marking to his product.

The standard requires the following additional information to accompany the CE marking:-

- the identification number of the notified certification body
- the name or identifying mark of the manufacturer
- the registered address of the manufacturer
- the last two digits of the year in which the marking was applied
- the number of the EC certificate of conformity
- reference to EN 1935:2002
- the classification code of the product

Note that, although the notified body has to be involved to verify the manufacturer's claims, the manufacturer remains responsible for designing and producing the product, for affixing the CE marking, and for ensuring that the product meets the requirements of the Directive.

Where to place the CE mark

	On product – and visible after installation	On product	With installation instructions	On product packaging	On commercial documents
CE symbol	R	R	E	R	O
Notified Body number	R	R	E	R	O
Name of Producer	O	O	E	O	O
Address of Producer	O	O	E	O	O
Year of marking	O	O	E	O	O
C of C number	O	O	E	O	O
Product std number	R	R	E	R	O
Classification code	R (last digit)	R (last digit)	E	R	O

E = Essential
O = Optional
R = Recommended

For some products it may be appropriate to specify a combination of locations for the CE marking and the accompanying information. For example, a minimum of information could appear on the product itself, with the complete information appearing on the installation instructions or on the accompanying commercial documents. Where the information is split in this way, the location(s) lower in the hierarchy must always repeat that part of the information already placed higher up in the hierarchy.

Additional important considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting hinges. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct installation of hinges is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as"tested to...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1935. Test reports and/or certificates are available upon request.

b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1935 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.

*Add as appropriate.

c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1935 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken. Test reports and/or certificates are available upon request.

*Add as appropriate.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

Further reading: Single axis hinges

1.0 Introduction

When hinges are used on a fire-resistant doorset the door leaf should be hung on single-axis hinges in accordance with local and national regulations. Hinges fitted to fire-resistant doorsets should be able to achieve the intended fire rating, also the hinge should be able to allow the door closing devices when fitted to a fire-resistant doorset, to close the door leaf reliably from any angle to which it has been opened, overcoming the resistance of a latch or any seals when fitted.

Experience relating to escape from buildings and general safety has shown the importance of fitting doors on escape routes with suitable single-axis hinges to enable the occupants of the building to escape quickly and easily from a building in the case of fire or some other emergency.

At the same time, where escape route doors are part of the final exit from a building, there will be some additional requirements for security of the door against intrusion and burglary. In this case the hinge should be of a design such that it cannot be removed or parted whilst the door is closed so that the building and its contents are secure against crime.

Where escape route doors are part of the fire compartmentation of the building there will be additional requirements to ensure that the hinges fitted do not compromise the fire resisting performance of the doorset.

2.0 Critical recommendations

Except where otherwise noted, these recommendations apply both to hinges for fire-resistant doorsets and to hinges fitted to doors on escape routes.

2.1 The hinge should comply fully with BS EN 1935, including its Annex B. Preferably, this compliance should be demonstrated by the application of the CE marking.

2.2 When used on fire-resistant doorsets the product should have demonstrated its ability to be suitable for the intended purpose, by inclusion in satisfactory fire test to EN 1634-1, on a type of doorset and configuration in which it is proposed to be used. This evidence should be provided by an approved third party certification or testing body (see Notified Bodies in the 'Guidance Notes on CE Marking' section of this CD, clause 2.3).

2.3 The strength and features must be correct for the size of door to which it is to be fitted, bearing in mind:

- the application of the door;
- position of door stop if being used;
- whether subject to factors such as heavy traffic use, abusive treatment, used by elderly, infirm or disabled;

- whether or not a door closer is being used;
- size (height and width) and mass of the door;
- number and position of hinges.

2.4 A regular program of maintenance should be undertaken to ensure that the correct operational performance of the hinge is maintained for the life of the building (see 'Installation and maintenance advice').

2.5 Rising butt hinges are not recommended for use on fire-resistant doorsets (see 'Further Reading' in the Door closing devices section of this CD, clause 2.0).

2.6 Spring hinges are not recommended for use on fire-resistant doorsets (see 'Further Reading' in the Door closing devices section of this CD, clause 2.0).

2.7 Fixing screws should be size No 8 and not less than 30 mm in length.

2.8 Hinges for use on final exit escape doors should have a corrosion resistance of not less than Grade 3 of BS EN 1670.

2.9 Hinges should be marked according to clause 8 and Annex ZA.3 of BS EN 1935

Further reading: Single axis hinges

3.0 Commentary

3.1 Melting point

The England and Wales Building Regulations 1991 Approved Document B, Appendix B Fire doors Clause 7 states: - "Unless shown to be satisfactory when tested as part of a fire door assembly, the essential components of any hinge on which a fire door is hung should be made entirely from material having a melting point of at least 800ºC."

However, on FD60 fire doors it is recommended that hinges should be made of mild steel and on fire doors whose integrity is greater than FD60 it is recommended that hinges should be made of stainless steel. Stainless steel thermal conductivity is 25% of mild steel and steel has a lower thermal conductivity than brass.

3.2 Sizes

Hinges are available in a range of sizes, which relate to the mass and size of the door. These are set out in Table 1 of BS EN 1935, as shown in the extract below:-

Table 1 : Classification Summary

First Digit			Second Digit		Third digit		Fourth digit	Fifth digit	Sixth digit	Seventh digit	Eighth digit
Category of use			Endurance test cycles		Test door mass		Fire resistance	Safety	Corrosion resistance	Security	Hinge grade
Use	Grade	Use on	Grade	number of Test cycles	Grade	mass (kg)	Grades available	Grade available	Grades available	Grades available	Grade
Light	1	Window	3	10 000	0	10	0 or 1	1	0,1,2,3,4	0 or 1	1
Light	1	Window	3	10 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	2
Light	1	Door or Window	4	25 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	3
Medium	2	Door	7	200 000	1	20	0 or 1	1	0,1,2,3,4	0 or 1	4
Light	1	Window	3	10 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	5
Light	1	Door or Window	4	25 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	6
Medium	2	Door	7	200 000	2	40	0 or 1	1	0,1,2,3,4	0 or 1	7
Light	1	Window	3	10 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	8
Light	1	Door or Window	4	25 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	9
Medium	2	Door	7	200 000	3	60	0 or 1	1	0,1,2,3,4	0 or 1	10
Heavy	3	Door	7	200 000	4	80	0 or 1	1	0,1,2,3,4	0 or 1	11
Severe	4	Door	7	200 000	5	100	0 or 1	1	0,1,2,3,4	0 or 1	12
Severe	4	Door	7	200 000	6	120	0 or 1	1	0,1,2,3,4	0 or 1	13
Severe	4	Door	7	200 000	7	160	0 or 1	1	0,1,2,3,4	0 or 1	14

Clearly, an important factor is the size of the hinge with respect to the door mass

3.3 Torque

The torque between the two hinge leaves is important; limits of this torque are set down in BS EN 1935, the low torque requirement of the hinge is required to allow the door closer to overcome the resistance of the latch bolt and or seal pressure.

Further reading: Single axis hinges

3.4 Number and position of hinges

It is recommended that at least 3 hinges should be used on fire and escape route doors.
BS 4878 details the position of door hinges as follows:-

One hinge shall be positioned on the centre line of the door height the other two hinges being at 770mm either side of the centre hinge. This hinge layout gives stability to the door. With fire doors becoming heavier there is a practice to fit two hinges at the top of the door with the third hinge at the bottom of the door. With this configuration the hinges are positioned as follows; centre line of the top and bottom hinge 250mm from the top and bottom edge of the door, the centre line of the third hinge is 200mm from the centre line of the top hinge (this practice is supported by test evidence).

For doors heavier than 160 kg or exceeding 2250 mm in height, a recommendation from the manufacturer should be obtained. Annex D of BS EN 1935 gives additional advice regarding the use of hinges on doors of excessive width.

3.5 Influence of door closers

Door closers put extra stress on the hinges of fire resistant and escape doorsets. This has been addressed in BS EN 1935 and is covered in annex E.

For a standard door closer it is recommended that the door mass should be notionally increased by 20%. The effect of a back check door closer is greater and it is recommended that the door mass should be notionally increased by 75%.

3.6 Rising butts

the England And Wales Building Regulations 1991: Approved Document B: Appendix E States That Rising Butt Hinges Which Do Not Meet Criteria Of Automatic Self-closing Device Are Acceptable Where The Door Is:-

(I) To (Or Within) A Dwelling

(Ii) Between A Dwelling House And Its Garage, Or

(Iii) In A Cavity Barrier

However, In This Document The Use Of Rising Butt Hinges Is Discouraged From The Fire Resistance Viewpoint For The Following Reasons:-

A) To Enable The Door To Function Properly, It Is Necessary To Ease The Top Edge Of The Door Sufficiently To Allow For The Rise Of The Butt. When The Door Is Returned To Its Closed Position, This Means That A Gap Will Exist At The Head Of The Door. This Will Be In Excess Of The 3mm Gap, Which Is The Recommended Maximum For Fire Doors. The Head Of The Door Is The Most Vulnerable Point Of The Door If A Fire Breaks Out. It Is At This Point That The Pressure Of Smoke And Hot Gases, Searching For Cracks And Fissures Through Which To Escape, Is Highest.

B) The Closing Force Exerted By Rising Butt Hinges Is Extremely Low And Will Not Overcome Air Pressure Differences Or Resistance From Latches, Seals Or Carpets That May Be Fitted And, Therefore, They Cannot Be Considered As Reliable Door Closing Devices.

3.7 Lift-off, loose pin and journal supported hinges

These hinges are considered suitable for use on fire resisting doors, providing that the hinge pins cannot be removed or the door leaf separated from its frame, when the door is in its closed position.

Further reading: Single axis hinges

3.8 Spring hinges

Such hinges come in many forms. The common factor with most hinges of this type is the large amount of metal incorporated in their construction. This is likely to lead to early integrity failure. In addition, the spring tension which acts as an integral self-closing device has an inherently low resistance to pressure in the closed, or near-closed, position, making it difficult for such hinges to hold the door in the closed position without the assistance of a latch (see 'Further Reading' in the Door closing devices section of this CD, clause 3.7).

3.9 Fixing screws

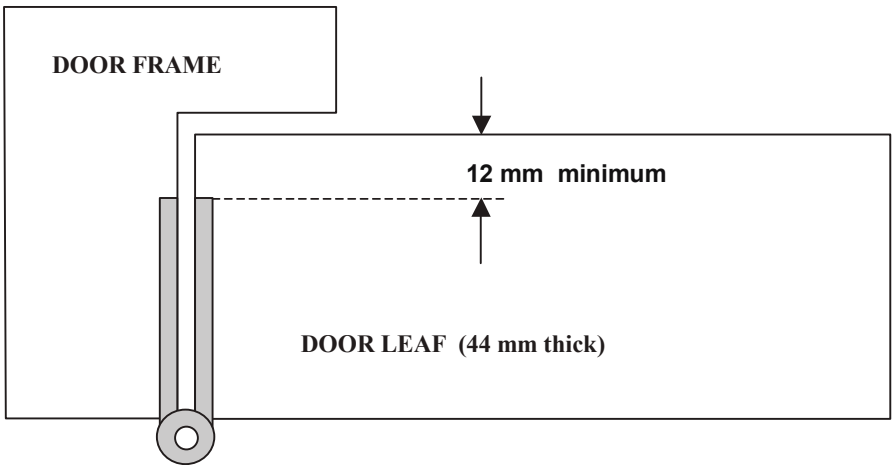
Although it is possible to use very short screws when fixing hinges it is obvious that this must stress the construction, even in the 'cold' state. When fire develops, a short screw will lose its holding ability more quickly than a long one. It is recommended that the screws used for fixing the hinges should not be less than 30mm long.

The diameter of the screw will also play a significant role in supporting the door particularly in fire. It is recommended that no screw should have a diameter of less than 3.8mm (No8).

It is recommended that the torque applied to the fixing screws should not be greater than 6 Nm per screw, to prevent stripping the timber, and it is further recommended that full thread type of screws be used and that care should be taken to ensure that the fixings do not penetrate into the brickwork, unless the brickwork is prepared to receive the screw, otherwise the screw may be stripped.

3.10 Projection

It is recommended that the centre line of the knuckle should not be greater than 30mm from the face of the door. For door leaves of 44mm thickness, no part of the hinge should extend across the door thickness to a posiion closer than 12mm from the non-pivoting face. For door leaves of 54mm thickness, no part of the hinge should extend across the thickness to a position closer than 18mm from the non-pivoting face.



3.11 Hold open devices

These can put extra stress into the hinge and the hinge fixings. It recommended that the hold open device should be positioned on the horizontal axis of the door closing device and as near to the edge of the locking stile as possible.

3.12 Door preparation

To ensure the accuracy and position of the hinge rebates in the door leaf and door frame it is recommended that they should be machined in position at the door manufacturing stage.

Further reading: Single axis hinges

3.13 Intumescent protection

When, it is recommended that, intumescent material be used to protect the hinges. It is recommended that advice should be obtained from the door, hinge or intumescent supplier as to the type, position and fixing method to be used

3.14 Concealed conductor hinge

See 'Further reading' clause 3.5.1 in the Electrically powered hold-open devices section of this CD.

4.0 Fire issues

Many of the best practice guides in this section refer to classification of the suitability of the associated products for use on fire resistant and/or smoke control doors.

Currently the following test methods and classification documents are relevant:

BS EN 1634-1: 2000 - Fire resistance tests for door and shutter assemblie: Part 1 – Fire doors and shutters;

BS EN 1634-3: 2001 - Fire resistance tests for door & shutter assemblies: Part 3 - Smoke control doors & shutters

BS EN 13501-2: 2003* - Fire classification of construction products and building elements: Part 2 – Classification using data from fire resistance tests (excluding products for use in ventilation systems).

BS 476: Part 22 - Fire tests on building materials and structures: Part 22 - Methods for determination of the fire resistance of non-loadbearing elements of construction

* Standard in course of publication

Control The Door

www.d4eme.com

Door Closer Rack & Pinion With Standard Arm

TE7640

- Power size 2 /3 /4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

Product Features:

- Template Adjustabl power size 2 /3 /4
- Adjustable closing & latching speed
- Thermo-constant valve
- Backcheck (optional upon request)
- Surface mount
- Rack & pinion action
- Standard arm mechanism

Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 3
- Single-action door
- Non-handed installation

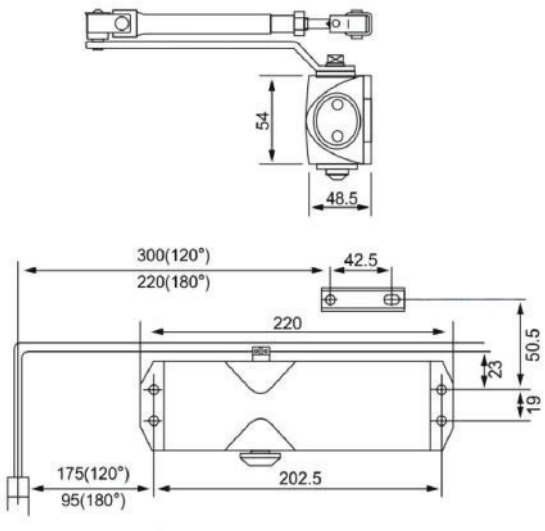
Finishes:

- Painted – silver
  *Other finishes Available upon request
- Plating (for covers only) - finishes Available upon request

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Cover

Dimensions:



Door Closer with Track Arm

TE7650V

2

Product Features:

- Adjustable power size 2~5
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack and pinion
- Track arm mechanism

- Power size 2~5
- Max. Door width (mm) 1250
- Max. Opening Angle 180

Application Ranges:

- B type: Door mount pull side & transom mount push side
- G type: Door mount push side & transom mount pull side
- Single-action door
- Non-handed installation

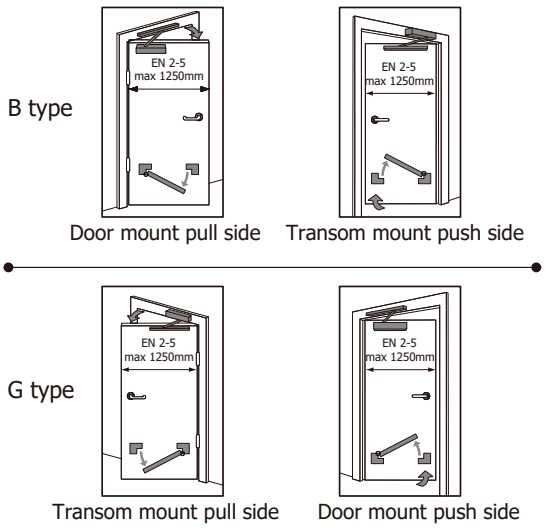
Finishes:

- Anodized aluminum for door closer body and track rail as standard
- Painted – silver
  *Other finishes Available upon request
- Plating (for cover only) - finishes Available upon request

Accessories:

- Track arm
- Cover
- Mounting plate
- Hold open device
- Cushion limit stay
- Angle bracket

Installation:



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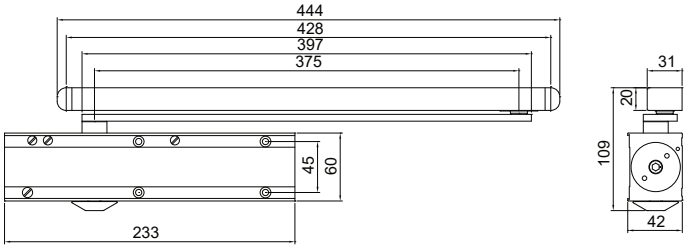


Door Closer Rack & Pinion With Track Arm

TE7904

2

Product Features:

- Power size 2 /3 /4
- Adjustable closing & latching speed
- Thermo-constant valve
- Concealed mount
- Rack & Pinion
- Track arm mechanism
- Can be installed in virtually all doors with Minimum Door thickness of 40 mm, and regular fire door 44 mm and 54 mm.

- Power size 2 /3 /4
- Max. Door width (mm) 1100
- Max. Opening Angle 120

Application Ranges:

- Concealed in door
- Concealed in transom
- Single-action door
- Non-handed installation

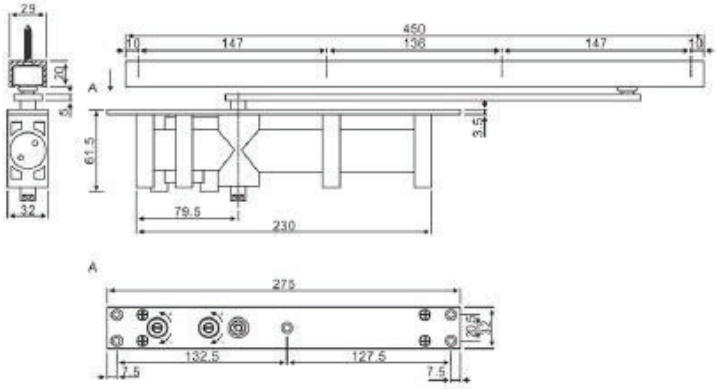
Finishes:

- Anodized aluminum for door closer body and track rail as standard
- Painted – silver
  *Other finishes Available upon request

Accessories:

- Track arm (Large as standard & Small as option)
- Hold open device
- Cushion limit stay
- Fixing plate
- End cap

Dimensions:



Door Closer Rack & Pinion With Standard Arm

TE7768

- Power size 2 /3 /4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

Product Features:

- Template Adjustabl power size 2 /3 /4
- Adjustable closing & latching speed
- Thermo-constant valve
- Backcheck (optional upon request)
- Surface mount
- Rack & pinion action
- Standard arm mechanism

Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 3
- Single-action door
- Non-handed installation

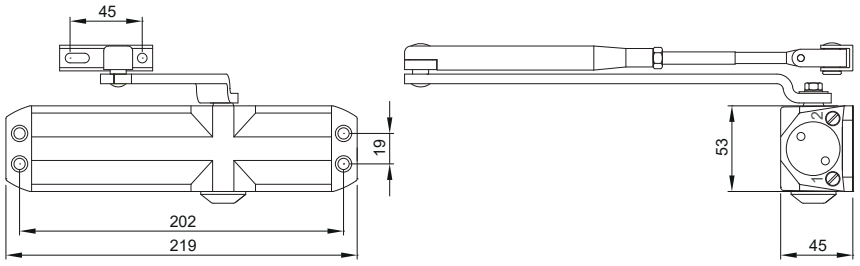
Finishes:

- Painted – silver
  *Other finishes Available upon request
- Plating (for covers only) - finishes Available upon request

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Cover

Dimensions:



Door Closer Rack & Pinion With Standard Arm

TE7772V

- Power size 2~4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

Product Features:

- Selectable position power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack & pinion action
- Standard arm mechanism

Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 3
- Single-action door
- Non-handed installation

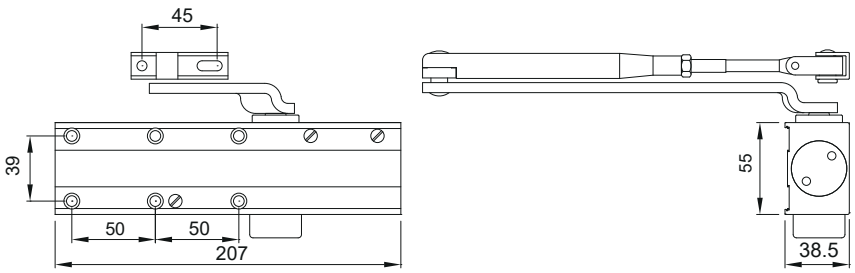
Finishes:

- Anodized aluminum for door closer body as standard
- Plated and Painted Finishes Available upon request

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Fixing plate
- Drop plate
- Cover

Dimensions:



Door Closer Rack & Pinion With Standard Arm

TE7777Z

2

Product Features:

- Selectable position power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Surface mount
- Rack & Pinion action
- Standard arm mechanism
- Adjustable back check (optional upon request)

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Drop plate

TE7777Z	2	3	4
Max. Door width (mm)	870	950	1100
Max. Opening Angle	160	160	145

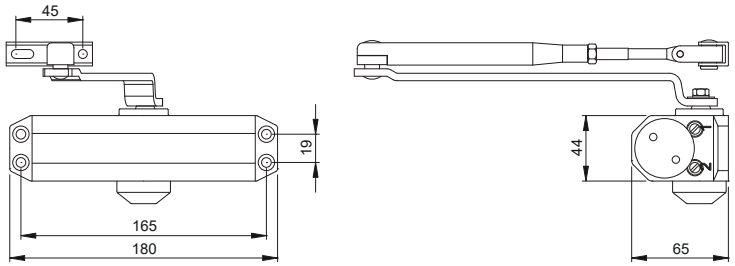
Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 2
- Single-action door
- Non-handed installation

Finishes:

- Painted – silver, brown, gold, black, white & other RAL colors upon request & discussion

Dimensions:



Door Closer Rack & Pinion With Track Arm

TE7763B

Application Ranges:

- Standard door mount on pull side
- Transom mount on pull and push side
- Single-action door
- Non-handed installation

Product Features:

- Fixed power size 2~3
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack & Pinion action
- Track arm mechanism

- Power size 3
- Max. Door width (mm) 950
- Max. Opening Angle 180

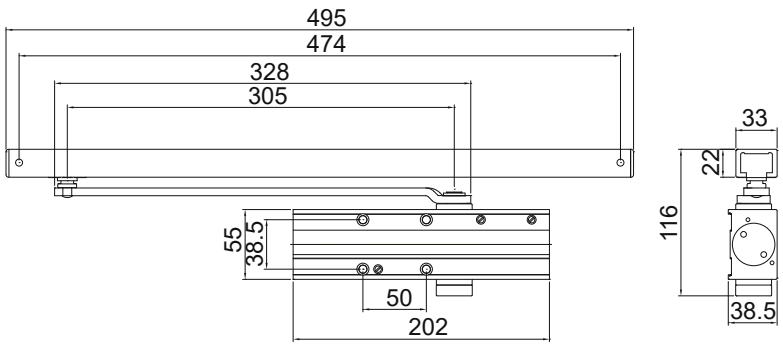
Finishes:

- Anodized aluminum for door closer body and track rail as standard
- Plated and Painted Finishes Available upon request

Accessories:

- Track arm
- Hold open device

Dimensions:



Door Closer Rack & Pinion With Track Arm

TE7765G

2

Product Features:

- Adjustable power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack & Pinion action
- Track arm mechanism
- Delay action (optional upon request)

- Power size 2~4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

Application Ranges:

- Standard door mount on pull side
- Transom mount on pull and push side
- Single-action door
- Non-handed installation

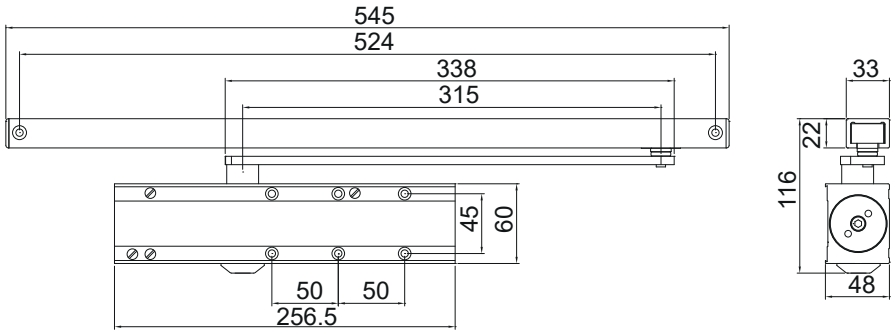
Finishes:

- Anodized aluminum for door closer body as standard
- Painted – silver
  *Other finishes Available upon request
- Plating (for cover only) - finishes Available upon request

Accessories:

- Track arm
- Hold open device
- Cover

Dimensions:



Door Closer Rack & Pinion With Standard Arm

TE7783G

- Power size 2~4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

Product Features:

- Adjustable power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack & pinion action
- Standard arm mechanism

Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 3-4
- Single-action door
- Non-handed installation

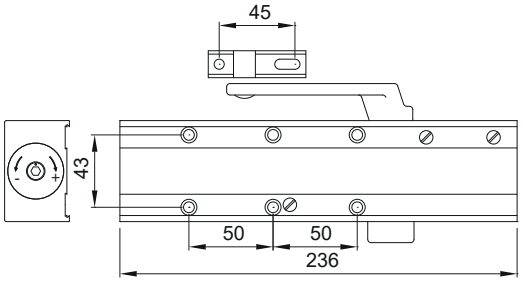
Finishes:

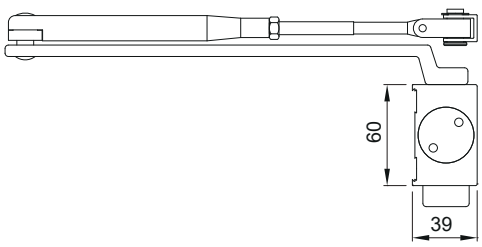
- Anodized aluminum for door closer body as standard
- Painted – silver
  *Other finishes Available upon request
- Plating (for cover only) - finishes Available upon request

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Cover

Dimensions:





Door Closer Concealed Rack & Pinion With Track Arm

TE7766B

2

Product Features:

- Fixed power size 3
- Adjustable closing & latching speed
- Thermo-constant valve
- Cushion limit stay
- Concealed mount
- Rack & Pinion action
- Track arm mechanism

- Power size 3
- Max. Door width (mm) 950
- Max. Opening Angle 120
- Min. Door Thick -:
  - Steell 40
  - Wood 44

Application Ranges:

- Concealed in door
- Single-action door
- Non-handed installation

Finishes:

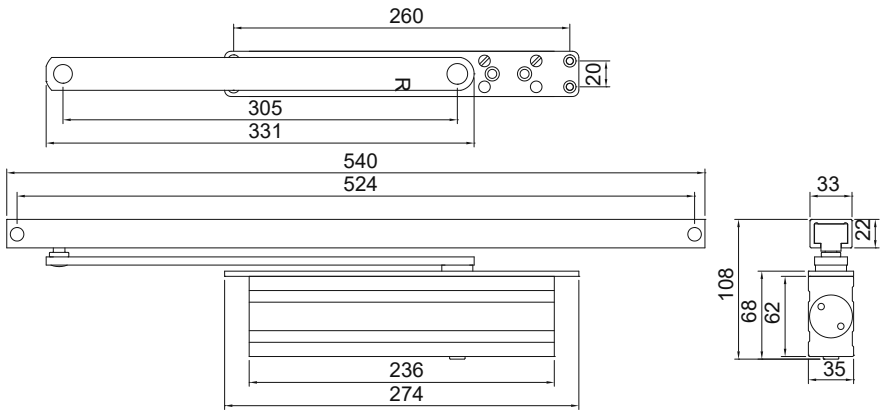
- Anodized aluminum for door closer body as standard
- Painted – silver

*Other finishes Available upon request

Accessories:

- Track arm

Dimensions:



Door Closer Cam Action System With Track Arm

TE7791B

Application Ranges:

- B type: Door mount pull side & transom mount push side
- G type: Door mount push side & transom mount pull side
- Single-action door
- Non-handed installation

Product Features:

- Fixed power size 3
- Adjustable closing & latching speed
- Thermo-constant valve
- Surface mount
- Cam action
- Track arm mechanism

- Power size 3
- Max. Door width (mm) 950
- Max. Opening Angle 180

Finishes:

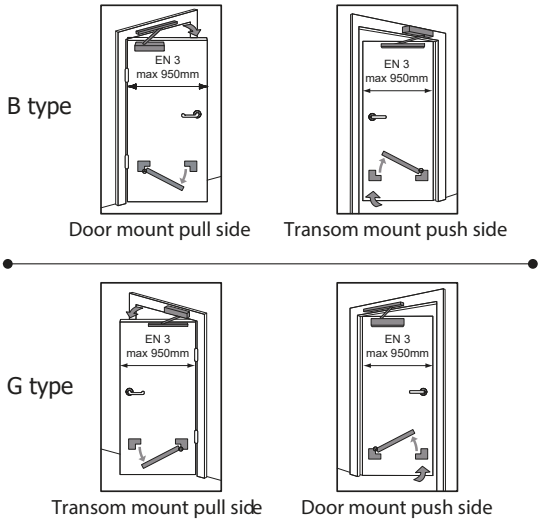
- Anodized aluminum for door closer body and track rail as standard
- Painted – silver

*Other finishes Available upon request

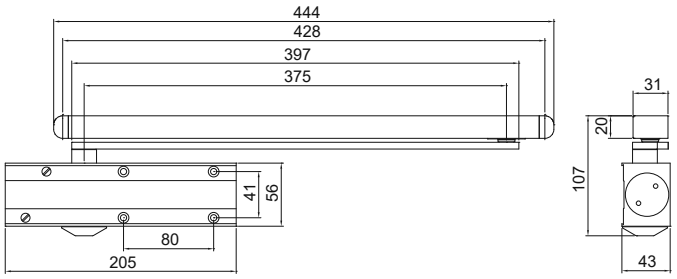
Accessories:

- Track arm
- Hold open device
- Cushion limit stay

Installation:



Dimensions:



EN Standard Door Closer - Cam Action System

TE7792G

2

Application Ranges:

- B type: Door mount pull side & transom mount push side
- G type: Door mount push side & transom mount pull side
- Single-action door
- Non-handed installation

Product Features:

- Adjustable power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Cam action
- Track arm mechanism

- Power size 2~4
- Max. Door width (mm) 1100
- Max. Opening Angle 180

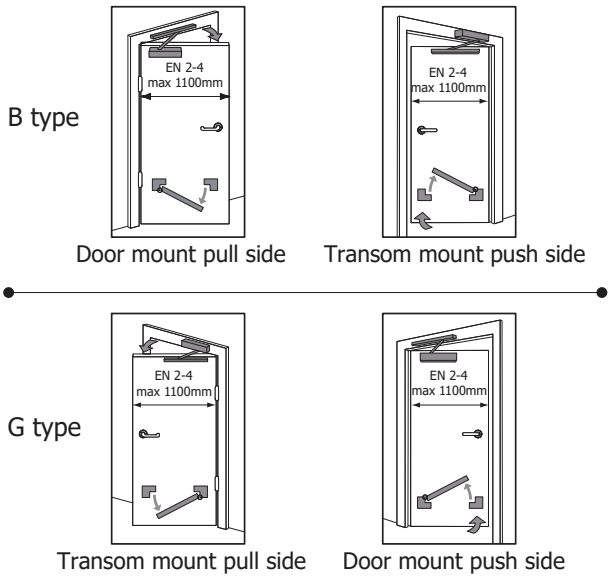
Finishes:

- Anodized aluminum for door closer body and track rail as standard
- Painted – silver, brown, gold, black, white & other RAL colors upon request & discussion

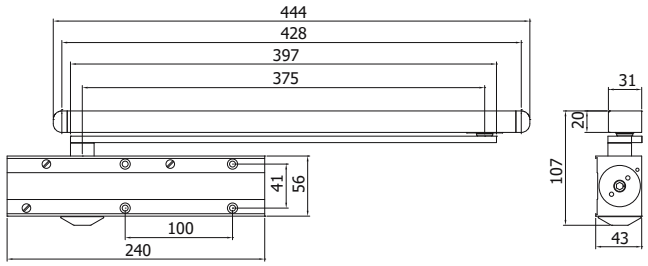
Accessories:

- Track arm
- Hold open device
- Cushion limit stay
- Mounting backplate
- Angle bracket

Installation:



Dimensions:



Door Closer Cam Action System With Track Arm

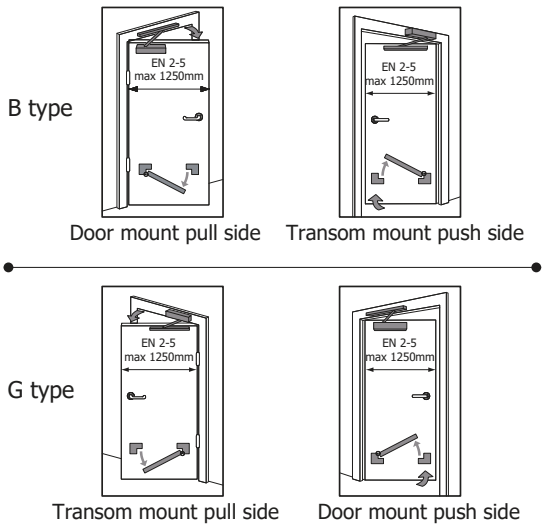
TE7793P

Product Features:

- Adjustable power size 2~5
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Adjustable delay action
- Surface mount
- Cam action
- Track arm mechanism

- Power size 2~5
- Max. Door width (mm) 1250
- Max. Opening Angle 180

Installation:



Application Ranges:

- B type: Door mount pull side & transom mount push side
- G type: Door mount push side & transom mount pull side
- Single-action door
- Non-handed installation

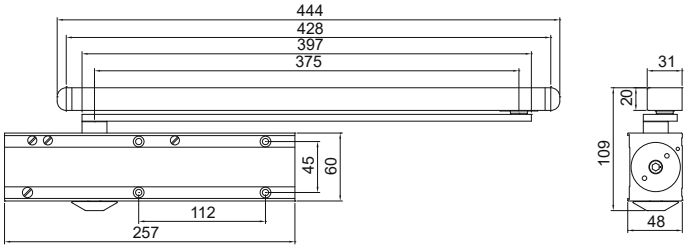
Finishes:

- Anodized aluminum for door closer body and track rail as standard
- Painted – silver
  *Other finishes Available upon request
- Plating (for cover only) - finishes Available upon request

Accessories:

- Track arm
- Cover
- Mounting plate
- Hold open device
- Cushion limit stay
- Angle bracket

Dimensions:



Door Closer Rack & Pinion With Standard Arm

TE7781J

2

- Power size 2~6
- Max. Door width (mm) 1400
- Max. Opening Angle 180

Product Features:

- Adjustable power size 2~6
- Adjustable closing & latching speed
- Thermo-constant valve
- Adjustable back check
- Surface mount
- Rack & pinion action
- Standard arm mechanism

Application Ranges:

- Standard door mount on pull side
- Transom mount on push side
- Parallel bracket application on size 3-5
- Single-action door
- Non-handed installation

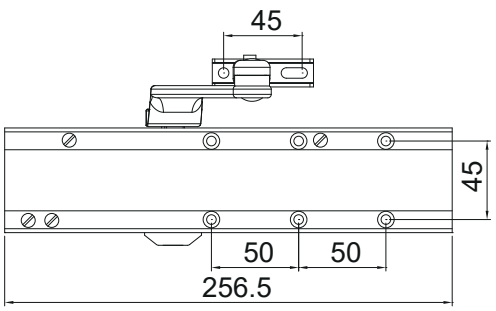
Finishes:

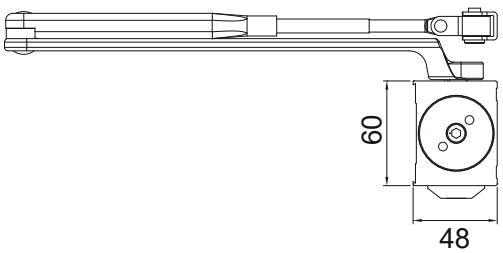
- Anodized aluminum for door closer body as standard
- Painted – silver
  *Other finishes Available upon request
- Plating (for cover only) - finishes Available upon request

Accessories:

- Standard arm
- Hold open arm
- Parallel bracket
- Cover

Dimensions:





Door Closer Concealed
Cam Action System With Track Arm

TE7796G

Product Features:

- Adjustable power size 2~4
- Adjustable closing & latching speed
- Thermo-constant valve
- Concealed mount
- Cam action
- Track arm mechanism
- T96G can be installed in virtually all doors with Minimum Door thickness of 40 mm, and regular fire door 44 mm and 54 mm.

• Power size	2~4
• Door width (mm)	850-1100
• Door weight (kg)	120-80
• Max.opening angle	120

Application Ranges:

- Concealed in door
- Concealed in transom
- Single-action door
- Non-handed installation

Finishes:

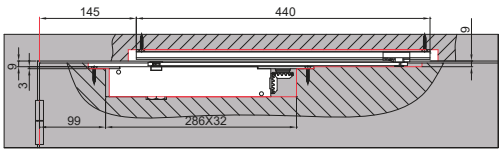
- Anodized aluminum for door closer body and track rail as standard
- Painted – silver
  *Other finishes Available upon request

Accessories:

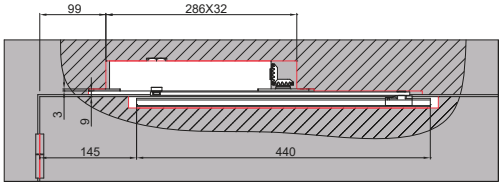
- Track arm (Large as standard & Small as option)
- Hold open device
- Cushion limit stay
- Fixing plate
- End cap

Installation:

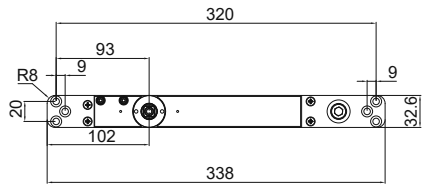
- Concealed in door



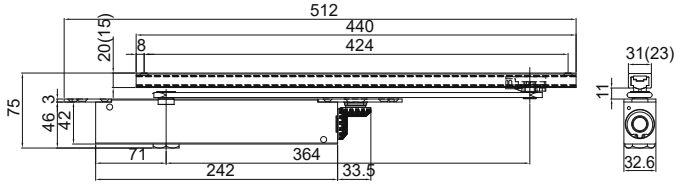
- Concealed in transom



Dimensions:



Track arm
Large: 440x31x20
Small:440x(23)x(15)



Concealed Cam-Action Door Closer with Track Arm

TE7796M

2

Product Features:

- Adjustable power size 3~6
- Adjustable closing & latching speed
- Thermo-constant valve
- Concealed mount
- Cam action
- Track arm
- Single-action door
- Compatible with Fortress electromagnetic hold-open application (EHO)
- T96M can be installed in virtually all doors with minimum thickness of 50mm or more

• Power size	3~6
• Door width (mm)	950-1400
• Door weight (kg)	180-120
• Max. opening angle	120

Application Ranges:

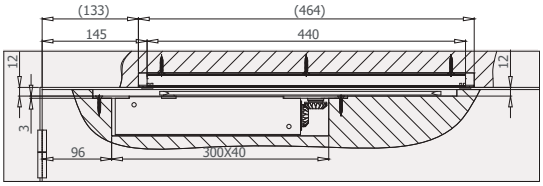
- Concealed in door
- Concealed in transom

Finishes:

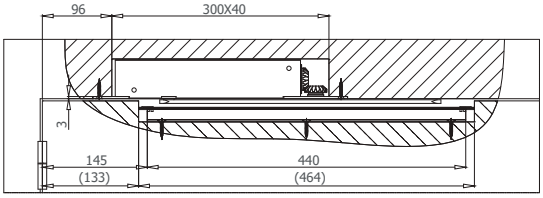
- Anodized aluminum for door closer body and track rail as standard
- Painted – silver, brown, gold, black, white & other RAL colors upon request & discussion

Installation:

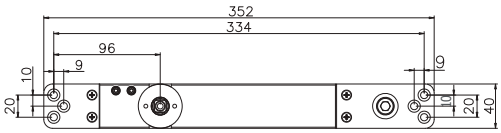
- Concealed in door

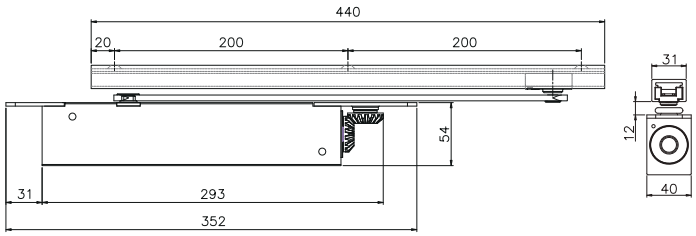


- Concealed in transom



Dimensions:





Brand Identity	Model No	Type	Arm Type	Features	Mounting	Plate Options	Cover Type	Finish
TE	77	68	RA	- (None)	- (None)	- (None)	- (None)	630
		72V	PA	BC	PS	DP	SSC	605
		65G	TA	DA	PL	DPPS	PLC	606
		83G	CS			DPPA	STC	625
		93P	HO					612
		81J	CS-HO					613
		96G						689

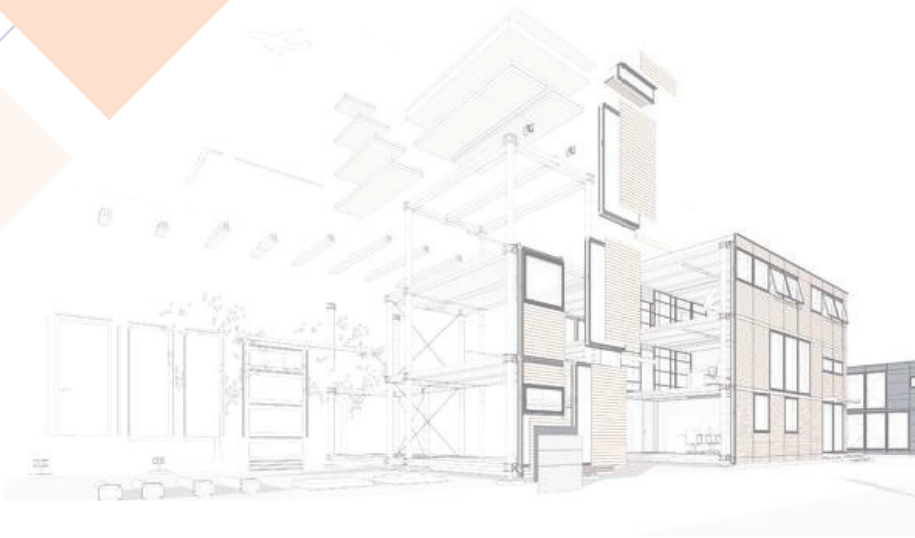
Ex: TE7768.RA.689

Arm Type

RA - Regular Arm
PA - Parallel Arm
TA - Track Arm
CS - Cushion Stop Arm
HO - Hold Open Arm
CS-HO - Cushion Stop with Hold Open Arm

Cover Type

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



Hydraulic Patch Fitting

TE7820 - 60KG

2

Product Features:

- Fixed power size 3
- Adjustable closing & latching speed
- Maximum door control opening angle at 170°
- Mechanical hold-open at 90°or 105°

Application Ranges:

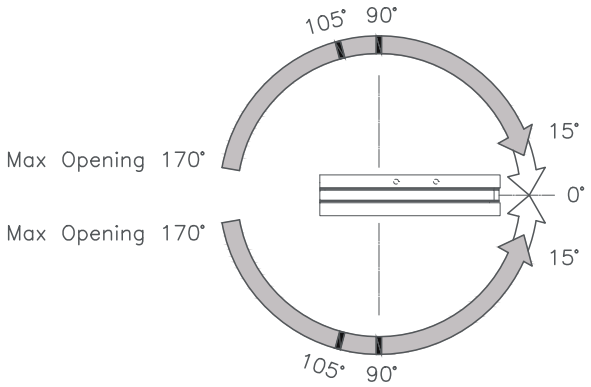
- Suitable for double action door
- Available for light & medium duty door

Finishes:

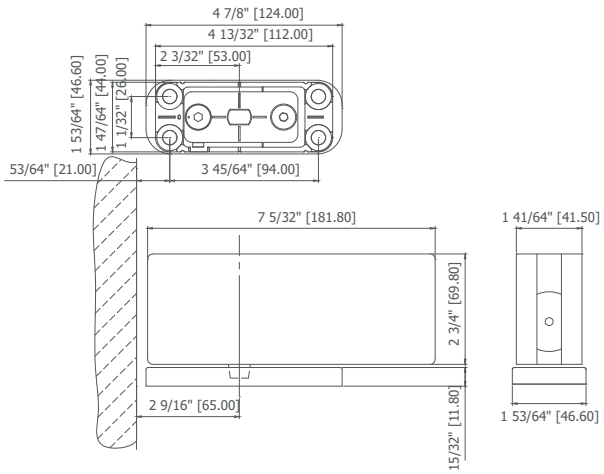
- Satin Stainless Steel or other Finishes Available upon request

Power size	3
Max Door width [Inches (mm)]	39 3/8 (1000)
Max Door weight [lbs (kg)]	220 (100)
Available glass thickness [Inches (mm)]	5/16 - 33/64 (8-13)

The door weight over 125 lbs (57kg) may not fully comply .



Dimensions:



Floor Spring

TE7830

Product Features:

- Fixed power size 2/3/4, size 2 EN compliance
- Adjustable closing & latching speed
- Maximum door opening angle at 130 °
- Mechanical hold-open at 90 ° or 105 ° (optional upon request)

Accessories:

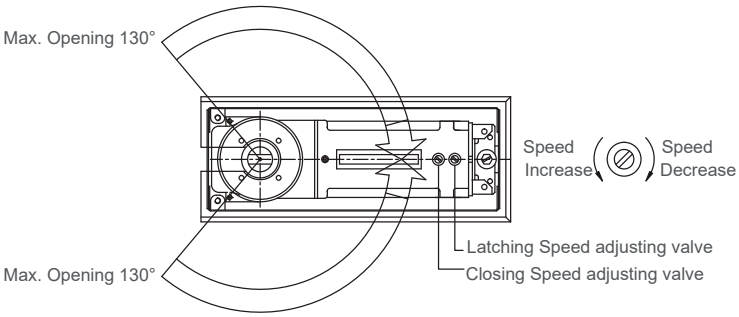
- Standard arm
- Pivot
- Alternative spindle options
- Offset arm

Finishes:

- Painted – silver black & other colors Available upon request

Power size	2★	3	4
Max. Door width (mm)	900	1000	1100
Max. Door weight (kg)	100		

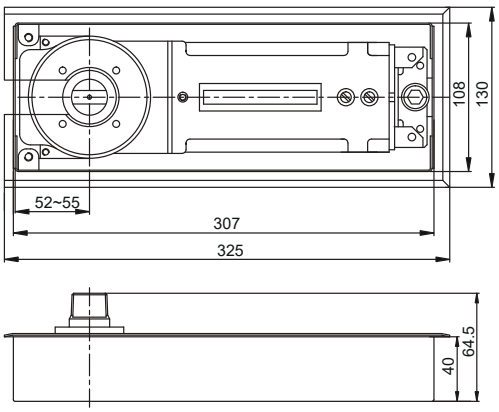
★ Size 2 non CE



Application Ranges:

- Suitable for single & double action door
- Available for light , medium & heavy duty door
  - Length (mm) : 7
  - Width (mm) : 10
  - Height (mm) : 4

Dimensions:

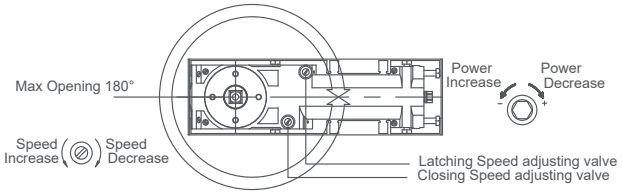


Floor Spring

TE7840

2

Power size	1	2	3	4
Max. Door width (mm)	800	900	1000	1100
Max. Door weight (kg)	120			



Application Ranges:

- Suitable for single & double action door
- Available for light , medium & heavy duty door
- Closer mechanism adjustable in loose box for
  Length (mm) : 8
  Width (mm) : 4
  Height (mm) : NA

Product Features:

- Adjustable power size 1-4 EN compliance
- Adjustable closing & latching speed
- Maximum door opening angle at 180 °
- Mechanical hold-open at 90 °
  (optional upon request)

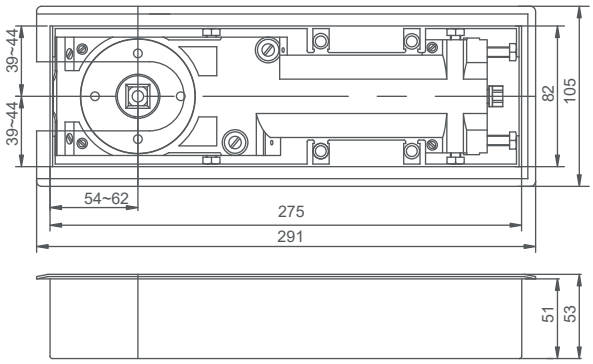
Accessories:

- Standard arm
- Pivot
- Alternative spindle options
- Offset arm

Finishes:

- Painted – blue & other colors Available upon request

Dimensions:



How to order

Brand Identity	Model No & Size	Type	Finish
TE	7820 - 60Kg	DA - Double Action	630
	7830 -100kg	SA - Single Action	629
	7840 -120kg		605
	7850 -150kg		606
	7860 -300kg		625
			626

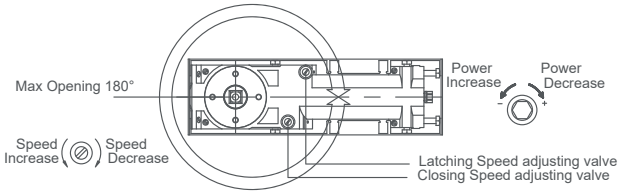
Ex: TE7830.DA.630

Floor Spring

TE7850

2

Power size	1	2	3	4
Max. Door width (mm)	800	900	1000	1100
Max. Door weight (kg)	150			



Application Ranges:

- Suitable for single & double action door
- Available for light , medium & heavy duty door
- Closer mechanism adjustable in loose box for
  Length (mm) : 8
  Width (mm) : 4
  Height (mm) : NA

Product Features:

- Adjustable power size 1-4 EN compliance
- Adjustable closing & latching speed
- Maximum door opening angle at 180 °
- Mechanical hold-open at 90 °
  (optional upon request)

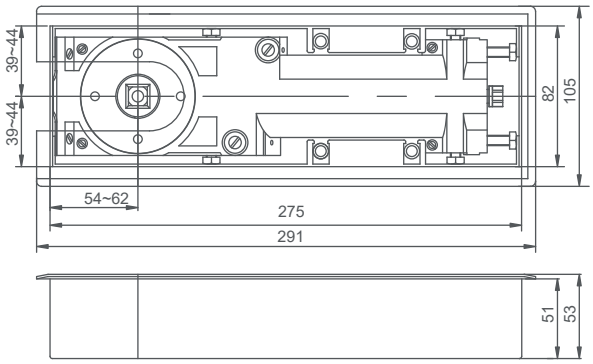
Accessories:

- Standard arm
- Pivot
- Alternative spindle options
- Offset arm

Finishes:

- Painted – blue & other colors Available upon request

Dimensions:



How to order

Brand Identity	Model No & Size	Type	Finish
TE	7820 - 60Kg	DA - Double Action	630
	7830 -100kg	SA - Single Action	629
	7840 -120kg		605
	7850 -150kg		606
	7860 -300kg		625
			626

Ex: TE7830.DA.630

Heavy Duty Double Action Floor Spring

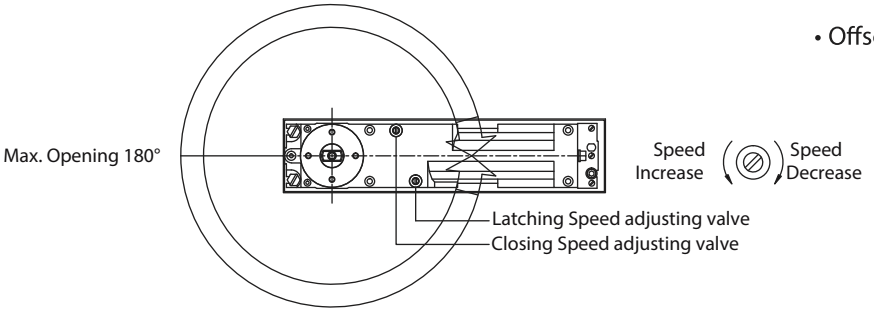
TE7860

2

Product Features :

- Adjustable power size 3-6 EN compliance
- Adjustable closing & latching speed
- Maximum door opening angle at 180 °
- Mechanical hold-open at 90 ° (optional upon request)

Power size	3	4	5	6
Max. Door width (mm)	1000	1100	1250	1400
Max. Door weight (kg)	300			



Accessories :

- Standard arm
- Pivot
- Alternative spindle options
- Offset arm

Application Ranges :

- Suitable for single & double action door
- Available for light , medium & heavy duty door
- Closer mechanism adjustable in loose box for

  Length (mm) : 4

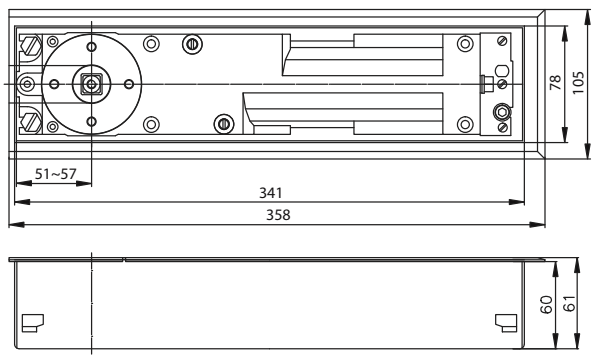
  Width (mm) : 2

  Height (mm) : NA

Finishes :

- Painted – silver black & other colors upon request & discussion

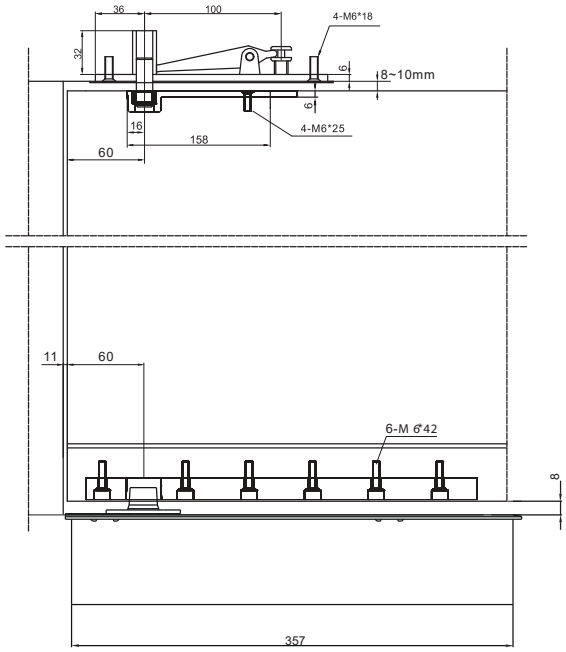
Dimensions :



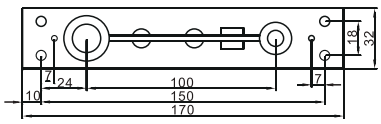
Heavy Duty Double Action Floor Spring

TE7870

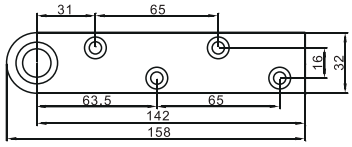
2

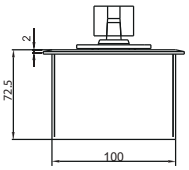


Top pivot (top jambside)



Top pivot (Door side)

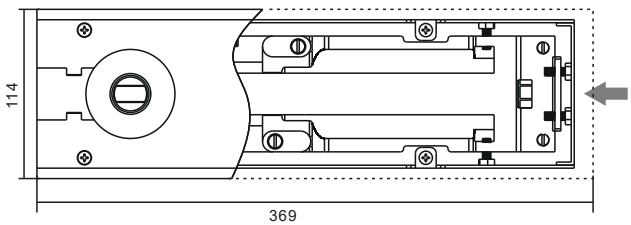




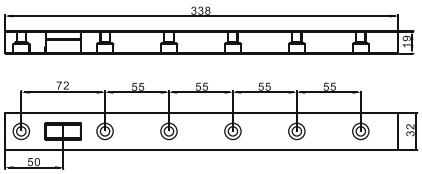
Description

1.For max 450kg weight door, Max door width 1600mm. Force can be adjustable
2.nd -105° to 105° at any point hold open, open in both directions, max opening 360 degree.
3.Closing speed adjustable, two stage speed adjustn,ent, position can be adjusted horizontal and vertical.
4.Past 1,000,000 cycles service Life 10 years guarantee, 1.5mm 304#SSS cover plate

Dimensions :



Top pivot (Door side)



ABHM Best Practice Guide: Controlled Door Closing Devices to BS EN 1154

• ABHM BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European Product Standard. The reader will then be in a position to seek further specialist advice where necessary and recognise genuine conformity to the new standards.

• BS EN 1154: Controlled Door Closing Devices

The standard provides details on product types, classification by use, test cycles, door mass, corrosion resistance, as well as definitions, product performance requirements, test apparatus, test methods and marking of products. In addition, the published standards include annexes illustrating the various points made through diagrams and supplementary text.

Extracts from BS EN 1154 are reproduced with the permission of the British Standards Institution.

The above European standard replaced existing national product performance standards in 1997. In the UK this meant the withdrawal of BS6459: Part 1: 1984: 'Door Closers - Specification for mechanical performance of crank and rack and pinion overhead closers'.

• BS EN 1154: Controlled Door Closing Devices

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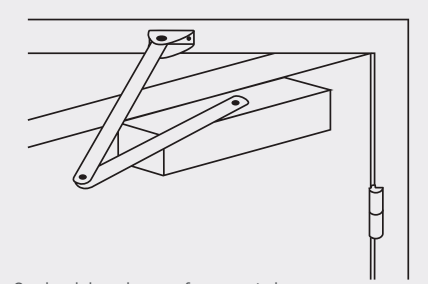
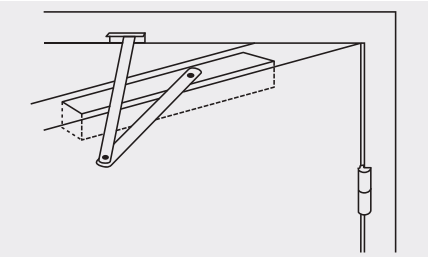
• SCOPE

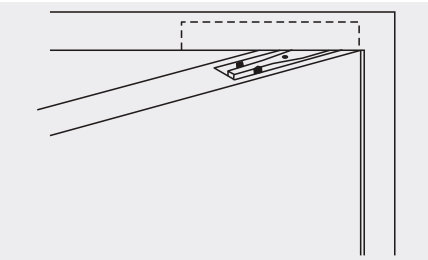
Products included within the standard are illustrated below and include a wider range than covered by BS6459.



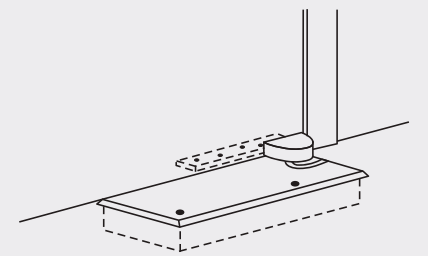
Overhead door closer surface mounted



Overhead concealed door closer door mounted



Overhead concealed door closer transom mounted



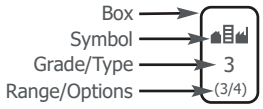
Floor concealed door closer - Floor spring

• CLASSIFICATION

BS EN 1154 classifies door furniture by using an 6 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

The ABHM recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-

ABHM Best Practice Guide: Controlled Door Closing Devices to BS EN 1154



The icon above is for a product which meets Grade 3 in the Category of Use classification, where EN 1154 stipulates two possible grades; 3 or 4.

2

Digit 1
Category of use

For all internal and external doors for use by the public, and others, with little incentive to take care, i.e. where there is some chance of misuse of the door.
- grade 3: For closing doors from at least 105° open
- grade 4: For closing doors from 180° open

Note 1: Grade 4 classification assumes standard installation according to the manufacturer's instructions.
Note 2: For applications subject to extremes of abuse, or for particular limitations of opening angle, door closers incorporating a backcheck function or provision of a separate door stop should be considered.

Digit 2
Number of test cycles

Only one test duration is identified for door closers manufactured to this standard:
- grade 8: 500 000 test cycles

Digit 3
Test door mass/size

Seven test door mass grades and related door closer power sizes are identified according to table 1 of this standard. Where a door closer provides a range of power sizes both the minimum and the maximum sizes shall be identified.
Table 1

Door closer power size	Recommended door leaf width max. mm	Test door mass kg
1	<750	20
2	850	40
3	950	60
4	1 100	80
5	1 250	100
6	1 400	120
7	1 600	160

Note 1: The door widths given are for standard installations. In the case of unusually high or heavy doors, windy or draughty conditions, or special installations, a larger power size of door closer should be used.

Note 2: The test door masses shown are only related to door closer power sizes for the purpose of the test procedure. These test door masses are not intended to indicate maximum values for actual use.

Digit 4
Fire behaviour

Two grades of fire behaviour are identified for door closing devices manufactured to this standard:
- grade 0: Not suitable for use on fire/smoke door assemblies
- grade 1: Suitable for use on fire/smoke door assemblies, subject to satisfactory assessment of the contribution of the door closer to the fire resistance of specified fire/smoke assemblies. Such assessment is outside the scope of this European Standard (See EN 1634-1).

Digit 5
Safety

All door closers are required to satisfy the Essential Requirement of safety in use. Therefore only grade 1 is identified.

Digit 6
Corrosion resistance

Five grades of corrosion resistance are identified according to EN 1670:
- grade 0: No defined corrosion resistance
- grade 1: Mild resistance
- grade 2: Moderate resistance
- grade 3: High resistance
- grade 4: Very high resistance

• EXAMPLE:

The following marking denotes a closer capable of opening to at least 105°, and with ranging power size from size 2 to size 5.
Note that as the 4th digit is zero, such a closer would not be suitable for fire door use.

• MARKING

The standard requires that each door closer and separately supplied accessory manufactured to the standard shall be marked with the following:
a) The manufacturer's name or trade mark or other means of identification
b) Product model identification
c) The six digit classification listed above
d) The number of the European Standard (BS EN 1154)
e) The year and week of manufacture (may be coded)

• CE marking

Door closers intended for use on fire resisting doors and smoke control doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, this standard is regarded as a "harmonised" standard and compliance with it, supported by suitable evidence, allows the application of the CE mark.

As closers for fire/smoke doors have a critical safety function, application of the CE mark will require the involvement of a notified certification body to provide verification of the compliance claims. This will involve initial type-testing of the product to EN 1154, initial inspection of the manufacturer's factory production control and continuing surveillance and approval of the factory production control. On satisfactory fulfilment of these tasks, the notified body issues an EC Certificate of Conformity which then permits the manufacturer to declare compliance and affix the CE

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The standard requires the following additional information to accompany the CE marking:-

- the identification number of the notified certification body
- the name or identifying mark of the manufacturer
- the registered address of the manufacturer
- the last two digits of the year in which the marking was applied
- the number of the EC certificate of conformity
- reference to EN 1154:1997 + A1: 2003
- the classification code of the product

Note that, although the notified body has to be involved to verify the manufacturer's claims, the manufacturer remains responsible for designing and producing the product, for affixing the CE marking, and for ensuring that the product meets the requirements of the Directive.

• FIRE DOORS

We referred above to fire door assemblies which will require self closing devices. BS EN 1154 makes recommendations as to the closing forces considered necessary for such devices fitted to fire doors.

a) The door closer when installed in accordance with the manufacturer's installation instructions shall be capable of closing the test door from any angle to which it may be opened.

b) Due to their low closing moments, door closers size 1 and 2 are not considered suitable for use on fire/smoke door assemblies. Door closers with adjustable closing force shall be capable of adjustment to at least power size 3.

c) The door closer shall not include a hold open device unless it is an electrically powered device in accordance with EN 1155.

*Note: See further details below under 'Related Standards'.

d) Control regulators shall be either concealed or operable only by means of a tool.

e) The design of a door closer shall be such that it is not possible to inhibit its closing action in any way without the use of a tool.

f) Any incorporated delayed action function shall be capable of adjustment to less than 25 seconds between the door closing angles of 120° and the end of the delay zone.

g) The door closer representative of its model shall have been incorporated in a door assembly that has satisfied the appropriate criteria of a fire test. The test shall have been on a full sized assembly in accordance with EN 1634-1.

h) Where the door closer is intended for use with other, significantly different arm assemblies (for example slide tracks) which may be supplied separately, that combination shall also be tested according to the requirements of EN 1154.

• RELATED STANDARDS

As companion to BS EN 1154, two further amended and harmonised product standards have been published. The first, BS EN 1155 covers electrically powered holdopen devices and replaces BS 5839:Pt3. The second, BS EN 1158 covers door coordinator devices (or selectors, to use UK terminology), and has no BS equivalent. Both these amended standards were published early in 2003.

Where to place the CE mark

	On product – and visible after installation	On product	With installation instructions	On product packaging	On commercial documents
CE symbol	R	E	E	R	O
Notified Body number	R	E	E	R	O
Name of Producer	O	O	E	O	O
Address of Producer	O	O	E	O	O
Year of marking	O	O	E	O	O
C of C number	O	O	E	O	O
Product std number	O	R	E	R	O
Classific ation code	O	R	E	R	O

E = Essential
O = Optional
R = Recommended

For some products it may be appropriate to specify a combination of locations for the CE marking and the accompanying information. For example, a minimum of information could appear on the product itself, with the complete information appearing on the installation instructions or on the accompanying commercial documents. Where the information is split in this way, the location(s) lower in the hierarchy must always repeat that part of the information already placed higher up in the hierarchy.

Additional important considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting controlled door closing devices. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct installation of door closing devices is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY TO BS EN 1154

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1154. Test reports and/or certificates are available upon request.

b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1154 including the additional requirements for latch action*/backcheck*/delayed closing*/adjustable closing force*/fire/smoke door use*. Test reports and/or certificates are available upon request.

*Add as appropriate.

c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1154 including the additional requirements for latch action*/backcheck*/delayed closing*/adjustable closing force*/fire/smoke door use*. Regular audit testing is undertaken. Test reports and/or certificates are available upon request. *Add as appropriate.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

Further reading: Controlled door closing devices

1.0 Introduction

Fire-resisting doorsets, other than those to locked cupboards and service ducts, may require to be self-closing in accordance with any local regulations. Door closing devices fitted on fire-resisting doorsets should be able to close the door leaf reliably from any angle to which it has been opened and overcome the resistance of a latch or any seals, where fitted.

Fire door closers are required to perform one of two functions, dependent upon whether or not a latch is fitted to the door. These functions are considered 'essential' in terms of the ability of the doorset to achieve its intended fire resisting rating.

(i) Latched Doorset: To close the door in a controlled manner into a position where the latch engages. In this case, once the latch is engaged, such closers will have no further essential role to play.

(ii) Unlatched Doorset: To close the door in a controlled manner into its frame or, in the case of double swing doors, to its dead centre closed position and maintain this condition for a period against fire exposure until the heat activated sealing system takes over the role of maintaining the door in the closed position.

For the purpose of this document, door closing mechanisms are divided into the following categories:

a) Face-fixed closers - overhead mounted
b) Face-fixed closers - jamb mounted
c) Concealed closers - overhead mounted
d) Concealed closers - jamb mounted
e) Floor mounted closers - floorsprings
f) Spring hinges
g) Rising butt hinges.

*Note: This list does not imply suitability of any device for fire door use – see Sections 2.0 and 3.0 for further information.

2.0 Critical recommendations

2.1 The door closer and its accessories should comply fully with BS EN 1154 + A1:2002 – Building hardware - Controlled door closing devices, including its Annex A. Preferably, this compliance should be demonstrated by the application of the CE marking.

2.2 The product and any accessories should have demonstrated their ability to be suitable for the intended purpose by inclusion in satisfactory fire tests to BS EN 1634-1, on a type of doorset and configuration in which it is proposed to be used. This evidence should be provided by an approved third party certification or testing body (see Notified Bodies in the 'Guidance Notes on CE Marking' section of this CD, clause 2.3).

2.3 The strength and features of the control must be correct for the size of door to which it is to be fitted, bearing in mind:
The application to the door; (see section 3.3);
Whether subject to other factors such as air pressure; draughts, heavy traffic use; abusive treatment; use by elderly, infirm or disabled;
Whether door is to be latched or unlatched;
Whether smoke or other seals are fitted to the doorset.
(For further information see section 3.1).

2.4 Overhead controls in which the arms/tracks are made of material with a melting point of less than 1000oC should NOT be used unless proven by specific tests (see section 3.4).

2.5 Concealed overhead controls should NOT be used unless they are provided with specially designed and proven intumescent protection (see section 3.6).

2.6 For floor mounted controls, it is preferred that straps are used (see section 3.10).

Further reading: Controlled door closing devices

1.0 Introduction

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f) Spring hinges
g) Rising butt hinges.

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2.1 The door closer and its accessories should comply fully with BS EN 1154 + A1:2002 – Building hardware - Controlled door closing devices, including its Annex A. Preferably, this compliance should be demonstrated by the application of the CE marking.

2.2 The product and any accessories should have demonstrated their ability to be suitable for the intended purpose by inclusion in satisfactory fire tests to BS EN 1634-1, on a type of doorset and configuration in which it is proposed to be used. This evidence should be provided by an approved third party certification or testing body (see Notified Bodies in the 'Guidance Notes on CE Marking' section of this CD, clause 2.3).

2.3 The strength and features of the control must be correct for the size of door to which it is to be fitted, bearing in mind:
The application to the door; (see section 3.3);
Whether subject to other factors such as air pressure; draughts, heavy traffic use; abusive treatment; use by elderly, infirm or disabled;
Whether door is to be latched or unlatched;
Whether smoke or other seals are fitted to the doorset.
(For further information see section 3.1).

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2.5 Concealed overhead controls should NOT be used unless they are provided with specially designed and proven intumescent protection (see section 3.6).

2.6 For floor mounted controls, it is preferred that straps are used (see section 3.10).

Further reading: Controlled door closing devices

2.7 Spring hinges, which are purely spring urged and do not control the closing speed, are unable to comply with BS EN 1154 and therefore should NOT be used for fire doors (see section 3.7).

2.8 Rising butt hinges are NOT recommended for use on fire doors (see section 3.8).

2.9 Manually operated mechanical hold-open devices (i.e. mechanisms which require to be released manually) SHOULD NOT BE USED ON FIRE DOORS (see section 3.2).

2.10 The automation of fire doors should not detract from their essential primary function as a fire door. The device should meet all critical criteria applicable to manual closing devices.

2.11 A regular programme of maintenance should be undertaken to ensure that the correct operational performance is maintained for the life of the building (see 'Installation and maintenance advice').

3.0 Commentary

3.1 General

The England and Wales Building Regulations: Approved Document B requires that all fire doors (with the exception of locked cupboard/duct doors) be fitted with an appropriate self-closing device.

Controlled door closing devices intended for use on fire resisting and smoke control doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, BS EN 1154 is regarded as 'harmonised' and compliance with it, supported by suitable evidence, allows application of the CE mark. It is strongly recommended that, once these products are available, only controlled door closing devices bearing the CE mark should be specified.

Closing controls are available in a range of strengths (commonly referred to as sizes) which relate to the available power to close the door. The minimum performance requirements are laid down in BS EN 1154 – Building hardware - Controlled door closing devices - and include levels of mechanical efficiency, suitable door width and mass.

The following table, extracted from BS EN 1154 shows the range of door closer power sizes and related parameters:

Table 1

1	2	3	4	5	6	7	8	9
Door closer power size	Recommended door leaf width	Test door mass	Closing moment				Opening moment between 0° and 60°	Door closer efficiency between 0° and 4°
			between 0° and 4°		between 88° and 92°	any other angle of opening		
	mm max.	kg	Nm min.	Nm max.	Nm min.	Nm min.	Nm max.	% min.
1	< 750	20	9	< 13	3	2	26	50
2	850	40	13	< 18	4	3	36	50
3	950	60	18	< 26	6	4	47	55
4	1100	80	26	< 37	9	6	62	60
5	1250	100	37	< 54	12	8	83	65
6	1400	120	54	< 87	18	11	134	65
7	1600	160	87	< 140	29	18	215	65

NOTE 1: The door widths given are for standard installations. In the case of unusually high or heavy doors, windy of draughty conditions, or special installations, a larger power size of door closer may be used.
NOTE 2: The test door masses shown are only related to door closer power sizes for the purpose of the test procedure. They are not intended to indicate maximum values for actual use.

Clearly, an important factor is the closing moment; a fire door must be closed to be effective and situations may arise which dictate that a stronger closer should be specified (e.g. air pressure or fitted smoke seal considerations). Whilst this deals with the demand of the fire door, it will inevitably bring conflict from the user in terms of the greater effort required to open the door.

A door must be easy for occupants of the building to open, particularly where there are large numbers of old, young or infirm people. When used in conjunction with a latched door assembly, there is no need for the closer to exert any greater force than that required to overcome the latch and any seals. If, however, the force is only marginally in excess of that required to overcome the latch resistance and any seals, then reasonably high levels of maintenance will be required to ensure that the latch/seal resistance does not overcome the closer force. When considering the spring pressure, the anticipated degree of maintenance should also be taken into account.

Door closing devices which incorporate spring pressure adjustment provide a very useful way of adjusting the closing force on installation to suit the particular site conditions encountered. The adjustment should, however, be used with care, bearing in mind the needs of adequate closing force and the effects on the user. Smoke seals can sometimes prevent the door closer from fully closing the door, considerable force being required to deflect or compress the seal, particularly if they are not correctly installed and maintained. Very careful consideration should be given to these issues when specifying closing controls to ensure that extra spring strength is not applied just to overcome poor seal efficiency.

BS EN 1154 states that door closers of less than power size 3 are not considered suitable for fire doors due to their low closing moments, especially at 90°. It requires that power adjustable closers should be capable of adjustment to at least power size 3.

BS EN 1154 permits delayed action closers to be used on fire-resisting doorsets, but it is important that any delay set is no more than that required for its use (e.g. for the ease of elderly or disabled persons) and is never more than 25 seconds.

3.2 Hold open and free-swing devices

Manually operated mechanical hold-open devices (i.e. mechanisms which require to be released manually) SHOULD NOT BE USED ON FIRE DOORS as they would inhibit the closing action of the door, even in the event of a fire. They are not permitted by the Building Regulations: Approved Document B.

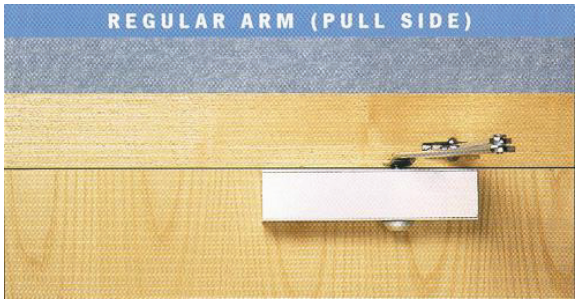
In situations where the fire door is required to be held open on busy traffic routes, or free swinging for the benefit of the elderly, infirm or disabled, specialist holding devices should be used which, being linked into the fire alarm/detection system, will release and close the door on receipt of a signal in the event of emergency. They can also be manually released when required. To ensure that these devices have the correct mechanical and electrical performance, they should comply fully with BS EN 1155 - Electrically powered hold-open devices for swing doors. Further reading providing detailed recommendations for these devices can be found in the relevant section of this CD.

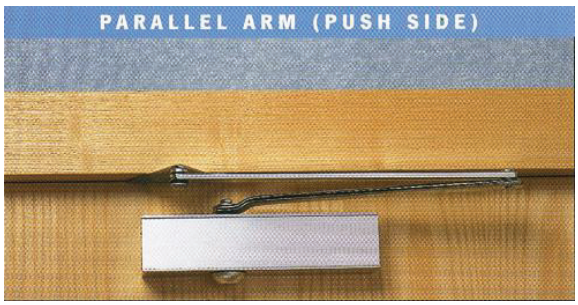
3.3 Closer installation

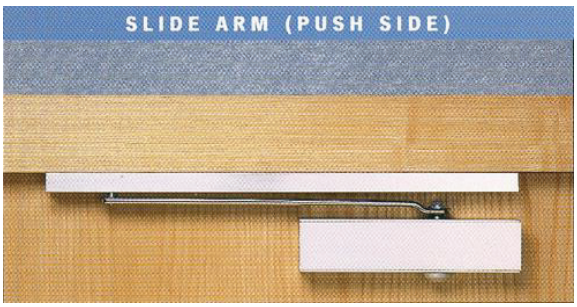
Some rack and pinion closers designed for use on the pull side of the door can lose power significantly when installed on the push side or if used with single arms and slide channels. BS EN 1154 requires that the manufacturer must state clearly the door closer power size for each installation of fitting position that he recommends. If it is intended to install a closer in other than its standard installation, then the manufacturers' instructions must be consulted to ensure that size 3 is still achievable.

3.4 Face fixed overhead closers

These are the most common form of door control and can be applied to the door in one of four ways; on the push face, on the pull face, or mounted on the transom on either the push side or pull side of the door. The connection between the door leaf and frame is created by a pair of folding arms or a single arm guided in a channel.







A wide variety of models has been proven by inclusion in fire resistance tests and the results have largely shown that mechanism bodies of aluminium do not adversely affect the fire resistance of the door assembly. The use of low melt material in the arm linkage has, however, been shown to be of risk in some applications. In these cases it is particularly important to check that the fire test evidence covers that particular arm assembly in the fixing application that is intended. In consideration of which door face is most likely to be exposed to fire, it is advisable to assume that either face could be exposed and that suitable hardware be specified to achieve ultimate performance and safety. These characteristics can only really be established by subjecting the closer to a test as part of a complete timber doorset. The flammability of the damping fluid is normally of little consequence on timber doorsets; if the closer is on the unexposed face of a timber door assembly, then the temperature is unlikely to get high enough to cause fluid leakage, although this may become important where a significant area of the door leaf is glazed and where escaping fluid may be ignited by contact with the glazing. If the closer is on the exposed face then the additional fuel that the damping fluid would contribute would be negligible.

3.4 Face fixed jamb closers

These closers are totally exposed to the fire conditions and are normally of low power and low mass. For this reason they are unlikely to remain operative for a period of time long enough for an unlatched door to satisfy the test requirement whether the doorset incorporates a thermally-activated sealing system or not. Certain designs may, however, satisfy this requirement; it is particularly important, therefore, to check whether they have satisfied the test requirements when used in conjunction with an unlatched door assembly.

Face fixed jamb closers are generally unsuitable for use on a latched door assembly unless they comply fully with the requirements of BS EN 1154 to ensure that they apply enough force to overcome the frictional resistance of the latch. It is also important to be sure that the design does not create a thermal bridge across the thickness of the door so fire test evidence must be obtained from the manufacturer. There are various types of face fixed jamb closers, some of which can have the spring pressure relaxed very easily. In the absence of specific test evidence this type of closer should NOT be considered for fire doorset use.

3.6 Concealed closers

As concealed closers are mortised into the door leaf or its frame, thus removing a significant amount of the fire-resisting doorset material, intumescent protection of some kind will usually be required to protect the doorset from early integrity failure. This intumescent protection should be supplied by the manufacturer with every concealed closer intended for use on a fire-resisting doorset. It is particularly important with these closers to check that the fire test evidence is relevant to the door application intended.

3.6.1 Concealed 'In Door': These devices are mounted into the top rail of the door and are virtually concealed from view with the possible exception of the arm linkage.
In view of the large amount of timber removed from the door to house these types they are generally considered unsuitable for fire door use unless they are installed using specially designed intumescent protection to protect from integrity failure during fire conditions. It is therefore particularly important to check that the fire test evidence is relevant to the door application intended.
Again, to ensure sufficient durability and closing strength, it is also important that such closers also comply fully with BS EN 1154.

3.6.2 Concealed "In Head": These devices involve the removal of a considerable amount of material from both the head frame and top rail of the door and also from the bottom rail of the door leaf, where the associated bottom pivot has to be fitted. Although some devices have been satisfactorily tested and approved, their use requires specific intumescent protection and precise preparation of the door leaf and frame prior to fitting of the device. In the absence of such provisions and documented evidence of satisfactory testing for the specific doorset intended, they should not be considered for fire doorset use.

3.6.3 Concealed Jamb Closers: These closers are normally inserted in the hanging edge of the door leaf and are anchored to the frame edge by means of a small linkage. In view of the inherently lower power characteristics of this arrangement, it is important to check that the closer complies with the power size requirements of BS EN 1154, whether intended for use on latched or unlatched doorsets (See section 1.0). Because these closers are morticed into the leaf, it is also important to check that doors are suitable to accommodate the closers and that the installation of the closers will not be a possible cause of burn-through and integrity failure. A new European standard for "spring closers" is in preparation, which, when published, will permit the classification and CE marking of such devices.

3.7 Spring hinges

Spring hinges, whether single or double action, embody a spring for the storage of energy but do not have a system for controlling and regulating the closing function. They provide their lowest closing power at, or near, the door closed position and, therefore, on latched doors, are unlikely to overcome latch resistance and, on unlatched doors, are unlikely to hold the door leaf closed against the pressures known to exist in fire situations until any heat activated sealing system has operated. Because they do not contain a damped, or controlled closing mechanism they are unable to comply with BS EN 1154. They are NOT recommended for fire resisting doorsets. A new European standard for "spring closers" is in preparation, which, when published, will permit the classification and CE marking of such devices.

3.8 Rising butt hinges

Rising butt hinges contain a ramped profile between the two hinge blades which causes the door leaf to rise as it is being opened. The mass of the door leaf will then tend to close the door leaf when it is released. To enable the door to function properly, it is necessary to ease the top edge of the door sufficiently to allow for the rise of the butt. When the door is returned to its closed position, a gap will exist at the vulnerable head of the door, which could compromise the fire integrity of the door assembly.

The closing force exerted by such a device is extremely low and will not overcome air pressure differences or resistance from latches, seals or carpets that may be fitted and, therefore, they cannot be considered as reliable door closing devices. Whilst such devices are still permitted under current Building Regulations (Approved Document B) for certain domestic applications only, they are NOT recommended for any fire door application by this document.

3.9 Floor springs

By virtue of its position within the door construction, the floor spring is amongst the most successful items of hardware for fire resisting applications. As the floor spring and its associated pivots are responsible for holding the door in position, high melting point metals for the structural components will usually be required. Although the box containing the closer mechanism is one of the largest items of hardware, it is set into the threshold of the doorset and so, with the exception of the cover plate, is protected by the floor screed. The performance of the closer is aided by the slight negative pressure at floor level, which is drawing cold air from the unexposed side of the construction, across the cover plate, so helping to keep this cool.

3.10 Floor spring accessories

3.10.1 Double Action Strap: A steel lever incorporating a socket of tapered form which fits onto the projecting drive spindle of the floor spring. The tapered form is designed to control the clearance between the threshold and underside of the door leaf and forms a firm drive link between door and closing control. This fitting is installed centrally within the thickness of the bottom rail and is, therefore, concealed. This fitting has shown itself to be most successful as an item of fire door hardware, for, like the closing control, its position within the doorset is the least onerous in terms of exposure. Some designs require the addition of intumescent protection against the effects of heat reflection from the cover plate and this should be stated in the fire test evidence.

3.10.2 Double Action Shoe: Whilst this performs the same function as the strap, it is constructed with side and heel walls which 'wrap' around the heel profile of the door and is commonly made in brass. One side wall is, therefore, exposed to flame and conduction of heat via the walls to the unexposed face is likely to cause failure of integrity under fire conditions. Some manufacturers are able to solve these problems by careful design and/or the addition of intumescent protection and, thus, achieve satisfactory fire test evidence.

3.10.3 Double Action Top Centre: This fitting is complementary to both strap and shoe, forming the upper pivotal member of the doorset. It comprises two assemblies; the upper part, housing the pivot pin, which is retractable to assist installation and morticed into the underside of the head frame, and the lower part, containing a bearing or bush for the pivot pin, morticed centrally into the thickness of the door top rail.
In view of the extreme conditions to which these fittings are subjected during fire, it is essential that they are manufactured from materials with a melting point in excess of 1000oC unless otherwise proven by test. They should be fitted carefully and accurately. Where intumescent seals cannot be diverted around the profile of the fitting, the use of intumescent plugs, fitted into the housing itself, should be considered to maintain as great a degree of insulation as possible. The fire test evidence should record the details of any such additional intumescent protection required.

3.10.4 Single Action Offset Strap: Of the same principle as 'double action', but the housing incorporating the tapered drive socket is offset and, therefore, projects from the face of the door, thus dictating opening in one direction only.This projecting mass, if exposed to fire, is more likely to absorb and conduct heat to the fixings leading to integrity failure. Protection may be provided by incorporating intumescent gaskets.

3.10.5 Single Action Offset Shoe: Of the same principle as the strap but with vertical side and heel walls let into the door face. The combination of walls and the projecting housing mass is an area of concern and the fitting may benefit from insulation with intumescent gaskets.

3.10.6 Single Action Offset Top Centre: Complementary to single action strap and shoe, these fittings do not usually incorporate or need retraction means for the pivot pin. As with the double action top centre, this is sited in the most onerous position on the door and the projecting mass of metal housing the pivot point and its bush accentuates the absorption of heat, requiring careful attention to insulation.
It should be noted with these last three items, where they have a limited offset, that it is necessary to notch away the door and frame locally to provide clearance for the housing. This practice could lead to integrity failure and it is, therefore, important to check that the fire test evidence is relevant to the door application intended.

3.11 Automatic swing door operators

3.11.1 Automatic swing door operators generally look like a larger version of a manual door closing device and are fitted in a similar way. However, there are safety considerations that are detailed in BS 7036 and prEN 12650. An important consideration is the need to fit finger guards onto the door and to introduce anti finger trap measure.

3.11.2 The automatic mechanism should be capable of being interfaced with the fire alarm system, causing the doors to close in the event of an emergency the alarm system.

3.11.3 Automatic mechanisms normally power open and close under spring pressure and consideration should be given to external forces such as wind pressure in the same way as for manual devices.

3.11.4 By nature of their power driven mechanisms and electrical componentry, automatic swing door operators are likely to be covered by the LVD (Low Voltage Directive), MD (Machinery Directive) and EMCD (Electromagnetic Compatibility Directive). CE marking of the product is already required under these directives. It is the manufacturer's responsibility to determine which directives apply to his product, and to ensure that the necessary conformity procedures are carried out.

4.0 Fire issues

Many of the best practice guides in this section refer to classification of the suitability of the associated products for use on fire resistant and/or smoke control doors.

Currently the following test methods and classification documents are relevant:

BS EN 1634-1: 2000 - Fire resistance tests for door and shutter assemblie: Part 1 – Fire doors and shutters;

BS EN 1634-3: 2001 - Fire resistance tests for door & shutter assemblies: Part 3 - Smoke control doors & shutters

BS EN 13501-2: 2003* - Fire classification of construction products and building elements: Part 2 – Classification using

data from fire resistance tests (excluding products for use in ventilation systems).

BS 476: Part 22 - Fire tests on building materials and structures: Part 22 - Methods for determination of the fire resistance of non-loadbearing elements of construction

* Standard in course of publication

5.0 Further reading

Further useful information on the application of door closers can be found in clause 7.3 'doors fitted with a door closing device' of BS 8300: 2001 - Design of buildings and their approaches to meet the needs of disabled people – Code of Practice.

See also the Product /application related questions in the FAQ section of this CD.

Secure The Door

Mortise Sash Lock
TE1410

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or interior door in residential; industrial, commercial project
* Forend, strike, latch, bolt, follower made of stainless steel 304 Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 72/85mm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easy adjust direction at project site

Certification

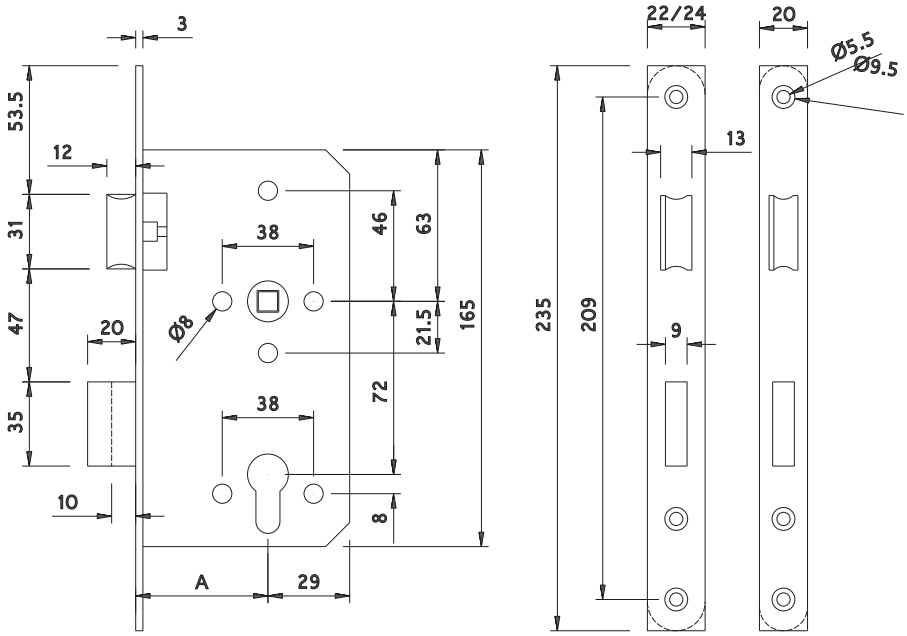
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Privacy Lock
TE1420

* Applicable to wood or metal rebated door or flush door
* For privacy door in residential; industrial,commercial project
* Forend, strike, latch, bolt, follower made of stainless steel 304 Lock case made of steel
* Use with thumb turn indicator, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 78mm
* 20mm width forend for rebated door, 22124mm forend for flush Door
* Non-handed, Easy adjust direction at project site

Certification

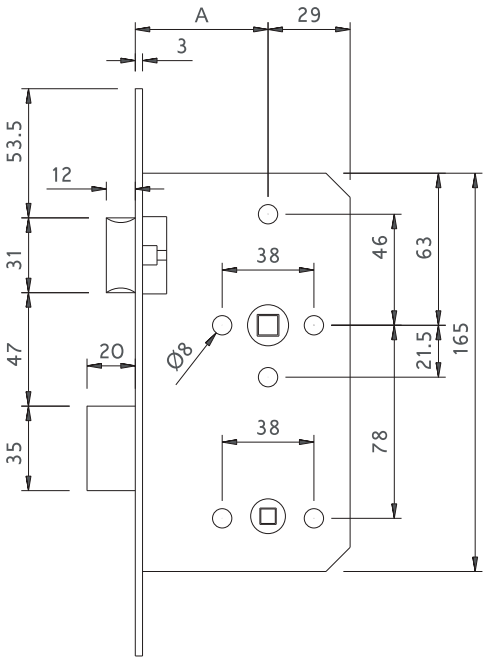
* BS EN12209:2003 200,000 life cycle test

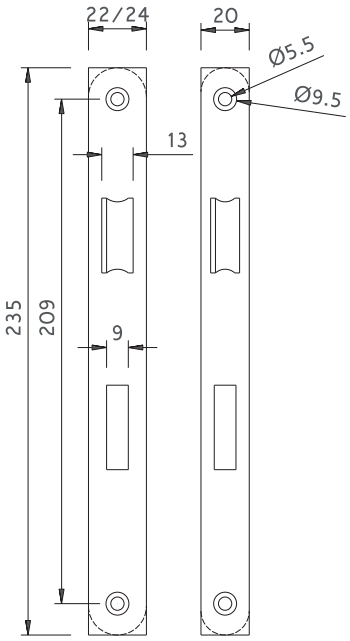
Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request





Latch Lock
TE1430

* Applicable to wood or metal rebated door or flush door
* For passage in residential, industrial commercial project
* Forend, strike, latch , follower made of stainless steel 304
  Lock case made of steel
* 8 x 8mm follower, optional backset 55/6omm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easily adjust direction at project site

Certification

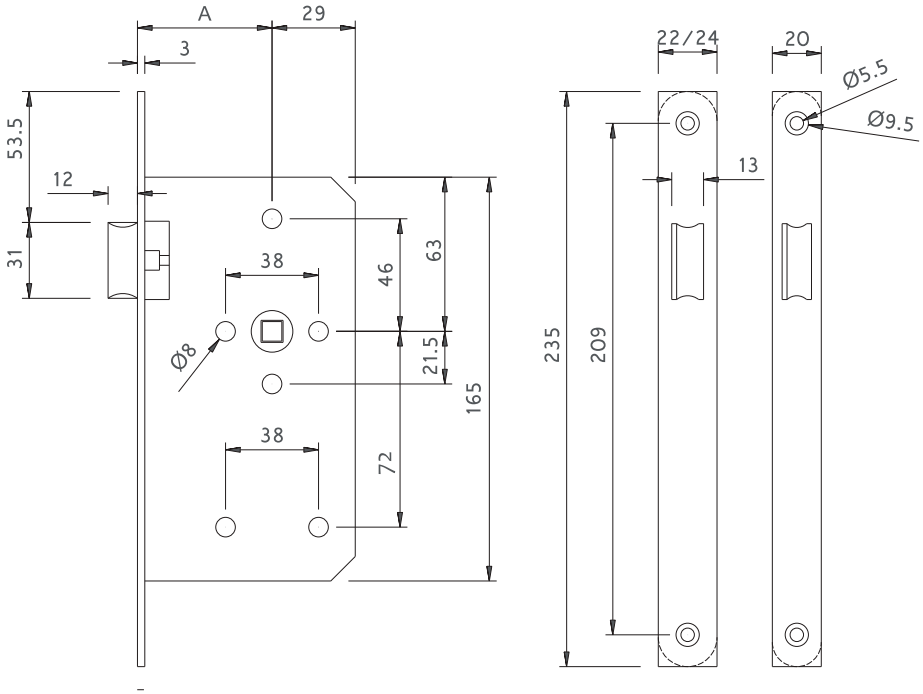
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Deadbolt Lock
TE1440

* Applicable to wood or metal rebated door or flush door For fire door, smoke lobby door in residential; industrial, commercial project
* Forend, strike, bolt , made of stainless steel 304 Lock case made of steel
* Applicable to wood or metal rebated door or flush doorFor fire door, smoke lobby door in residential; industrial, commercial project Forend, strike, bolt , made of stainless steel 304 Lock case made of steel

Certification

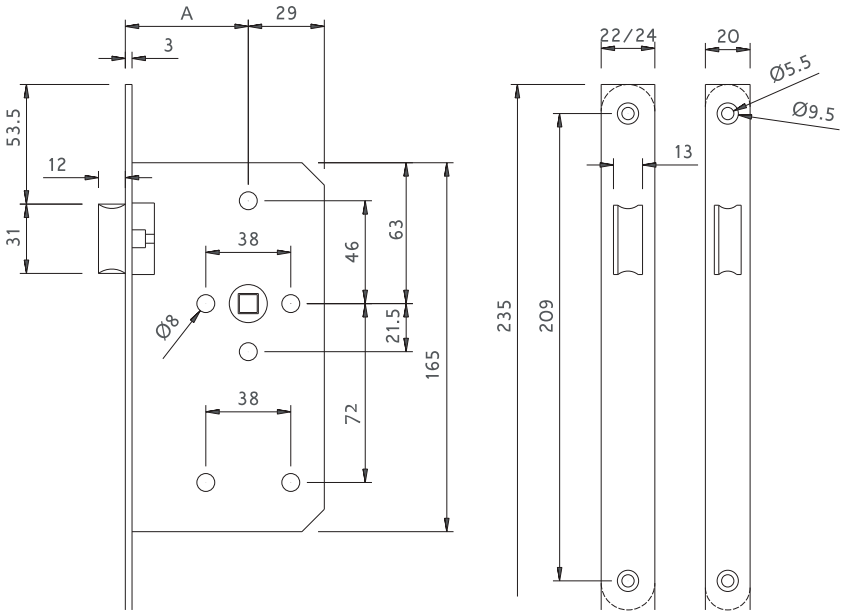
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Mortise Sash Lock
TE1510

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or interior door in residential; industrial, commercial project
* Forend, strike, latch, bolt, follower made of stainless steel 304 Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 72/85mm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easy adjust direction at project site

Certification

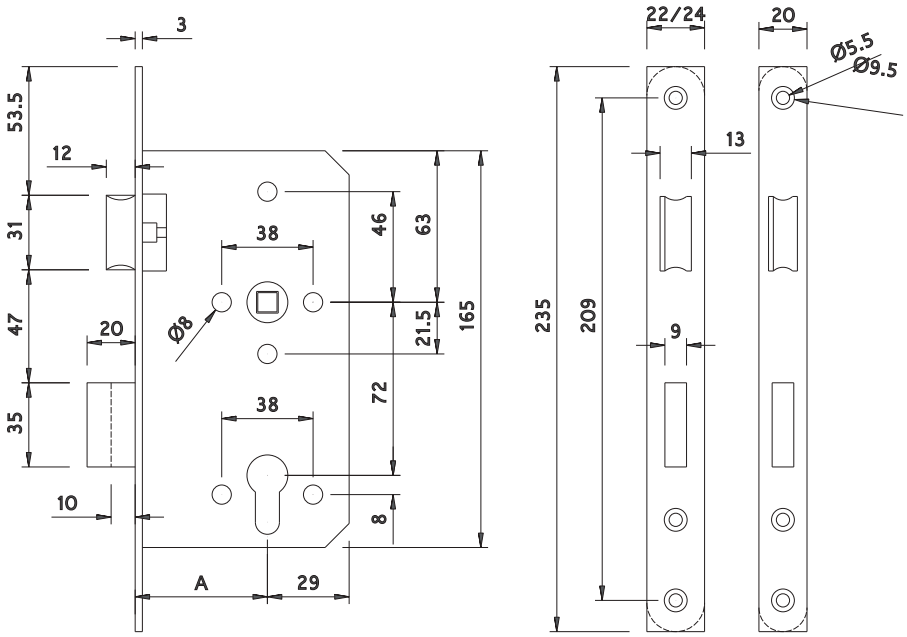
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Privacy Lock
TE1520

* Applicable to wood or metal rebated door or flush door
* For privacy door in residential; industrial,commercial project
* Forend, strike, latch, bolt, follower made of stainless steel 304 Lock case made of steel
* Use with thumb turn indicator, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 78mm
* 20mm width forend for rebated door, 22124mm forend for flush Door
* Non-handed, Easy adjust direction at project site

Certification

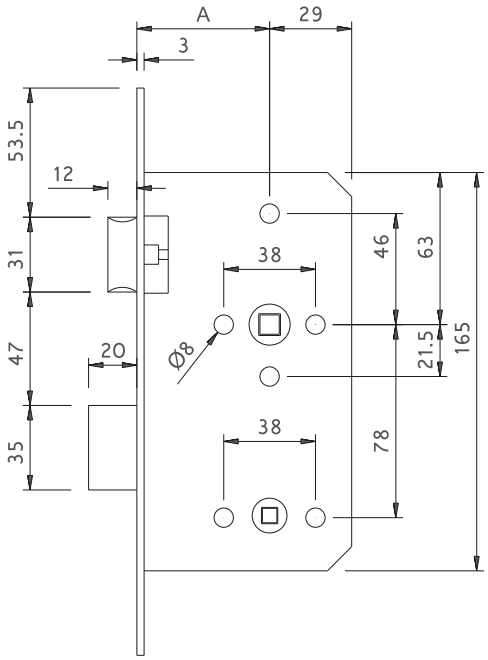
* BS EN12209:2003 200,000 life cycle test

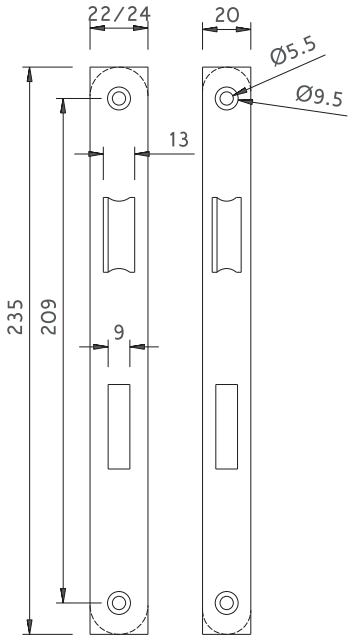
Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request





3

Latch Lock

TE1530

* Applicable to wood or metal rebated door or flush door
* For passage in residential, industrial commercial project
* Forend, strike, latch , follower made of stainless steel 304
  Lock case made of steel
* 8 x 8mm follower, optional backset 55/6omm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easily adjust direction at project site

Certification

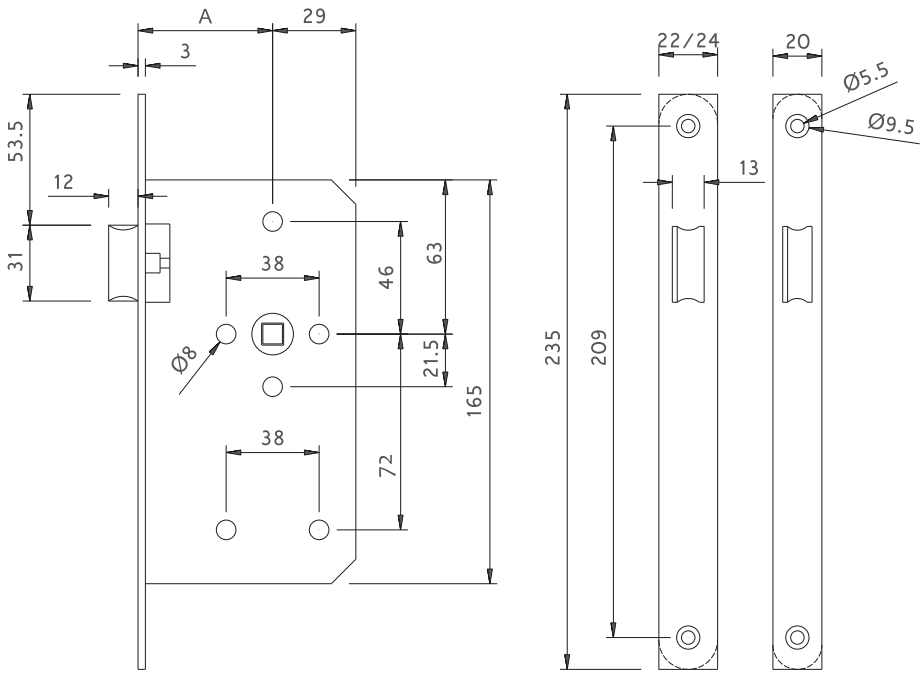
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Deadbolt Lock

TE1540

* Applicable to wood or metal rebated door or flush door For fire door, smoke lobby door in residential; industrial, commercial project
* Forend, strike, bolt , made of stainless steel 304
  Lock case made of steel
* Applicable to wood or metal rebated door or flush doorFor fire door, smoke lobby door in residential; industrial, commercial project
  Forend, strike, bolt , made of stainless steel 304
  Lock case made of steel

Certification

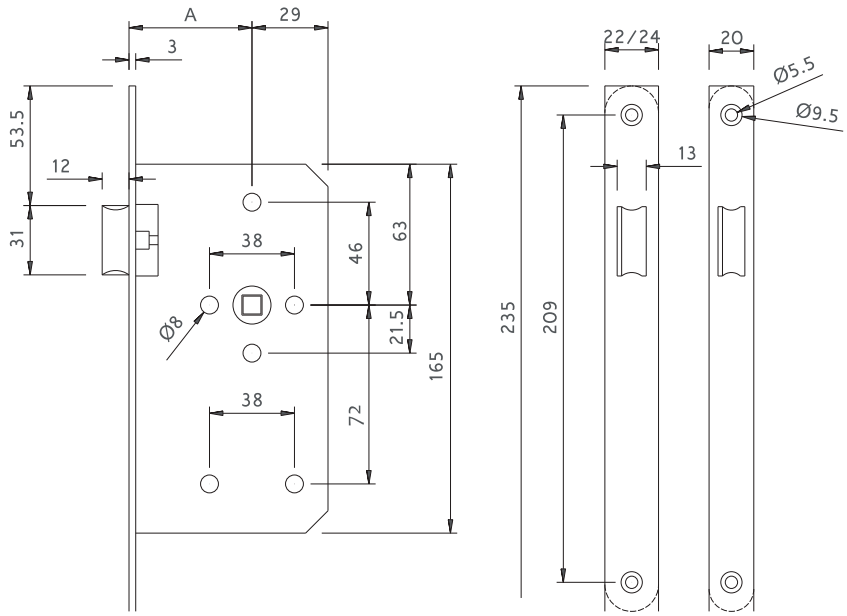
* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Classroom Lock

TE1550

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or Interior door in residential; industrial , commercial project
* Forend, strike, latch, Security latch , follower made of stainless steel 304, Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 72mm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easily adjust direction at project site
* Compatible with panic device or electric strike

Comply:

* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

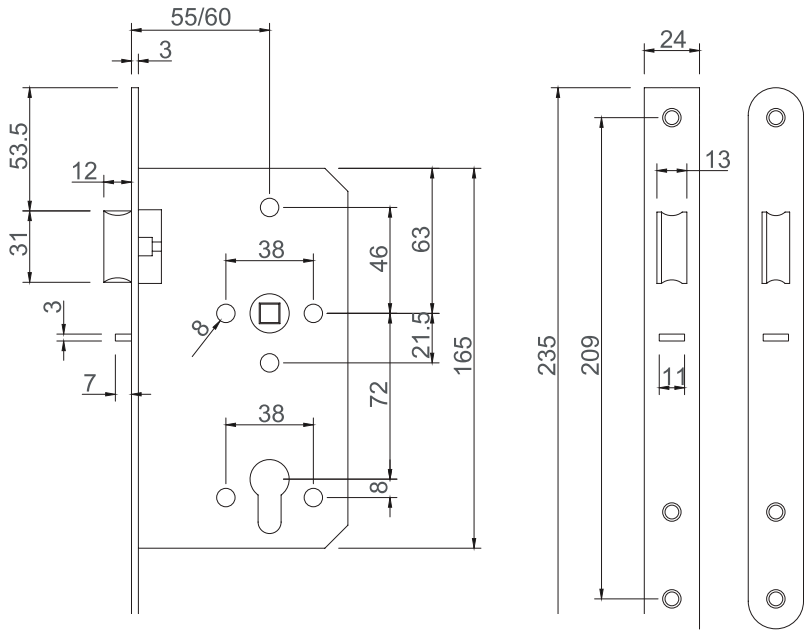
* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Function:

* Latchboll retracted by lever from either side unless outside is locked by key. Unlocked from outside by key. inside lever always free for immediate exit.

Finish:

* Satin Stainless Steel
* Other finishes upon request



Night Latch Lock

TE1560

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or Interior door in residential; industrial , commercial project
* Forend, strike, latch, Security latch , follower made of stainless steel 304, Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8x8mm follower, optional backset 55/6omm, distance 72mm
* 20mm width forend for rebated door, 22/24mm forend for flush Door
* Non-handed, Easily adjust direction at project site
* Compatible with panic device or electric strike

Certification

* CE Certified
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

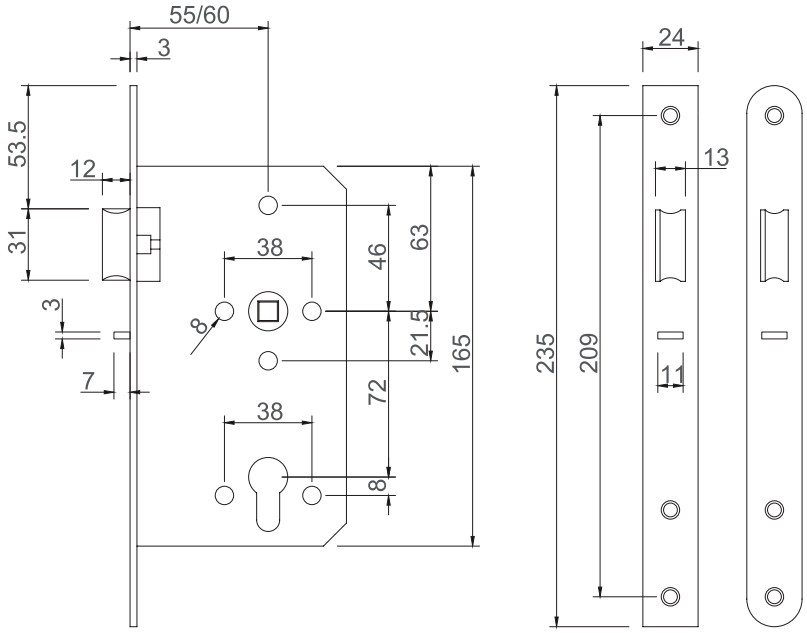
* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Function:

* Latchbolt operated by lever handle or key. Suitable for doors where single action of escape is required. The door will be relocked automatically when it closes and the security will be ensured.

Finish:

* Satin Stainless Steel
* Other finishes upon request



Mortise X-Ray Lock

TE1570

* Suitable for X-Ray door of Hospital application Ullresonle test, room doors
* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or interior door in residential; industrial, commercial project
* Forend, strike, latch, bolt, follower made of stainless steel 304 Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8x8mm follower, backset 40/80mm, distance 72mm
* 20mm width forend for rebated door, 24mm forend for flush Door
* Non-handed, Easy adjust direction at project site

Comply:

* BS EN12209:2003 200,000 life cycle test
* BS EN1634

Configuration:

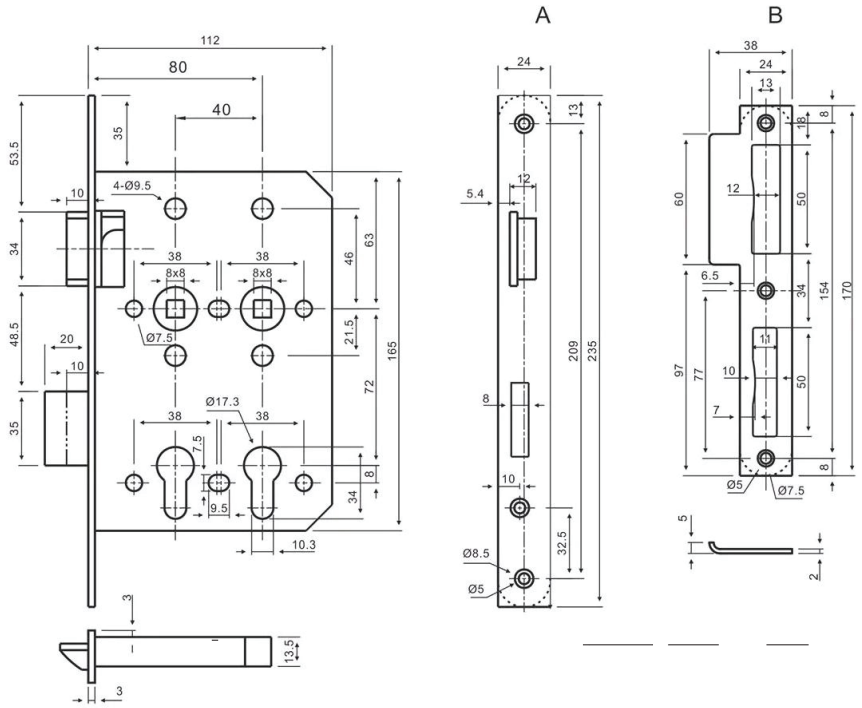
* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Function:

* Prevention or X ray Penetration. Laich bolt can be operated by lever handles on either side. Deadbolt thrown and retracted from both side cylinders.

Finish:

* Satin Stainless Steel
* Other finishes upon request



Escape Lock

TE1580

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or interior door in residential, industrial, commercial project
* Independent outside, inside follower construction, outside
* lever retract latch, inside lever retract both latch, bolt for emergency escape.
* 8x8mm follower, optional backset 55/6omm, distance 78mm
* Forend, strike, latch, bolt, follower made of stainless steel 304 , Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 8 x 8 mm follower, optional backset 55/60mm, distance 72 mm
* 20 mm width forend for rebated door, 22/24 mm forend for flush door
* Non-handed, easy adjust direction at project site

Comply:

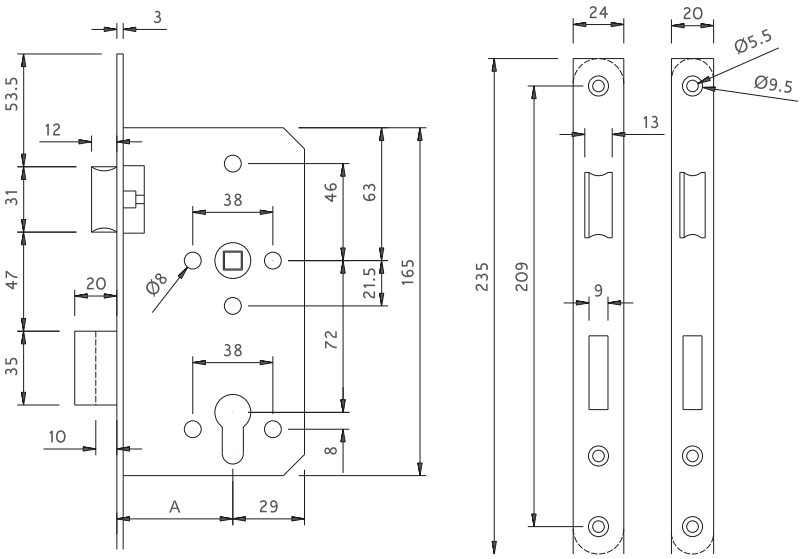
* BS EN12209:2003 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws

Finish:

* Satin Stainless Steel
* Other finishes upon request



Anti-Panic Mortise Lock

TE1590

* Applicable to wood or metal rebated door or flush door
* For fire door, smoke lobby door or interior door in residential, industrial, commercial project
* Mortise Lock Body, Strike plate, and fixing screws
* 8x8mm follower, optional backset 55/60mm, distance 72mm
* Forend, strike, latch, bolt, follower made of stainless steel 304 , Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* 20 mm width forend for rebated door, 22/24 mm forend for flush door
* Non-handed, easy adjust direction at project site

Comply:

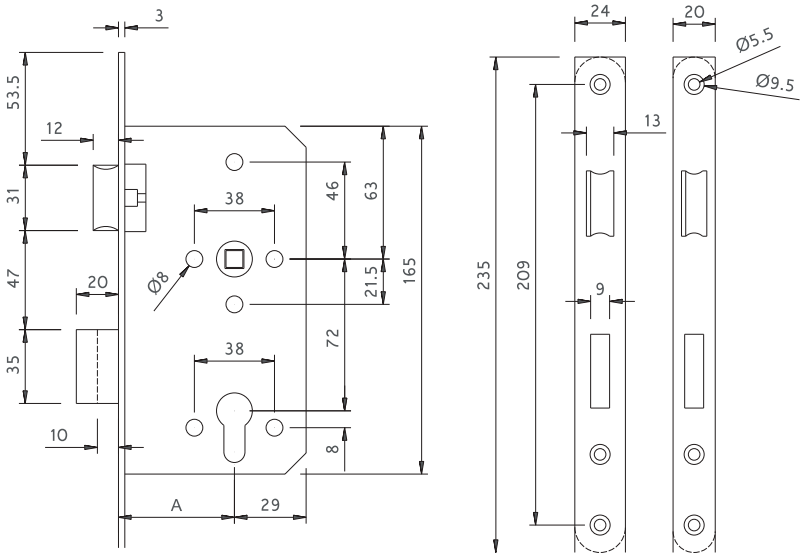
* BS EN179:2008 200,000 life cycle test
* BS EN1634 fire rated

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws

Finish:

* Satin Stainless Steel
* Other finishes upon request



3

Roller Latch Sash Lock

TE1720

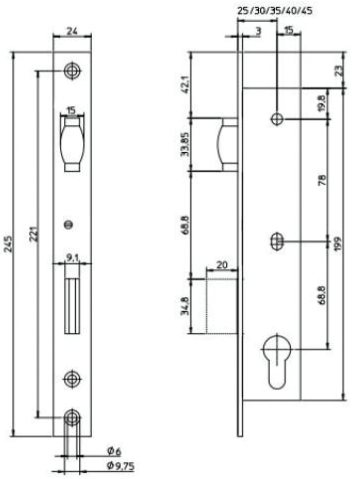
* Applicable to wood or metal flush door
* Forend, strike, roller latch, bolt made of stainless steel 304, Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* Optional backset 25/30/35mm.
* Non-handed

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Small Dead Bolt Lock

TE1770

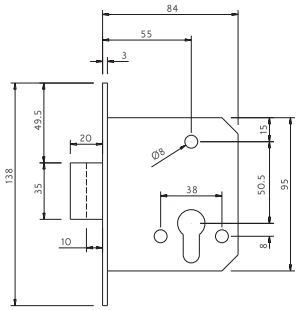
* Applicable to wood or metal rebated door or flush door
* Forend, strike, Bolt made of stainless steel 304, Lock case made of steel
* Use with euro profile cylinder, Double turns deadbolt
* Backset 55mm
* Non-handed

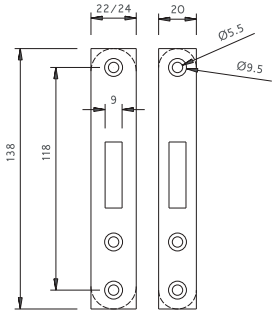
Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

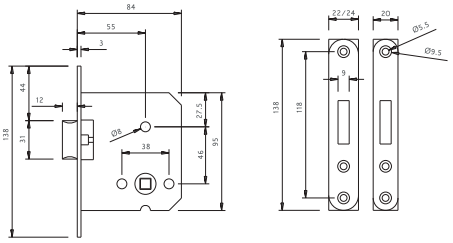
* Satin Stainless Steel
* Other finishes upon request





Small Latch Lock
TE1780

* Applicable to wood or metal rebated door or flush door
* Forend, strike, latch made of stainless steel 304, Lock case made of steel
* Use with lever handle , Thumb Turn
* Backset 55mm
* Non-handed



Configuration:

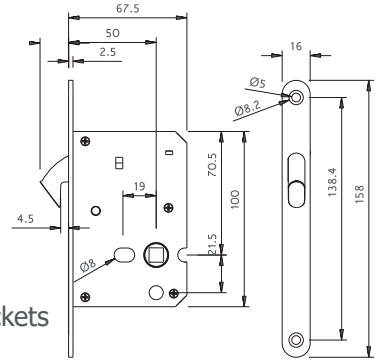
* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request

Hook Lock
TE1750

* Applicable to wood or metal sliding door
* Forend, strike, Bolt made of stainless steel 304, Lock case made of steel
* Backset 50mm
* Non-handed



Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request

Hook Lock for Ep Cylinder
TE1760

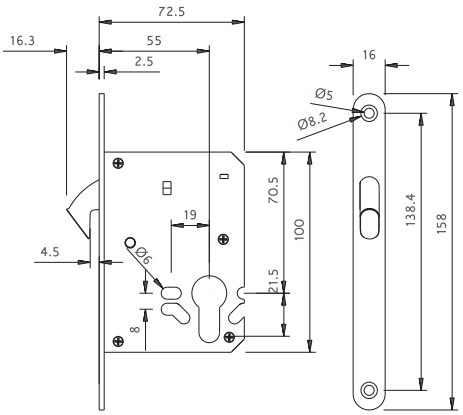
* Applicable to wood or metal sliding door
* Forend, strike, Bolt made of stainless steel 304, Lock case made of steel
* Use with Euro profile cylinder
* Backset 55mm
* Non-handed

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Narrow Stile Sash Lock
TE1710

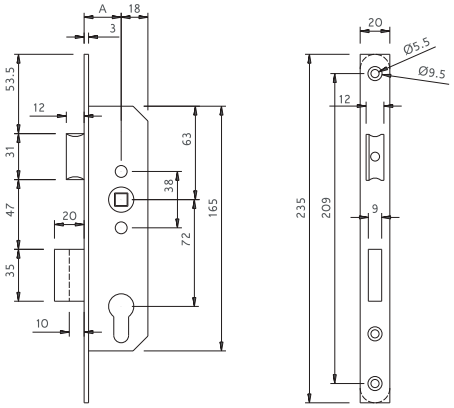
* Applicable to wood or metal rebated door or flush door
* Forend, strike, latch, bolt made of stainless steel 304, Lock case made of steel
* Use with euro profile cylinder
* Optional backset 20/25/30mm
* Non-handed

Configuration:

* One pc lock body
* One pc strike plate
* One pc pocket
* One set of fixing screws
* Suffix "DP" for dusk proof sockets

Finish:

* Satin Stainless Steel
* Other finishes upon request



Narrow Stile Deadbolt Lock
TE1740

Features:

*According to EN12209-Grade 2,DIN 18251-2
*For aluminium doors
*For single-leaf doors
*For non-rebated doors
*Prepared for profile cylinders
*With key action
*Deabolt 2-turns

Technical Data:

* Follower	8mm
* Distance	92mm
* Backset	30/35mm

Forend:

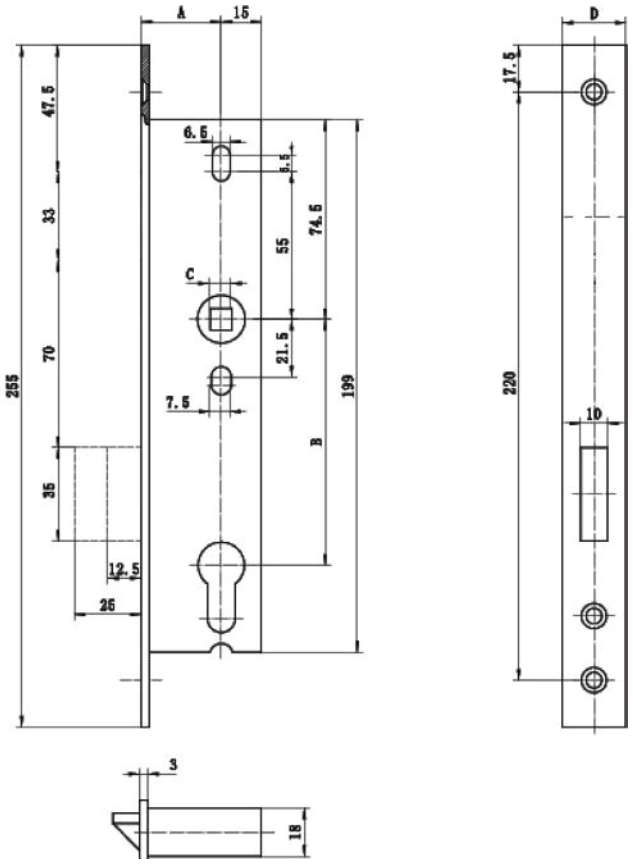
* Type	square head
* Thickness	3mm
* Width	24mm

Forend Finish:

* Stainless steel	SSS/PSS
* Vacuum metallizing	Satin Brass PVD AB AC

Accessories:

* Striking plate
* Pocket
* Fixing screws

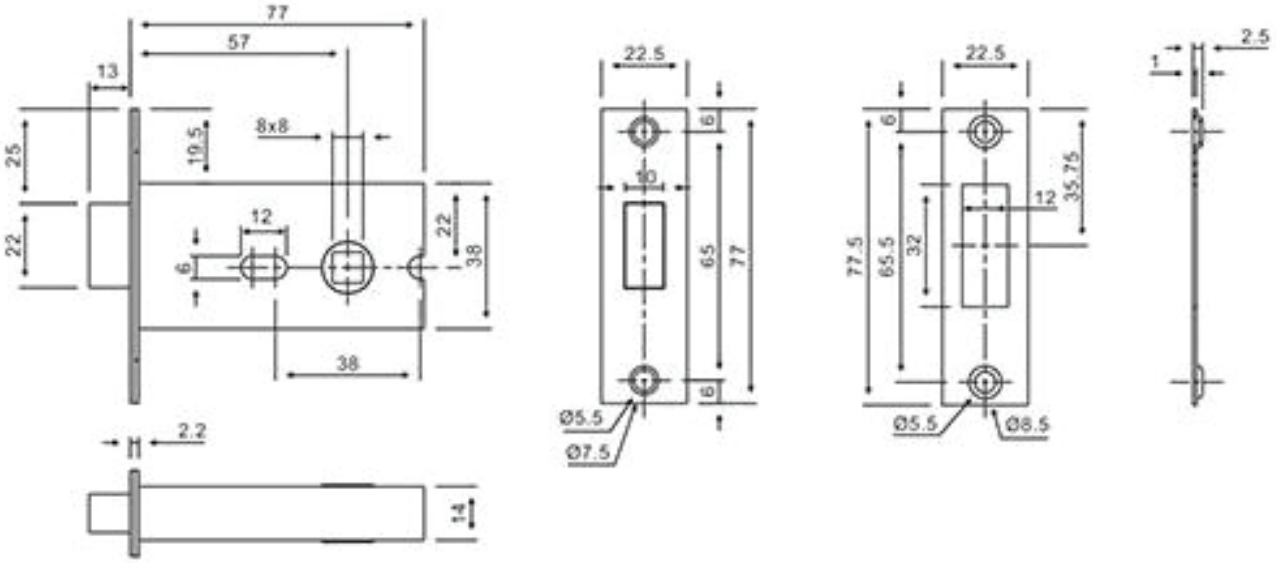


A = Backset
B = Distance
C = Follower
D = Width

European Mortise Lock
WC - Bathroom Deadbolt
TRML032

TECHNICAL DATA

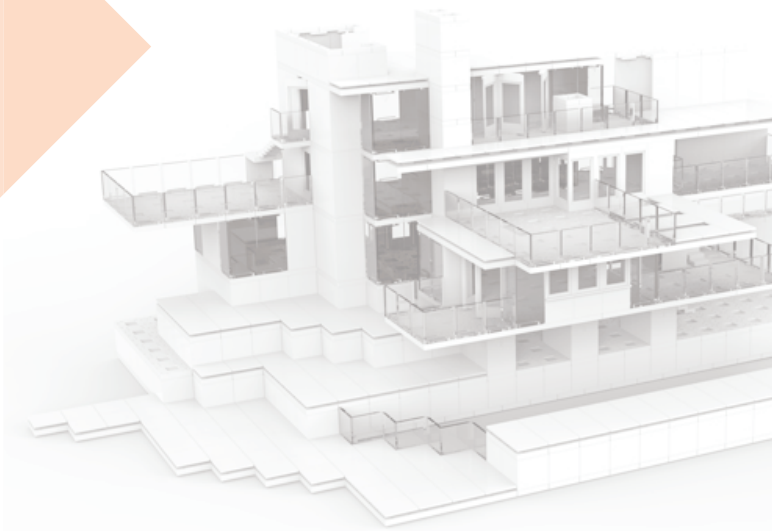
Follower	8 x 8mm
Backset	57mm
Material	Solid Brass Deadbolt and Fllower, SUS 304 Forend. Srike plate
Finish	SSS. PSS. PVO. PB.AB.AC
Suitable For	Bathroom door of commchcial 0t residential application
Suitable For Door	Wooden door, Metal door. Interior door etc



Brand Identity	Model No:	Function #	Backset	CTC Disance	Forend	Options	Finish
TE	14 - Premium Series	10 - Sash Lock (Patch Lock Available)	30	72	20S	- (None)	630
	15 - Project Series	20 - Bathlock (Patch Lock Available)	35	85	22S	LL - Lean Lined	605
	17 - Other	30 - Latch Lock (Patch Lock Available)	40	92	24S	ELRX - Fail Safe Request to Exit	606
		40 - Deadlock (Patch Lock Available)	45		20R	EURX -Fail Secure Request to Exit	625
		50 - Classroom	50		22R	EL - Fail Safe	612
		60 - Nightlatch	55		24R	EU - Fail Secure	613
		70 - X-Ray Lock	60				
		80 - Escape Lock					
		90 - Antipanic Lock					
		10 - Narrow Sash lock					
		20 - Roller Latch Sash Lock					
		30 - Roller Latch Lock					
		40 - Narrow Deadbolt Lock					
		50 - Hook Lock					
		60 - Hook Lock EP Cylinder					
		70 - Small Dead Bold Lock					
		80 - Small Latch Lock					

3

Ex: TE1410.55.72.22S.630



DHF Best Practice Guide: Mechanically Operated Locks, Latches And Locking Plates To BS EN 12209

• DHF BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European product standard. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standards.

• BS EN 12209 Building Hardware - Mechanically operated locks, latches and locking plates

Fundamental to this standard is a comprehensive classification system for assessing the wide range of products needed to satisfy the diverse requirements of the European market. Features assessed include normal use (and abuse) forces, long-term durability, fire/smoke resistance, corrosion and temperature resistance and security, both manipulative and physical. In addition, it contains information on marking, including CE marking because BS EN 12209 is a harmonised standard.

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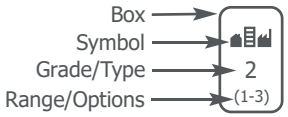
• SCOPE

This standard covers requirements and test methods for all types of mechanical lock or latch (including associated or separately supplied locking plates), intended for use on pedestrian doors in buildings but excludes electro-mechanically operated locks and striking plates, multi-point locks and their locking plates, locks for windows, padlocks, locks for safes, furniture locks and prison locks

• CLASSIFICATION

BS EN 12209 classifies mechanically operated locks, latches and locking plates using an 11 digit coding system. This has proved necessary in order to provide a proper assessment of all the varied features of products for specific markets within Europe. It should be noted that to avoid a greater proliferation of boxes, certain features have been "doubled up": e.g. durability and durability with side load; door mass and closing force; corrosion resistance and temperature resistance. The system is comprehensive but it has led to the use of letters (rather than numbers) in certain boxes, since there can only be one digit in each classification box. A similar classification system applies to all building hardware product standards (at least for the first 7 boxes) to aid meaningful comparisons with related products.

The DHF recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 2 in the Category of Use classification, where EN 12209 stipulates a range of three possible grades from 1 to 3.

DHF Best Practice Guide: Mechanically Operated Locks, Latches And Locking Plates To BS EN 12209

Digit 1
Category of use
Three categories of use are identified:

- grade 1: low frequency of use by people with a high incentive to exercise care and a small chance of misuse, e.g. internal residential doors
- grade 2: medium frequency of use by people with some incentive to exercise care but where there is some chance of misuse, e.g. internal office doors
- grade 3: high frequency of use by public or others with little incentive to exercise care and with a high chance of misuse, e.g. public doors

Digit 2
Durability
Twelve grades are identified with minimum figures for deadbolt and snib operation, and latch bolt operation with and without side load, as shown. The side load is applied to the latch bolt when it is being withdrawn

Increasing side load → / No of operations ↑					
	Grade C	Grade H	Grade M	Grade S	Grade X
	Grade B	Grade G	Grade L	Grade R	Grade W
	Grade A	Grade F			

Digit 3
Door mass and closing force
Nine grades are identified with maximum figures for closing force at various door masses as shown.
Note: closing force is from a standing start: i.e. fully extended latch bolt in contact with striking plate at start of test

Maximum mass of door → / Closing force ↓			
15N	Grade 7	Grade 8	Grade 9
25N	Grade 4	Grade 5	Grade 6
50N	Grade 1	Grade 2	Grade 3
	up to 100kg	up to 200kg	above 200kg

Digit 4
Fire resistance
Two grades are identified: -

–grade 0: not approved for use on fire/smoke door assemblies
- grade 1: suitable for use on fire/smoke door assemblies tested to EN 1634-1 etc.
Note 1. A grade 1 classification means only that the lock has been designed for use on fire/smoke control doors; the actual fire performance achieved (e.g. fire integrity of 30 minutes on a partially glazed timber door etc.) will be contained in a separate fire test report.

Note 2. Where a product is intended for fire/smoke door use (i.e. a "1" in box 4), it must be possible to demonstrate compliance with the Essential Requirements of the Construction Products (Amendments) Regulations. It is recommended that the product should bear the CE mark (see section on CE marking).

Digit 5
Safety
No requirement, but note: a lock or latch conforming to this standard can, at the same time, also be part of an exit device conforming to EN 179 or EN 1125.

Digit 6
Corrosion resistance
Eight grades are identified with neutral salt-spray (NSS) corrosion resistance grades from EN 1670:1998, with and without temperature resistance as shown: -

Corrosion resistance (NSS)	Temperature resistance	
	No requirement	-20C to +80°C
240 hours	grade D	grade G
96 hours	grade C	grade F
48 hours	grade B	grade E
24 hours	grade A	
No requirement	grade 0	

Digit 7
Security and drill resistance
Seven grades are identified with minimum figures for requirements relating to physical attack, with or without drilling of the lockcase, as shown: -

Increasing resistance to attack	No drilling requirement	Drilling requirement
	grade 6	grade 7
	grade 4	grade 5
	grade 3	
	grade 2	
	grade 1	

Digit 8
Field of door application
Fifteen grades are identified for differing applications – hinged or sliding doors with rim or mortice locks with either keyless egress from inside or key locking from both sides. The grading determines which application is appropriate. In addition, there is a requirement that lock/latch should not be removable from outside or, for grades K to R, from inside using "standard" tools. Grades H and P require support for the lockcase when installed.

DHF Best Practice Guide: Mechanically Operated Locks, Latches And Locking Plates To BS EN 12209

Digit 9
Type of key operation and locking

Nine grades are identified for differing types of key operation (see table). The grading determines how the lock is assessed for deadlocking requirement as shown. In addition, there is a maximum key torque operating requirement of 1.5 Nm and a minimum key strength requirement of 2.5 Nm

grade 0: Not applicable;
grade A: cylinder lock or latch; manually locking;
grade B: cylinder lock or latch; automatically locking;
grade C: cylinder lock or latch; manually locking with intermediate locking;
grade F: lever lock or latch; manually locking;
grade G: lever lock or latch; automatically locking;
grade H: lever lock or latch; manually locking with intermediate locking;
grade L: lock or latch without key operation; manually locking;
grade M: lock without key operation; automatically locking.

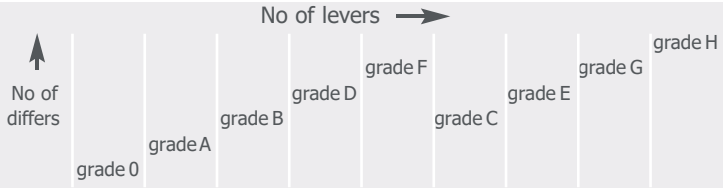
Digit 10
Type of spindle operation

Five grades are identified:-

- grade 0: lock without follower
- grade 1: lock with sprung lever or knob
- grade 2: lock with light unsprung lever
- grade 3: lock with heavy unsprung lever
- grade 4: lock with manufacturer's own specification furniture

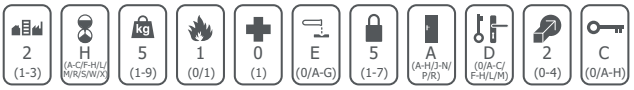
Digit 11
Key identification

Nine grades are identified relating to the number of differs and levers. Grade 0 relates to a latch with no locking action: -



Note: This applies only to lever locks: cylinders are assessed to BS EN 1303:1998

• Example



This indicates a mechanically operated lock and locking plate intended for use in situations where there is an incentive to excercise care; that will withstand a durability of 200,000 cycles with a 10N side load on the latch bolt on a door of up to 200 kg in mass; that will close with a maximum force of 25N; that is suitable for use on a fire/smoke resisting door; that has no safety requirement; that has moderate corrosion resistance over a temperature range of -20 to +80°; that has high security and drill resistance; that is alever mortise lock with manual locking; that is suitable for unsprung furniture; and that has five detaining elements with a minimum of 10,000 differs.

DHF Best Practice Guide: Mechanically Operated Locks, Latches And Locking Plates To BS EN 12209

• MARKING

The labelling, packaging or accompanying literature shall show the following: -

a) Manufacturer's name, trademark or other means of positive identification
b) Clear product identification
c) Classification according to the 11-box classification coding
d) Number and year of this European standard (i.e. BS EN 12209:2003)

• CE marking

Mechanically operated locks and latches intended for use on fire/smoke control doors within the EEA* are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, this standard is regarded as "harmonised" and compliance with it, supported by suitable evidence, allows for the application of the CE mark.

As such, locks and latches have a critical safety function. Application of the CE mark will require the involvement of a notified body to provide verification of the compliance claims. This involves initial type testing of the product to EN 12209 and EN 1634-1, initial inspection of the manufacturer's factory production control and continuing surveillance and approval of the factory production control. On satisfactory fulfilment of these tasks, the notified body issues an EC Certificate of Conformity which then permits the manufacturer to declare compliance and affix the CE mark to his product.

* EEA = European Economic Area including the EU and EFTA (except Switzerland).

The CE conformity marking symbol, in letters at least 5 mm high, and items i) to vii) below, shall accompany the product and shall be included in installation instructions: -

• Related standards

Other European standards related to BS EN 12209 are:

BS EN 1303:1998
Cylinders for locks
(ABHM Best Practice Guide available)

BS EN 1906:2002
Lever handle and knob furniture
(ABHM Best Practice Guide available)

prEN 14846
Electromechanical locks and latches
(still in draft form)

WI 33/250
Multipoint locks and latches
(still in draft form)

i) Identification number of the certification body;
ii) The name or identifying mark of the producer
iii) Registered address of the producer
iv) The last 2 digits of year in which the marking was applied
v) The number of the EC Certificate of Conformity
vi) Reference to this European Standard EN 12209)
vii) The designation and performance of the lock or latch according to the 11-box classification coding where incorporated in the Scope and clauses of the Standard applying to the essential characteristics

Additionally, at least the CE marking symbol and the identification number of the certification body shall be affixed to the lock/latch and optionally on its packaging

Note that, although the notified body has to be involved to verify the manufacturer's claims, the manufacturer remains responsible for designing and producing the product, for affixing the CE marking, and for ensuring that the product meets the requirements of the Directive.

Additional Important Considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting locks, latches and locking plates. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct installation of locks, latches and locking plates is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12209. Test reports and/or certificates are available upon request.

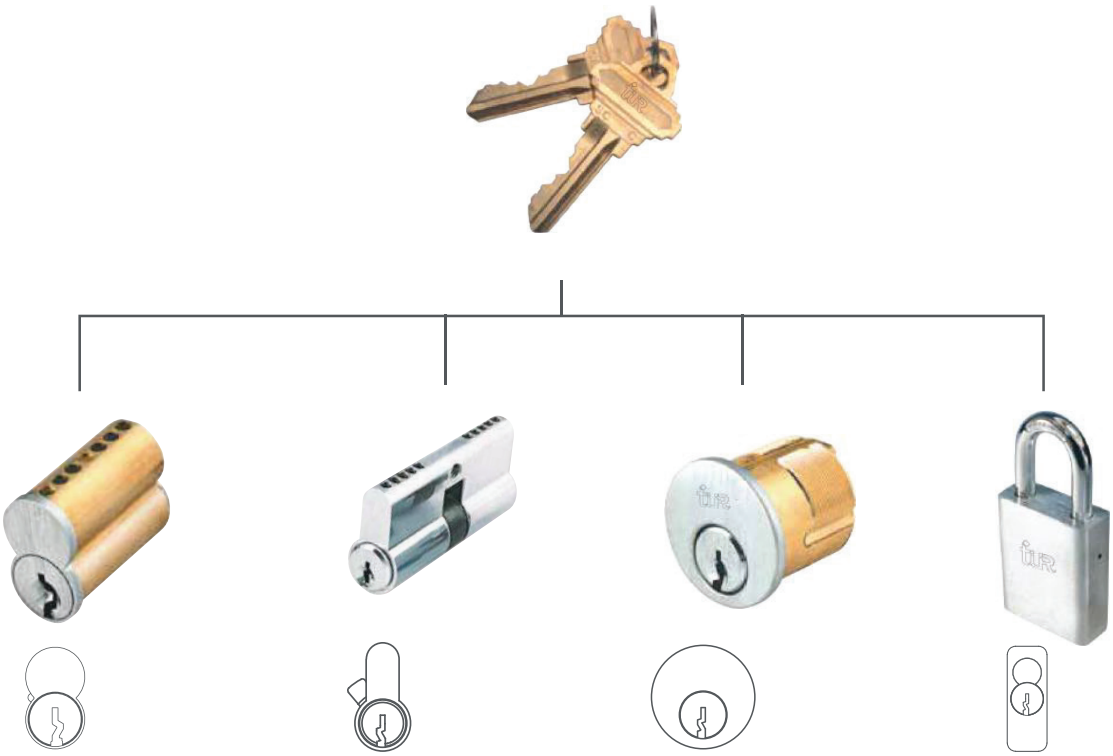
b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12209 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.
*Add as appropriate.

c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 12209 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken. Test reports and/or certificates are available upon request.
*Add as appropriate.

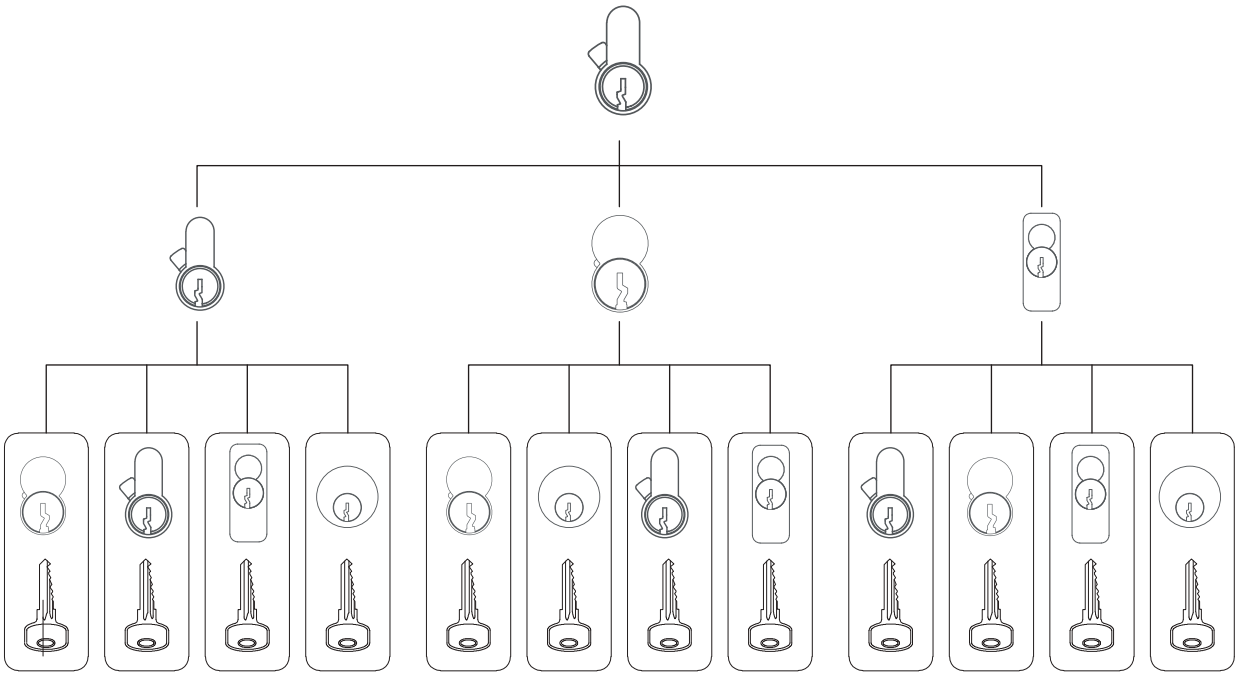
Cylinders

Notes:

One Key For All



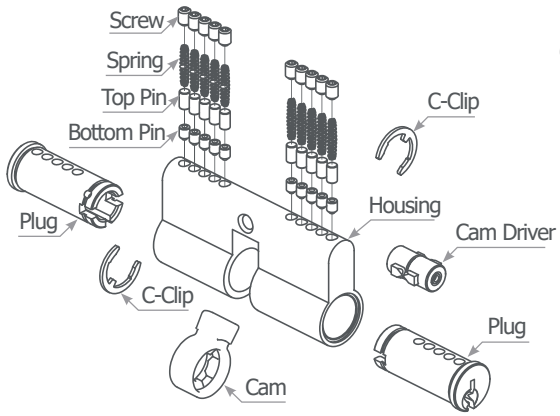
Master Key System



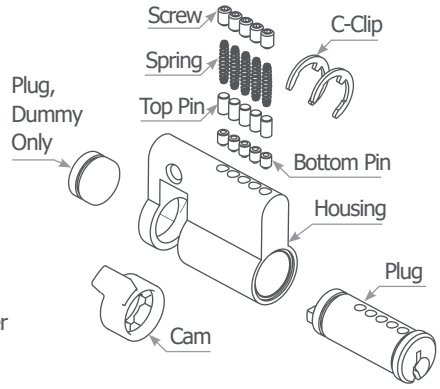
* Applicable to Apartment, Office Building, Commercial Building Warehouse .. etc
* KD system or KA system available
* Optional 5 pins, 6 pins or 7 pins
* Compatible with America Mortise cylinder

Profile Cylinder Schematic Drawing

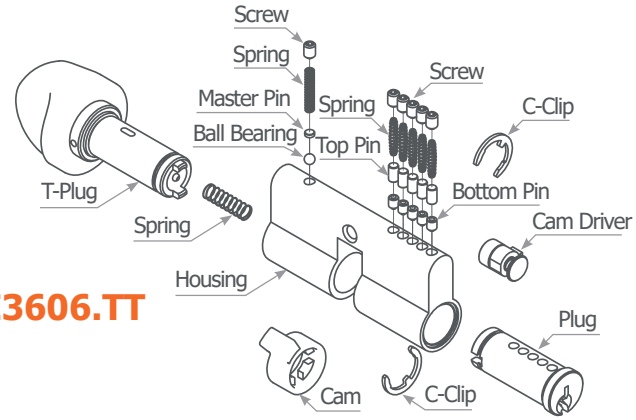
TE3606.DC



TE3606.SC



TE3606.TT



605
Polished Brass

606
Satin Brass

612
Satin Bronze

619
Satin Nickel

625
Polished Chrome

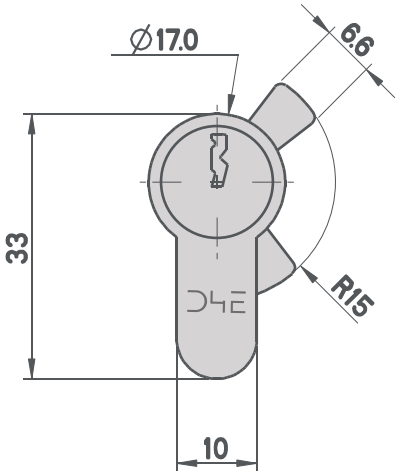
626
Satin Chrome

630
Stainless Steel

613
Oil Rubbed Bronze

3

TE3600 Euro Profile Cylinders



Technical features

- 5 or 6 pin key bitting system
- Brass body.
- Brass plugs.
- Self -lubricating DIN sintered steel cam.
- Cemented steel pins.
- Variable shape hardened steel pin drivers.
- Phosphorous bronze and steel springs.

Applications

TE3600 offers satisfactory master keying potential for Company HQ's, Universities, Hospitals, Public Buildings and Shopping malls combining strong access management possibilities with control of key duplication. It is the product for medium-security applications and also ideal for apartment buildings.

Cylinder security
Attack resistance

- High resistance to housebreaking technique: highly effective agai nst wax impression burglary
- High drill resistance, thanks to the hardened steel key bitting system
- Push-resistant through the projecting cam.

Key security

- Key protected for illegal key duplication
- Key duplic ation by Format or Format authorized centers.
- Over 30,000 possible combinations or different keys.

Master keying potential

The 5 or 6 pin key bitting system offers outstanding access management possibilities.
E.g.: 10,000 different cylinders under a single grand Master key.

Reliability

Tested to 100,000+ cycles.

EN 1303: 2005

- Compliant with European Standard BS EN 1303: 2005.

Certifications

Key

- Paracentrical keyway.
- Nickel silver.
- Ergonomic grip head.
- Neck length 12 mm.
- Key numerical coding.
- Key thickness 2.4 mm.
- Depth 0.48 mm.

Finishes

- Standard Nickel Plated Brass (SNP)
- On Request: Sanded Brass (SBR)

Options on request

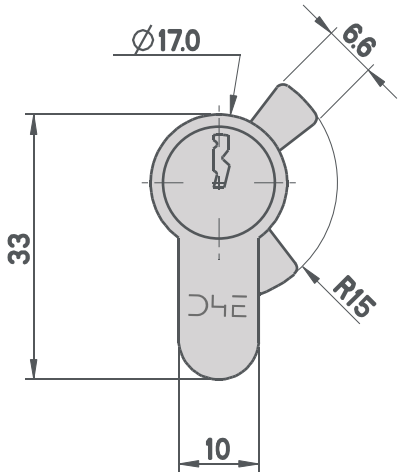
KD, KA, MK, GMK, SMK, CK.

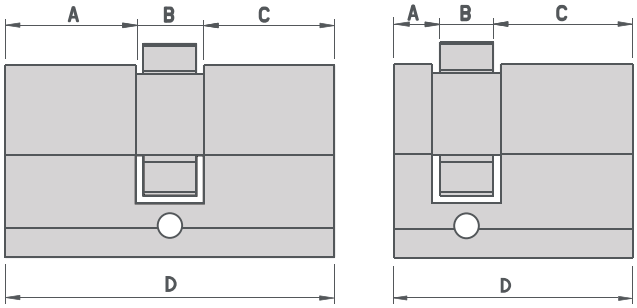
Standard equipment

- 3 Keys.
- Fixing screw.

Secure The Door

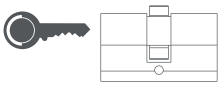
TE3600 Euro Profile Cylinders

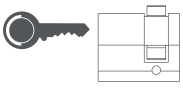


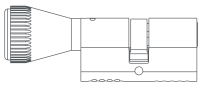


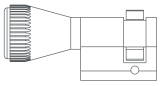
3

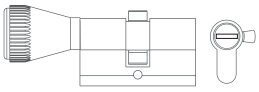
Models


Double


Single


Thumb Turn


Single Thumb Turn


Privacy Cylinder

NORMA · STANDARD · NORME · NORM · EN1303

Tests made in our factory lab

	A	B	C	D
Symmetrical	25 - 55	10	25 - 55	Max.120
Asymmetrical	25 - 55	10	25 - 95	Max.160
Single Cylinder	5	10	25 - 95	Max.110

Features

Europrofile cylinder

Norma DIN 18252 (dimensional)


Cam 30°

3 keys

5 pins

Keyed Alike

Master Key

Central Key

30,000 key combinations (KD)

packing - 1 piece per box

Options

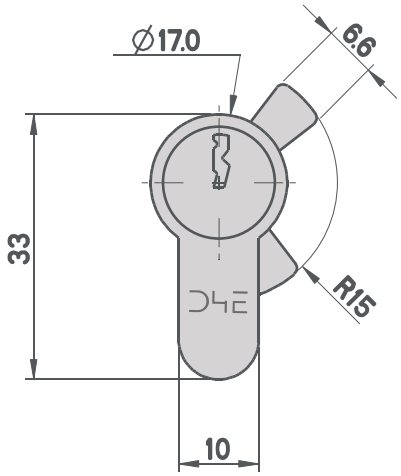

Anti-Drill

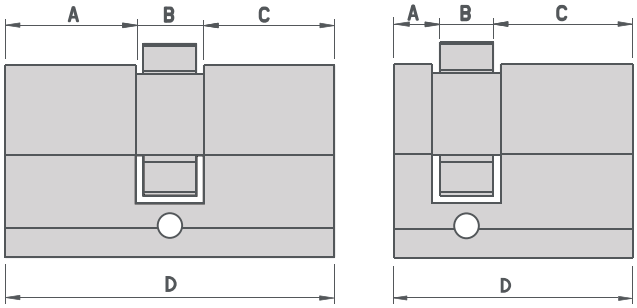
6 pins


Key turn both ends

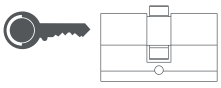
Secure The Door

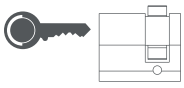
TE3600 Euro Profile Cylinders

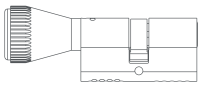


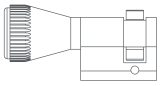


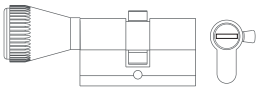
Models


Double


Single


Thumb Turn


Single Thumb Turn


Privacy Cylinder

NORMA · STANDARD · NORME · NORM · EN1303

Tests made in our factory lab

	A	B	C	D
Symmetrical	25 - 55	10	25 - 55	Max.120
Asymmetrical	25 - 55	10	25 - 95	Max.160
Single Cylinder	5	10	25 - 95	Max.110

Features

Europrofile cylinder

Norma DIN 18252 (dimensional)


Cam 30°

3 keys

5 pins

Keyed Alike

Master Key

Central Key

30,000 key combinations (KD)

packing - 1 piece per box

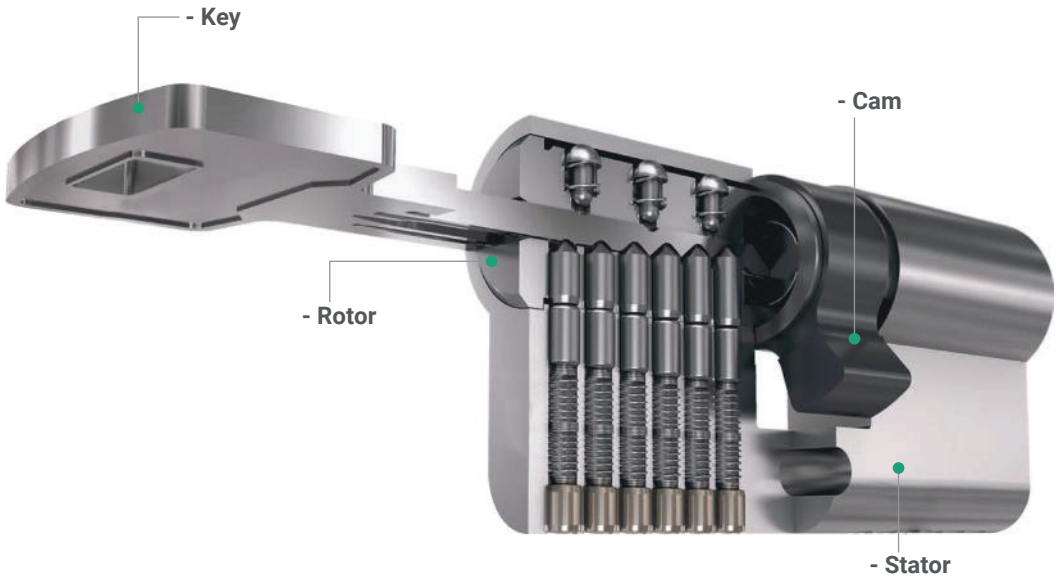
Options


Anti-Drill

6 pins


Key turn both ends

TE3700 Euro Profile Cylinders



Technical features

- 6+3 pin key bitting system
- Brass body.
- Brass plugs.
- Self -lubricating DIN sintered steel cam.
- Cemented steel pins.
- Variable shape hardened steel pin drivers.
- Phosphorous bronze and steel springs.

Applications

TE3700 offers satisfactory master keying potential for Company HQ's, Universities, Hospitals, Public Buildings and Shopping malls combining strong access management possibilities with control of key duplication. It is the product for medium-security applications and also ideal for apartment buildings.

Cylinder security
Attack resistance

- High resistance to "bumping" or percussion
- High resistance to housebreaking technique: highly effective agai nst wax impression burglary
- High drill resistance, thanks to the hardened steel key bitting system
- Push-resistant through the projecting cam.

Key security

- Key protected for illegal key duplication
- Key duplic ation by Format or Format authorized centers.
- Over 100,000 possible combinations or different keys.

Master keying potential

The 6+3 pin key bitting system offers outstanding access management possibilities.
E.g.: 15,000 different cylinders under a single grand Master key.

Reliability

Tested to 100,000+ cycles.

EN 1303: 2005

- Compliant with European Standard BS EN 1303: 2005.

Certifications

SKG

Key

- Paracentrical keyway.
- Nickel silver.
- Ergonomic grip head.
- Neck length 12 mm.
- Key numerical coding.
- Key thickness 2.4 mm.
- Depth 0.48 mm.

Finishes

- Standard Nickel Plated Brass (SNP)
- On Request: Sanded Brass (SBR)

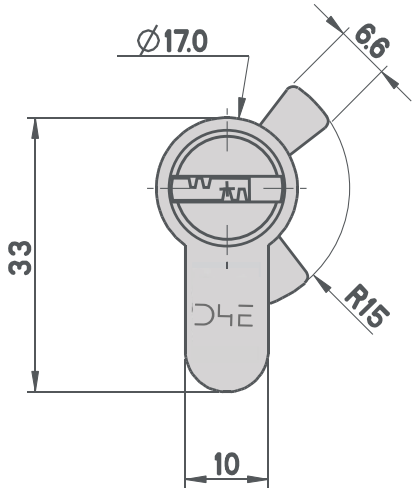
Options on request

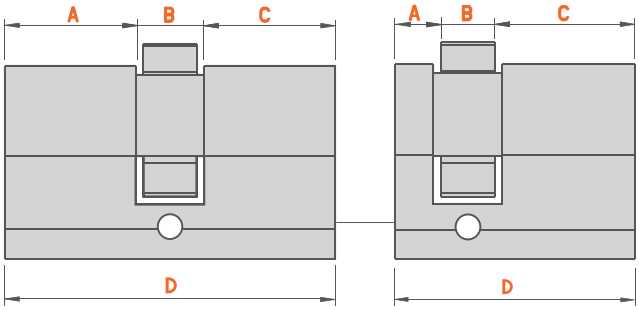
KD, KA, MK, GMK, SMK, CC, CK.

Standard equipment

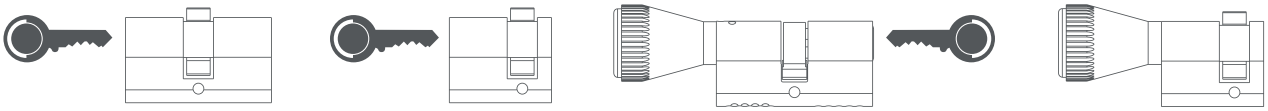
- 3 Keys.
- Fixing screw.

TE3700 Euro Profile Cylinders





Models

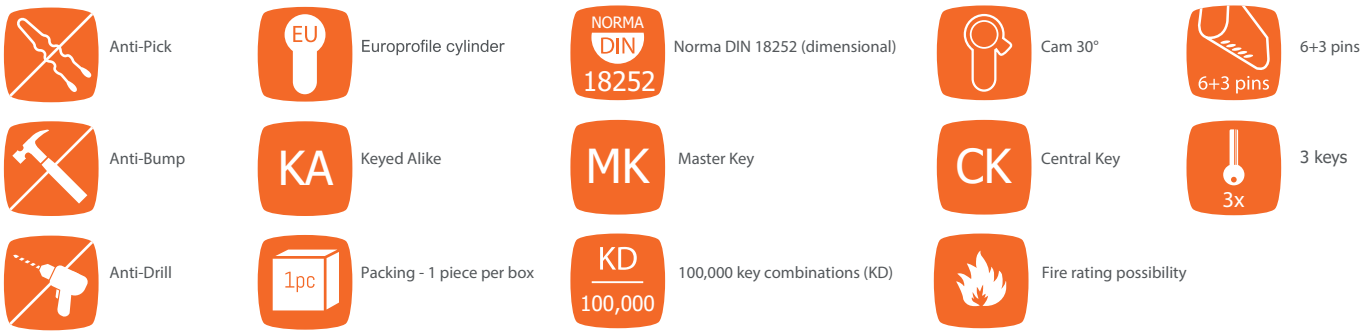


Double | Single | Thumb Turn | Single Thumb Turn

STANDARD BS EN 1303

	A	B	C	D
Symmetrical	26.5 - 61.5	10	26.5 - 61.5	max. 133
Asymmetrical	26.5 - 81.5	10	26.5 - 81.5	max. 133
Single Cylinder	5	10	26.5 - 96.5	max. 111.5

Features



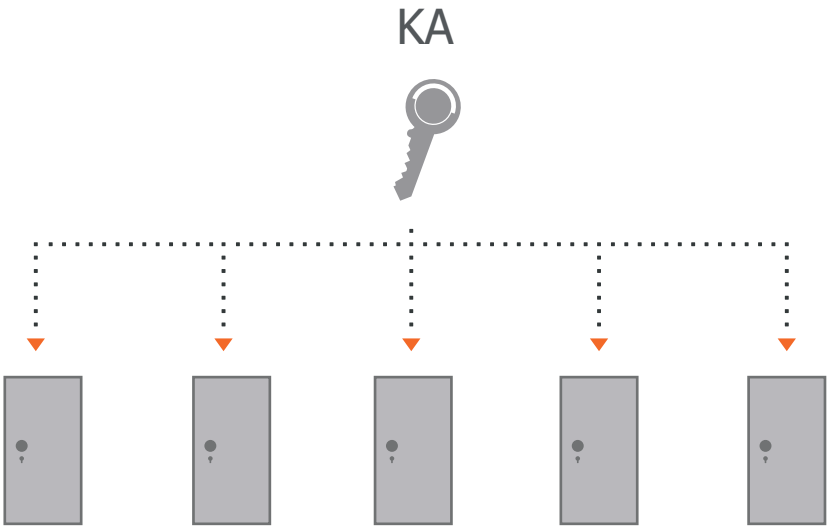
Masterkey Systems

Why Materkey Systems?

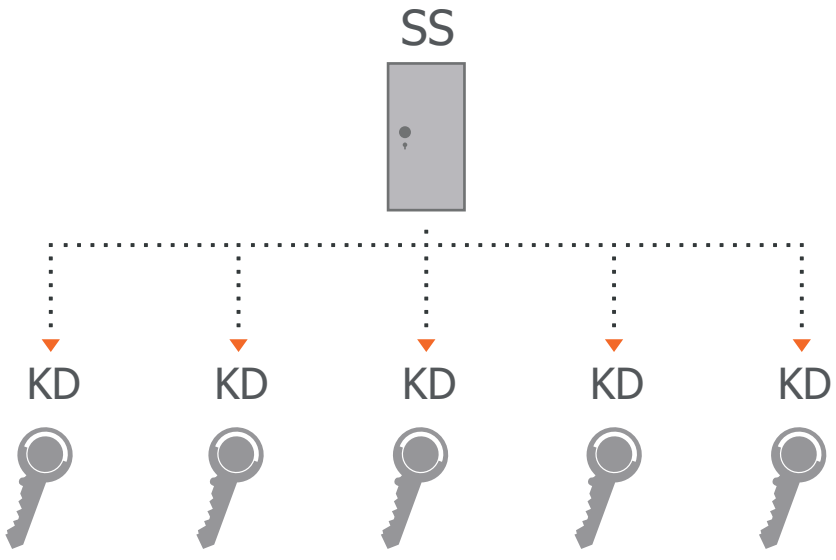
To define, organize and control assess to buildings, hotels, hospitals, offices, factories, warehouse, schools, etc.

Examples

- Key Alike System

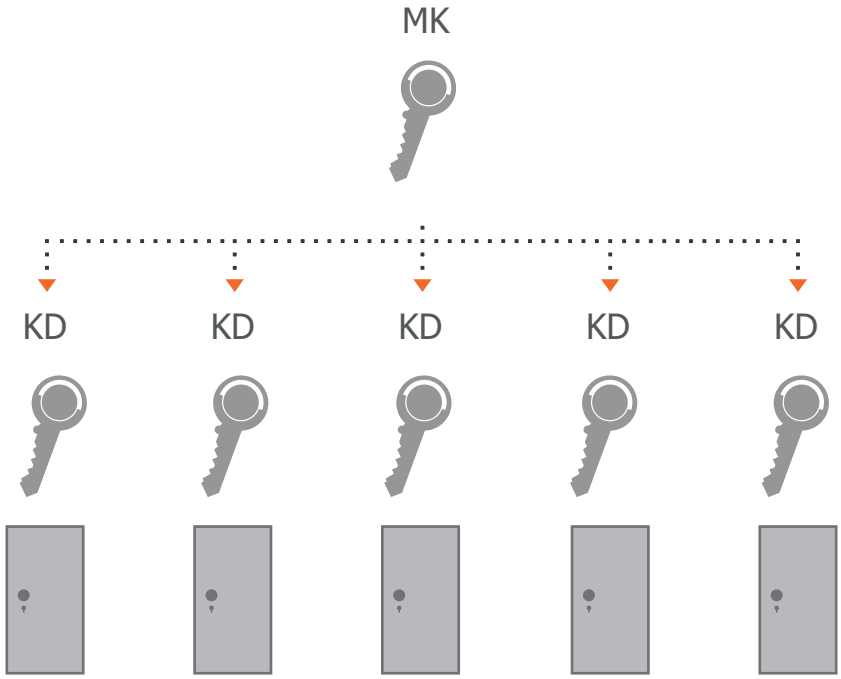


- Common Entrance System (Central Cylinder)

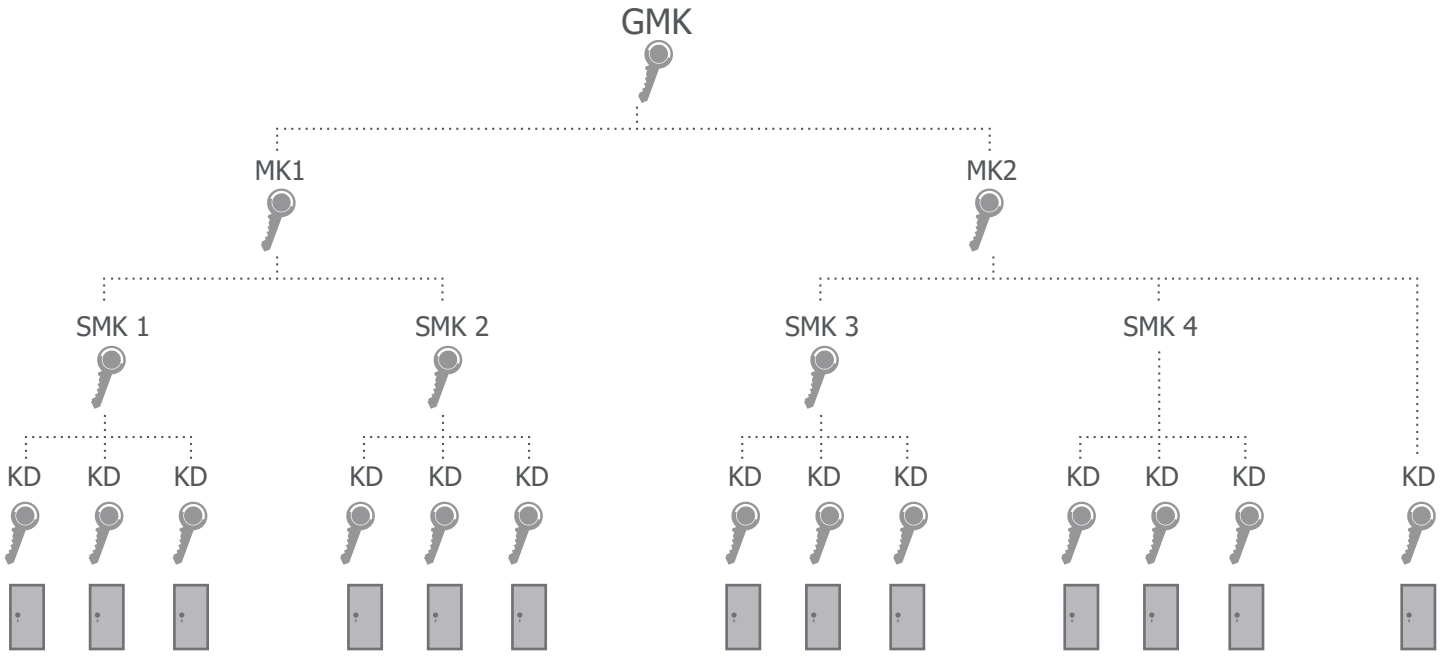


Masterkey Systems

2 Level Masterkey System



4 Level Masterkey System



GMK - Grand Master Key
MK - Master Key
SMK - Sub Master Key
CC - Common Entrance

KA - Key Alike
KD - Keys To Differ

How to Order

Brand Identity	Model No:	Cylinder Type	Lenth (mm)	Keying	Finish
TE	3706 - Pins 6+3	SC - Single Cylinder	40 - SC / ST	KD	605 - Bright Brass
	3606 - Pins 6	DC - Double Cylinder	45 - SC / ST	KA	606 - Satin Brass
	3605 - Pins 5	TT - Thumb Turn	60 - DC / TT	MKD	625 - Bright Chromium
		ST - Single Thumb Turn	70 - DC / TT		626 - Satin Chromium
		PC - Privacy Cylinder	80 - DC / TT		612 - Satin Bronze
			90 - DC / TT		619 - Satin Nickel
			100 - DC / TT		
			110 - DC / TT		
			120 - DC / TT		
			130 - DC / TT		

E.g.:TE3706.DC.70.MKD.619

DHF Best Practice Guide: Cylinders For Locks To BS EN 1303: 2005

• DHF BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the appropriate European product standard. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standard.

THE STANDARD

The full title of the European standard is "Building hardware - Cylinders for locks - Requirements and test methods". Copies can be obtained from:

SCOPE

a) The European standard to which this document relates, applies to cylinders intended for use on locks in buildings. It identifies just one grade for category of use, three grades of durability, two grades of fire resistance, four grades of corrosion and temperature resistance, six grades of key related security based on design requirements, and three grades of attack resistance based on mechanical performance tests.
b) The suitability of cylinders for use on fire/smoke door assemblies is determined by fire performance tests conducted in addition to the mechanical performance testing required by the European standard. Suitability for use on fire resisting doors may not be essential in every situation.
c) On occasions there may be a need for additional functions within the design of the cylinder not covered by the European standard. In such cases purchasers should ensure that the products are suitable for their intended use. This is particularly important when the operation of such additional functions is safety related.

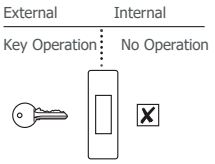
• CYLINDER TYPES

Euro *UK Oval* *Rim*

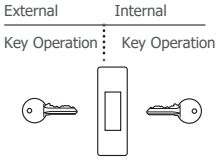
Scandinavian Oval *Screw-In* *Knobset*

• APPLICATION

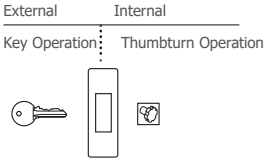
Single Cylinder



Double Cylinder



Thumbturn Cylinder



• SPECIFICATION ISSUES

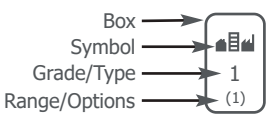
1) All members of the EEA (European Economic Area) use the same product standard.
2) Products complying with the European standard provide peace of mind and evidence of professional specification.
3) Product selection should be made on the basis of the building use, occupancy and particular application.

NOTE:
1) BS EN 1303: 2005 is cited in BS EN 12209: 2003, BS 3621: 2004 and BS 8621: 2004 for requirements and tests relating to the cylinder part of the lock (where applicable).
2) This standard has been adopted as a British standard and should be used in specifications.
If in doubt contact your local GAI registered architectural ironmonger, master locksmith or manufacturer.

• CLASSIFICATION

BS EN 1303: 2005 classifies cylinders for locks using an 8 digit coding system. A broadly similar classification system is used for other building hardware product standards. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

DHF recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon showing a representative symbol, the grade or class, and the range options.



DHF Best Practice Guide: Cylinders For Locks To BS EN 1303: 2005

Digit 1
Category of use
One category is identified:

Grade1: Keys shall resist a torque of 2.5Nm and still be usable.

Digit 2
Durability
Three grades are identified according to the number of test cycles achieved:

Grade 4: 25 000 cycles
Grade 5: 50 000 cycles
Grade 6: 100 000 cycles

Digit 3
Door mass
No requirement.

Digit 4
Fire resistance
Two grades are identified as follows:-

Grade 0: not suitable for fire/smoke resistant door assemblies
Grade 1: suitable for fire/smoke resistant door assemblies subject to satisfactory assessment of the contribution of the cylinder to the fire resistance of the specified fire/smoke door assemblies. Such assessment is beyond the scope of this European standard (see EN 1634-1).

Digit 5
Safety
No requirement.

Digit 6
Corrosion and temperature resistance
Four grades are identified as follows:-

Grade 0: no corrosion or temperature resistance requirements
Grade A: BS EN 1670 Grade 3 corrosion resistance (96 hours NSS): no temperature resistance requirement
Grade B: No corrosion resistance requirement: resistance to -20/+80°C temperature extremes
Grade C: BS EN 1670 Grade 3 corrosion resistance: resistance to -20/+80°C temperature extremes

Note:
- No distinction is made between the inside and the outside of either the cylinder and/or the door.
- On completion of the test, the cylinder must operate using a maximum 1.5 Nm torque on the key.

Digit 7
Key related security
Six grades are identified and the principal requirements are summarised in Table 1 below:-
Table 1: Key related security

	Grade					
	1	2	3	4	5	6
Minimum number of effective differs	100	300	15 000	30 000	30 000	100 000
Minimum number of movable levers, pins, discs, etc	2	3	5	5	6	6
Coding on key could disclose combination	Yes	Yes	No	No	No	No
Torque resistance of plug	2.5Nm	5Nm	15Nm	15Nm	15Nm	15Nm

Digit 8
Attack resistance
Three grades are identified and the principal requirements are summarised in Table 2 below:-
Table 2: Attack resistance

	Grade		
	0	1	2
Resistance to drilling (nett drilling time)	-	3 mins	5 mins
Resistance to chisel attack (number of defined blows)	-	30	40
Resistance to twisting attack (number of defined twists)	-	20	30
Resistance to plug/cylinder extraction (pull load)	-	15 kN	15 kN
Torque resistance of plug/cylinder	-	20 Nm	30 Nm

• EXAMPLE:

The following marking denotes a cylinder meeting the required category of use Grade 1, durability Grade 6 (100 000 cycles), no requirement for door mass, no fire resistance or safety in use requirement, having Grade A corrosion resistance, Grade 4 key related security and Grade 1 attack resistance.

DHF Best Practice Guide: Cylinders For Locks To BS EN 1303: 2005

• MARKING

BS EN 1303: 2005 requires that the classification relevant to the cylinder shall be quoted in the accompanying documentation, on its labelling or packaging and/or by marking the product itself or by more than one of these methods.

The marking/labelling shall include the following:

(a) manufacturer's name or trademark, or other means of identification.

(b) product model identification.

(c) the eight digit classification listed above.

(d) number of the European standard.

Additional Important Considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting locks, latches and locking plates. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All DHF hardware manufacturing members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct installation of cylinders in locks and latches, where required, together with their locking plates is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from DHF members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005. Test reports and/or certificates are available upon request.

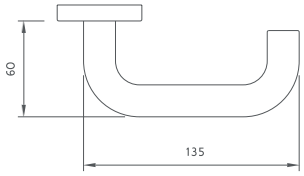
b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.
*Add as appropriate.

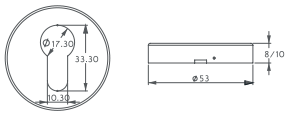
c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1303: 2005 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken.
Test reports and/or certificates are available upon request.
*Add as appropriate.

Furnish The Door Lever Handle

Lever Handle

TE1910.968
Grade 4





* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Certification:

* BS EN 1906:2012 200,000 life Cycle Test

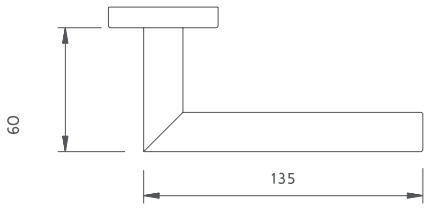
Configuration:

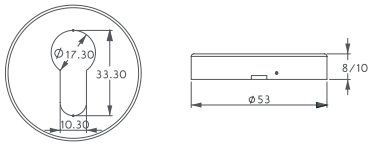
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

TE1910.967
Grade 4





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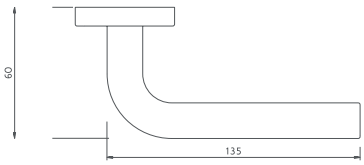
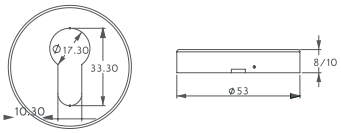
Grade 4





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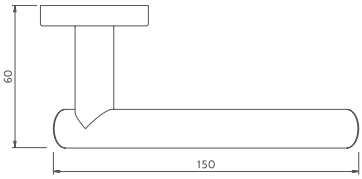
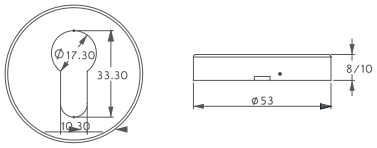
4

TE1910.970
Grade 4





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TE1920.968
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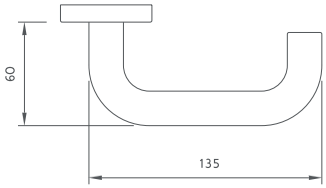

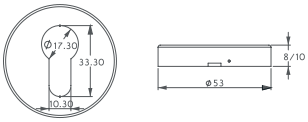

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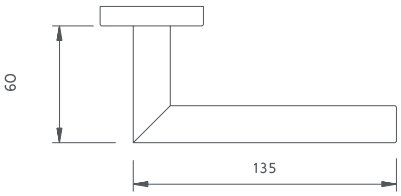

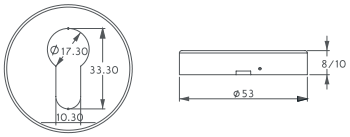

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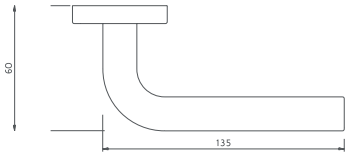
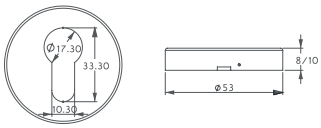
Grade 4





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Configuration:

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* Fixing screws

Finish:

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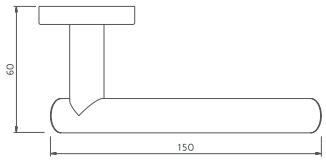
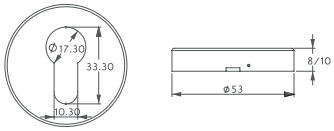
4

TE1920.971
Grade 4





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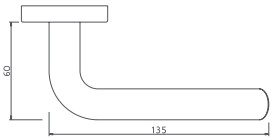
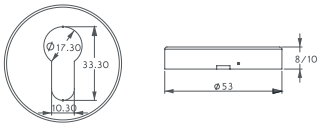
Lever Handle





TE1920.977
Grade 4

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Configuration:
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* Fixing screws

Finish:
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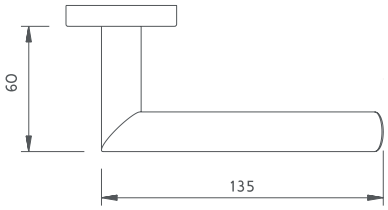

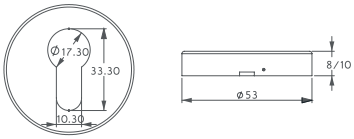

TE1920.970
Grade 4

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Finish:
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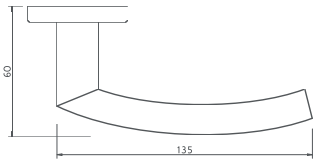
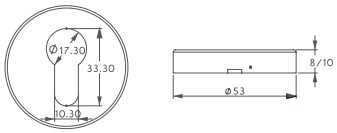
Lever Handle

TE1920.975
Grade 4





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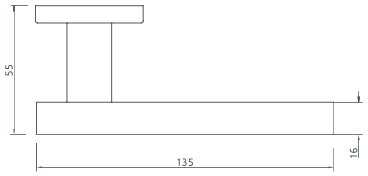
Configuration:

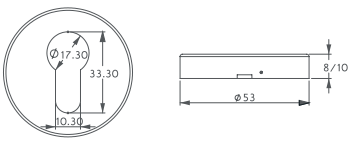
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

TE1920.964
Grade 4





* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Configuration:

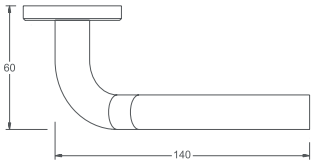
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

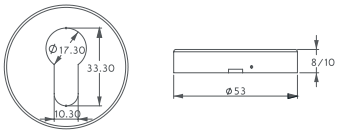
Finish:

* Satin, Polished
* Other finishes available upon request

Lever Handle

TE1920.938





* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38-45mm

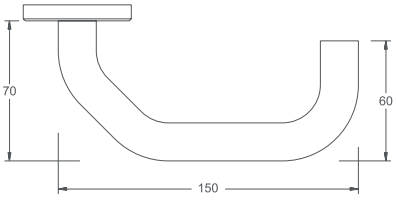
Configuration:

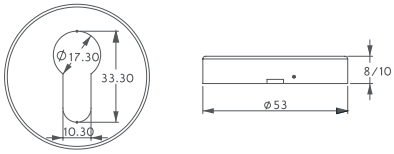
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

TE1920.939





* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

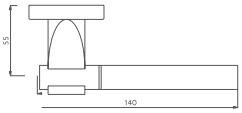
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

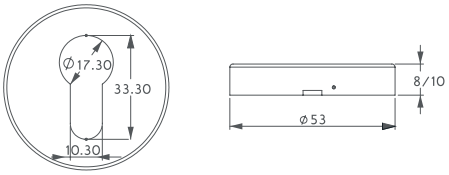
Finish:

* Satin, Polished
* Other finishes available upon request

Lever Handle

TE1920.916





* Applicable to wood and metal doors
* Stainless steel 304 solid
* Built-in retaining spring construction
* Door thickness 38-45mm

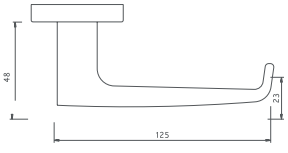
Configuration:

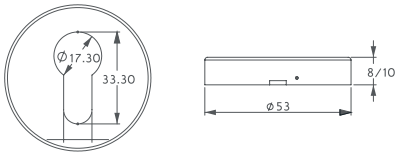
* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

TE1920.911





* Applicable to wood and metal doors
* Stainless steel 304 solid
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

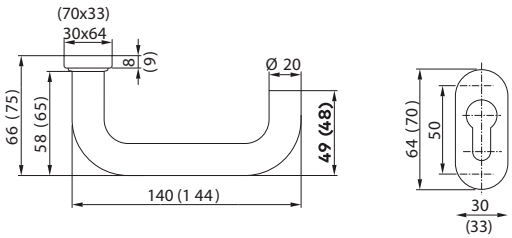
Finish:

* Satin, Polished
* Other finishes available upon request

4

Narrow Series Lever Handle

TE1920.968.04
Grade 4



* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

4

Lever Handle

TE 1940.001

* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Certification:

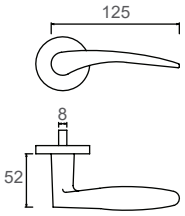
* BS EN 1906:2012 200,000 life cycle test

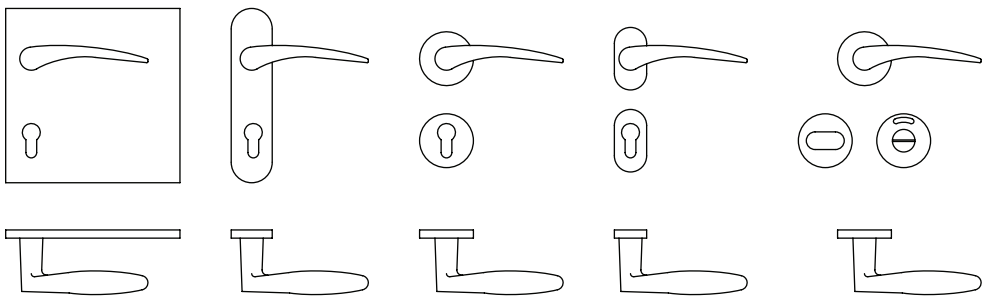
Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request





Lever Handle

TE 1940.002

* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Certification:

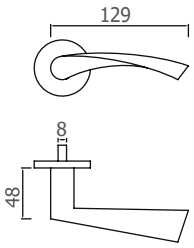
* BS EN 1906:2012 200,000 life cycle test

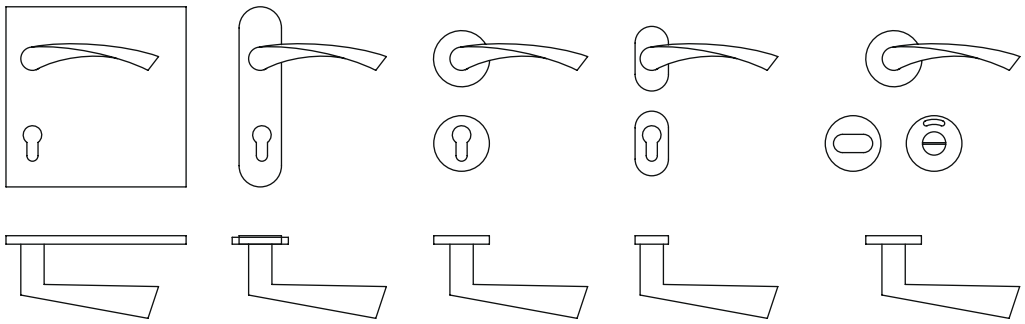
Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request





Lever Handle

TE 1940.054

* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Certification:

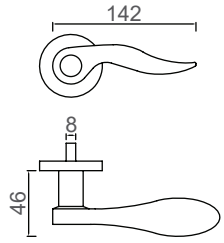
* BS EN 1906:2012 200,000 life cycle test

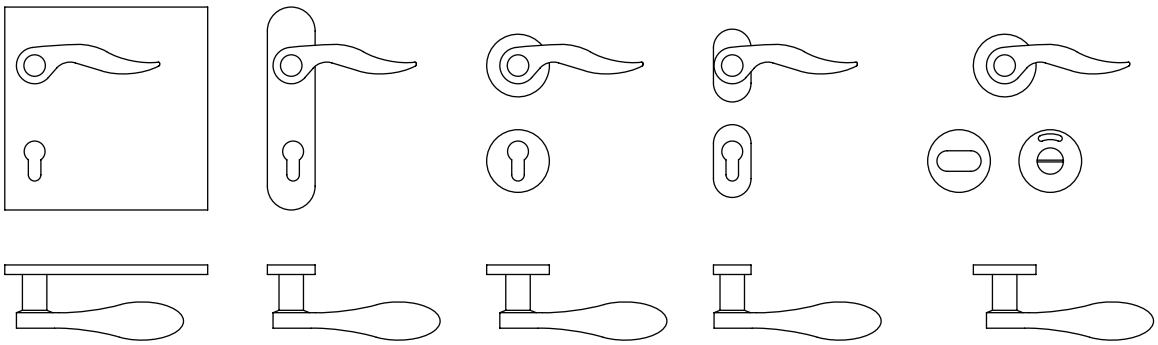
Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

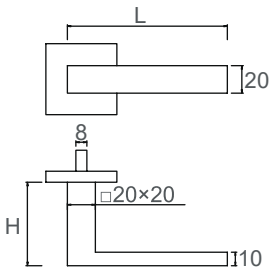




Lever Handle

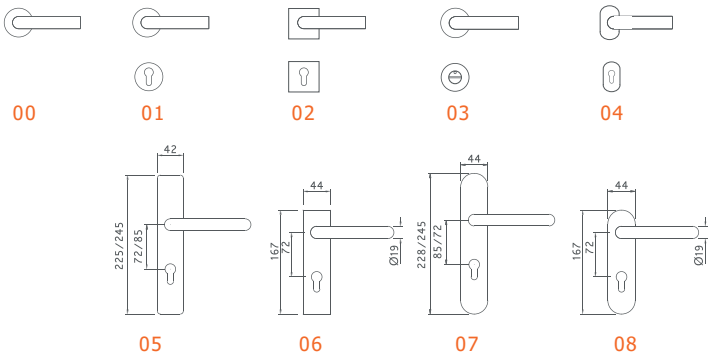
TE1920.134

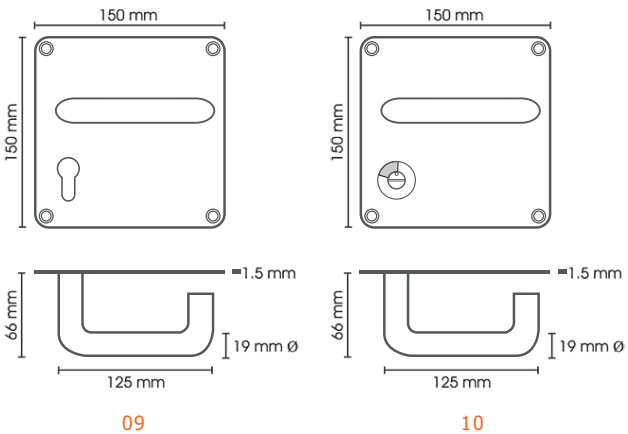
Length	125	130	135	140	145
Height	50	55	60	65	



4

Options





Lever Handle

TE 1940.046.01.630

* Applicable to wood and metal doors
* Stainless steel 304 round tube, Dia 19mm
* Built-in retaining spring construction
* Door thickness 38 - 45mm

Certification:

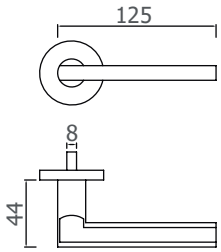
* BS EN 1906:2012 200,000 life cycle test

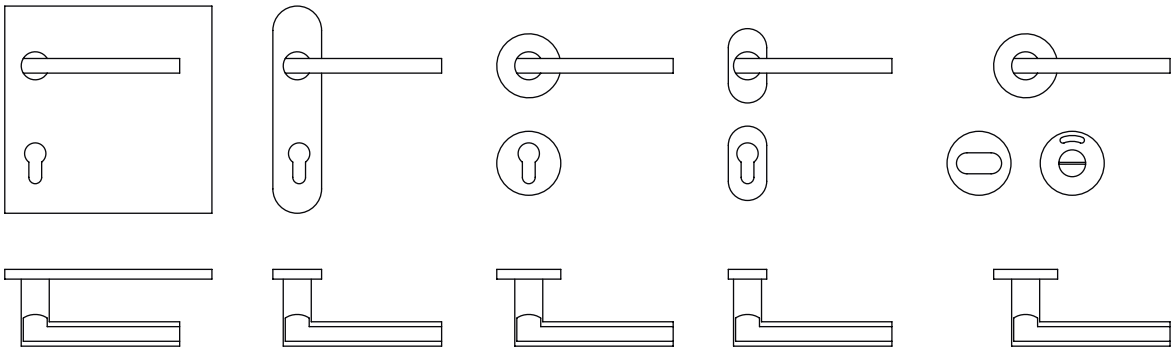
Configuration:

* One pair of lever handle
* One pair of escutcheon
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

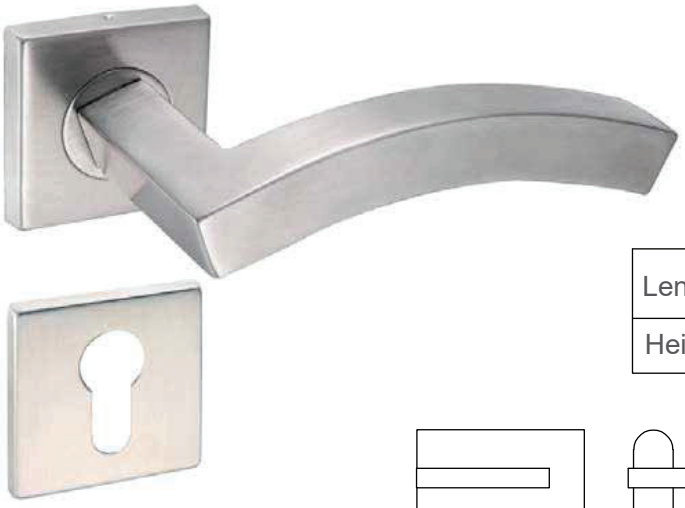
* Satin, Polished
* Other finishes available upon request

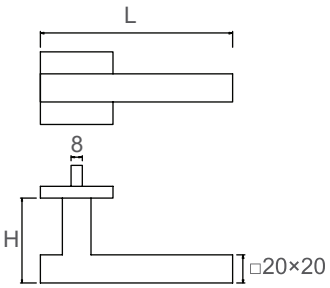




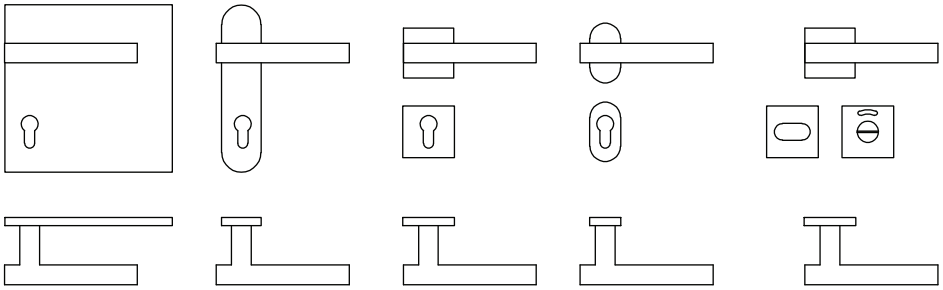
Lever Handle

TE1930.132

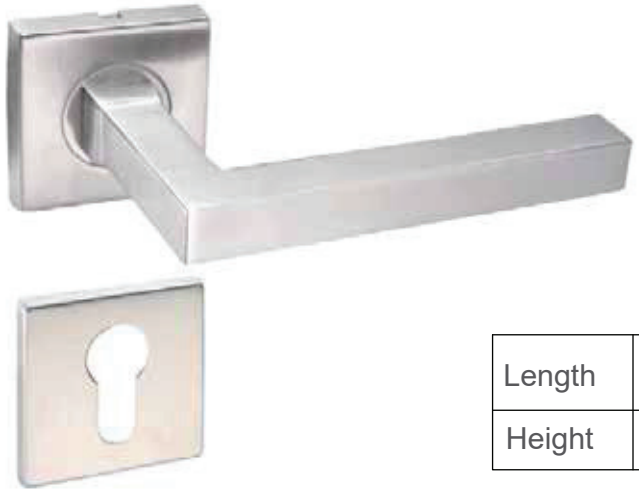


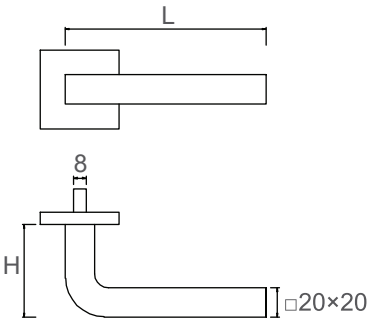


Length	125	130	135	140	145
Height	50	55	60	65	

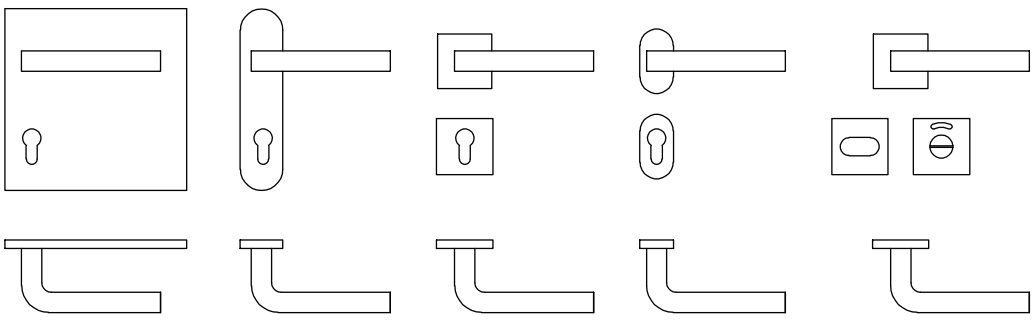


TE1930.133



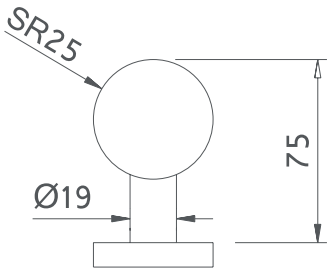


Length	125	130	135	140	145
Height	50	55	60	65	



Lever Handle

TE1920.955



* Applicable to wood and metal doors
* Stainless steel 304 hollow
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

* One pair of knob handle
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

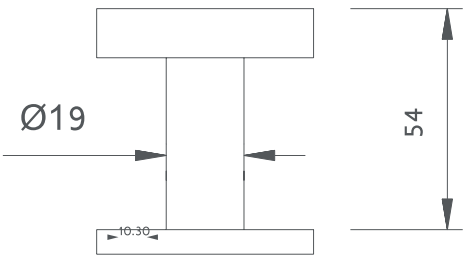
Finish:

* Satin, Polished
* Other finishes available upon request

4

Knob Handle

TE1920.910



* Applicable to wood and metal doors
* Stainless steel 304 hollow
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

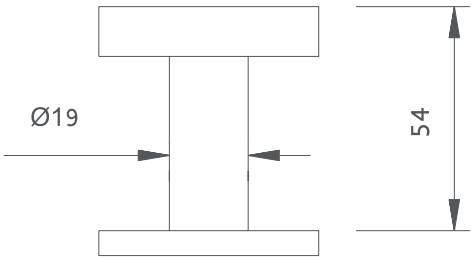
* One pair of knob handle
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

Lever Handle

TE1920.914



* Applicable to wood and metal doors
* Stainless steel 304 hollow
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

* One pair of square knob handle
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

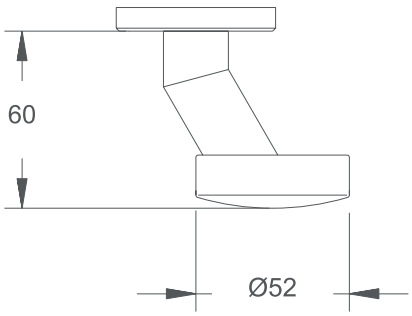
Finish:

* Satin, Polished
* Other finishes available upon request

4

Knob Handle

TE1920.912



* Applicable to wood and metal doors
* Stainless steel 304 hollow
* Built-in retaining spring construction
* Door thickness 38-45mm

Configuration:

* One pair of square knob handle
* One pc of spindle
* One pc of hexagon spanner
* Fixing screws

Finish:

* Satin, Polished
* Other finishes available upon request

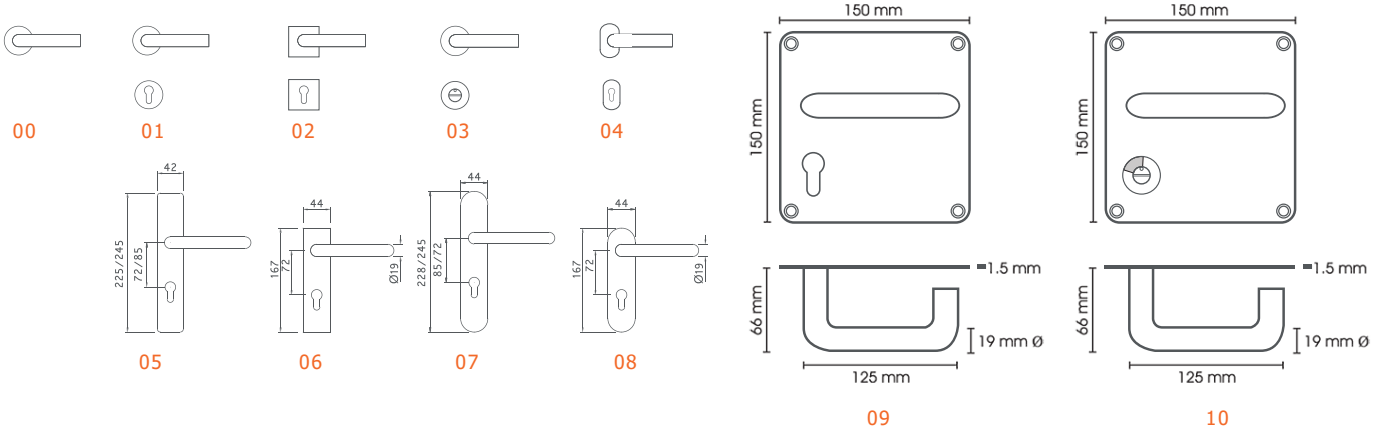
Brand Identity	Model No:	Series	Design	Options	Options	Finish
TE	19	10 - Premium Series	967- Grade 4	- (None)	00	630
		20 - Project Series	968	*AM - Anti-Microbial	01	629
		30 - Project Series Solid	9xx	*LL - Lead Line	02	605
			9xx		03	606
			9xx		04	
			9xx		05	
			9xx		06	
					07	
					08	
					09	
					10	

Ex: TE1910.967.630

* Available upon request

4

Options



ABHM Best Practice Guide: Lever Handles And Knob Furniture To BS EN 1906

• ABHM BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European standard. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standards

• BS EN 1906 Building Hardware - Lever handles and knob furniture

This standard details performance requirements and test methods in relation to corrosion resistance, security and other aspects pertaining to the application of lock and latch furniture.

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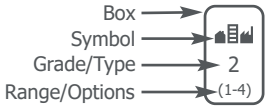
• SCOPE

The European standard specifies the performance requirements and test methods (i.e. durability, static strength, operating torque, corrosion, safety, etc.) for sprung and unsprung lever handles and knobs for doors on backplates or roses. It applies only to lever handles and knobs that operate a lock or latch. The standard has 4 grades of performance. Compliance with the standard ensures a margin of strength in excess of that needed for normal operation. The standard has additional graded safety requirements where a high risk of falling exists.

• CLASSIFICATION

BS EN 1906 classifies door furniture by using an 8 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

The ABHM recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 2 in the Category of Use classification, where EN 1906 stipulates a range of four possible grades from 1 to 4.

Full details on the ABHM graphic icons system can be found on this CD or at www.abhm.org.uk

Digit 1
Category of use

Four grades are identified:-
- grade 1: medium frequency of use with a high incentive to exercise care and a small chance of misuse, e.g. internal residential doors;
- grade 2: medium frequency of use by people with some incentive to exercise care but where there is some chance of misuse, e.g. internal office doors;
- grade 3: high frequency of use by public or others with little incentive to exercise care and with a high chance of misuse, e.g. public office doors;
- grade 4: high frequency of use on doors which are subject to frequent violent use, e.g. football stadiums, oil rigs, barracks, public toilets, etc.

Digit 2
Durability

Two grades of durability are identified:-
Grade 6: medium use - 100 000 cycles
Grade 7: high use - 200 000 cycles

The tests undertaken to achieve these grades involve the application of additional forces to the door furniture in order to simulate the conditions of use likely to be experienced in the field.

Digit 3
Test door mass

No requirement

Digit 4
Fire resistance

Two grades of fire resistance are identified:-
- grade 0: not approved for use on fire/smoke door assemblies
- grade 1: suitable for use on fire/smoke door assemblies.

Note: A Grade 1 classification means only that the furniture has been designed for use on fire/smoke control doors; the actual fire performance achieved (e.g. fire integrity of 30 minutes on a partially glazed timber door etc.) will be contained in a separate fire test report.

Digit 5
Safety

Two grades of safety are identified:-
- grade 0: normal use
- grade 1: safety application - to qualify for this grade, handles must have high strength handle-to-plate and plate-to-door fixing and/or handle-to-spindle fixing, such that they would withstand a person grabbing in order to prevent falling. It is recommended that only Safety Grade 1 furniture is used at the top of cellar steps or other staircases.

ABHM Best Practice Guide: Lever Handles And Knob Furniture To BS EN 1906

Digit 6
Corrosion resistance

Five grades are identified according to EN 1670:-
- grade 0: no defined corrosion resistance
- grade1: mild resistance - minimum requirement for internal use
- grade 2: moderate resistance
- grade 3: high resistance - minimum requirement for external use
- grade 4: very high resistance - recommended for use in exposed marine atmospheres or very polluted industrial environments.

Note: Products intended to develop a natural patina (such as bronze or brass) are not required to comply with any requirements.

Digit 7
Security

Four grades are identified:-
Grade 0 : not approved for use on burglary resistant doors
- grade 1: mild burglary resistance
- grade 2: moderate burglary resistance
- grade 3: high burglary resistance
- grade 4: extra high burglary resistance

Note: The main requirements include resistance to drilling, close fitting plates or escutcheons to help protect the lock and support the cylinder. They must be resistant to removal from the outside of the door and make provision to minimise the cylinder projection to a maximum of 3mm. Full details of the requirements can be found in BS EN 1906.

Digit 8
Type of operation

Three operation types are identified:-
- type A: spring assisted furniture
- type B: spring loaded furniture
- type U: unsprung furniture

• EXAMPLE:

The following marking denotes a lever handle for high frequency use on a door that is also subject to frequent violent usage. There is no classification for door mass, but it is suitable for use on fire/smoke door assemblies, and for where safety is important. It has a very high corrosion resistance suitable for external doors. It has high burglarly resistance and is of the unsprung type.

4	7	-	1	1	4	3	u
(1-4)	(6/7)		(0/1)	(0/1)	(0-4)	(0-4)	(A/B/U)

• MARKING

Packaging, labelling, or the product itself should be marked with the following information:
(a) manufacturer's name or trademark or other means of positive identification
(b) product model identification
(c) classification as detailed above
(d) the number of this European standard
(e) the year and week of final assembly by manufacturer.
Note: this information can be in coded form.

• RELATED STANDARDS

Other European standards related to BS EN 1906 are:
- BS EN 1303: 1998 Cylinders for Locks
- prEN 12209: Locks and Latches
- BS EN 1670: 1998 Corrosion Resistance
- BS EN 1634-1: 2000 Fire Resistance Tests for door and shutter assemblies

• FIRE DOOR ASSEMBLIES

Lock and latch furniture for use on fire/smoke doors requires a set of lock and latch furniture to comply with appropriate requirements of the European standard.
In addition -
For lock and latch furniture to be declared suitable for use on fire/smoke door assemblies, a third set of lock or latch furniture should be incorporated in a door assembly that has satisfied the criteria of a fire test according to BS EN 1634-1.
This furniture should be fitted only to an identical design, shape and size of door assemblies compliant with specific fire test requirements.

• SPECIFICATION ISSUES

Security - Security lock furniture is one element of a burglary resistant door assembly that includes the door leaf and frame, lock, hinges and the method of fixing. Main design requirements include the use of at least two through-door fixings which cannot be detached from the outside. Requirements also include the use of an internal plate with a cylinder aperture that closely matches the cylinder profile and that the cylinder does not project more than 3mm from the face of the plate. Full details of the requirements can be found in BS EN 1906.

Springing - Type A furniture has light springing only and is dependant upon the lock/latch springing to fully return the lever to the 'at rest' position. Type B furniture has integral springing capable of returning the lever to its rest position, whilst Type U is dependant wholly upon the the lock/latch to return it to its rest position. It is essential, therefore, to select the correct lock/latch to suit the associated furniture

Application - It is most important to specify the correct grade of door furniture for the intended application. For example, Category of Use Grade1 levers are most suited for light residential use, whereas Grade 4 door furniture is the most appropriate choice for buildings such as schools and sports stadia where there will be a high level of use, and possible abuse.

• CE MARKING

BS EN 1906 has not been designated as a harmonised product standard under the Construction Products Directive and therefore CE marking of such lever handles and knobs is NOT permitted.

Additional Important Considerations

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting lever handles and knob furniture. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to ...", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity:

a) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1906. Test reports and/or certificates are available upon request.

b) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1906 including the additional requirements for fire/smoke door use*. Test reports and/or certificates are available upon request.

*Add as appropriate.

c) This product has been successfully type-tested for conformity to all of the requirements of BS EN 1906 including the additional requirements for fire/smoke door use*. Regular audit testing is undertaken. Test reports and/or certificates are available upon request.

*Add as appropriate.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

Further Reading: Door Furniture

1.0 Introduction

Fire-resisting doorsets will always incorporate either lever handles or knobs if the doors are latched or pull handles/push plates if unlatched.

2.0 Critical recommendations

2.1 Lever handles and knobs should comply fully with BS EN 1906 – Building hardware – Lever handles and knobs. Preferably, this evidence should be provided by an approved third party certification or testing body. (see Notified Bodies and Additional Voluntary Marking in the 'Guidance Notes on CE Marking' section of this CD, clauses 2.3 and 4.4 respectively). A product performance standard for pull handles is expected to be published shortly.

2.2 All door furniture should have demonstrated its ability to be suitable for the intended purpose, by inclusion in satisfactory fire tests to EN1634-1, on a type of doorset and configuration in which it is proposed to be used. This evidence should be provided by an approved third party certification or testing body (see Notified Bodies in the 'Guidance Notes on CE Marking' section of this CD, clause 2.3).

2.3 The installation should always ensure that the absolute minimum amount of wood is removed in order to reduce the risk of fire or smoke penetrating the door.

2.4 The use of intumescent sleeves around the fixing holes is always recommended and may, in some cases, be a requirement of the applicable fire performance assessment schedule.

3.0 Commentary

3.1 The material used in the construction of lever handles, knobs and pull handles/protection plates has not been found to greatly affect the fire performance of the doors to which they are fitted. Therefore, it is not possible to state that any material is better than another in this regard.

3.2 Generally it is also true that the actual size of the lever handle or pull handle has no effect upon the fire performance of the doors to which they are fitted.

3.3 The durability of the fixings for lever handles will have a large effect on the effective life of the item and the eventual safety of the occupants. Therefore, when considering the selection of these items, preference should be given to those that can demonstrate compliance with the higher durability levels contained in BS EN 1906. These will have the support roses and backplates fixing back to back through the lock case, a performance bearing between the lever and rose and the spindle securely fixed into the lever on both sides.

3.4 In the absence of any performance standard for pull handles, the use of bolt thorough fixings, rather than face fixed screws will prove more durable although the heads of the fixing bolts should be protected.

3.5 Door protection (aka kicking) plates fitted at the bottom of the door have not been shown to have any effect on the fire performance of timber doorsets.

3.6 Push plates of conventional sizes, which can be screw or adhesive fixed, can also be specified without problem.

3.7 Main entrance doors, where they also fulfil fire and smoke functions, should also use items of ironmongery which follow the guidance given above.

3.8 For ease of use it is preferable that lever handles are used rather than knobs.

3.9 Wherever possible the fixing of a letter plate to a fire-resistant door should be avoided. Prime consideration should be given to installing the letter plate elsewhere. Both free standing and wall mounted postal boxes are available as an alternative. More detailed information can be found in the Letterplates section of this CD.

3.10 The materials from which door viewers are made will affect the performance of the door. Plastic lenses may melt very quickly leaving a hole large enough to cause early integrity failure, as may plastic or low melting point alloy casings. On the other hand, substantial steel or brass casings may also increase the risk of early ntegrity failure by rapid heat transfer through the thickness of the leaf. As with all items of fire door hardware, it is essential that the hole cut in the door to fit the device should be as small as is practically possible.

Further Reading: Door Furniture

4.0 Fire issues

Many of the best practice guides in this section refer to classification of the suitability of the associated products for use on fire resistant and/or smoke control doors.

Currently the following test methods and classification documents are relevant:

BS EN 1634-1: 2000 - Fire resistance tests for door and shutter assemblie: Part 1 – Fire doors and shutters;

BS EN 1634-3: 2001 - Fire resistance tests for door & shutter assemblies: Part 3 - Smoke control doors & shutters

BS EN 13501-2: 2003* - Fire classification of construction products and building elements: Part 2 – Classification using data from fire resistance tests (excluding products for use in ventilation systems).

BS 476: Part 22 - Fire tests on building materials and structures: Part 22 - Methods for determination of the fire resistance of non-loadbearing elements of construction

* Standard in course of publication

Furnish The Door
Pull Handle

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 and aluminum
- All measurements are in millimetres.
- Includes solid stainless steel fitting
- Mount using an M8 bolt for a maximum door thickness 110mm
- Available in singles and pairs
- Standard sizes and cus tom size
- Tür recommends the following optimum stability at the diameter and and length shown below:

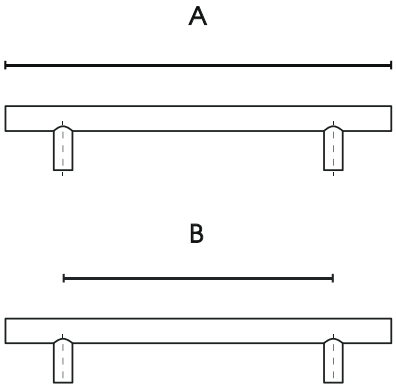
22 mm:maximum 300 mm
25 mm:maximum 450 mm
32 mm:maximum 600 mm
38 mm:maximum 1500 mm

FINISH OPTIONS

- Stainless steel finish

STANDARD CONFIGURATION

- Pull handle
- Studs with washers



5

How to order

Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	H	300	200	22	BT-Bolt Through	630
		350	250	25	BB-Back To Back	629
		400	300	32		626
		550	450	38		625
		700	600			606
		1100	1000			605
		1300	1200			
		1600	1500			

Ex: TU.H.300.25.BB.630

*custom sizes available on request

45 H Shape Pull Handle

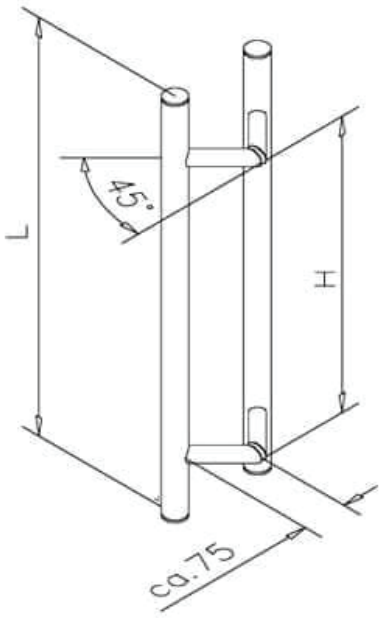
SPECIFICATION

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

5

How to order

Brand Identity	Model Shape	Length L	Length H	Dia.	Type	Finish
TU	45H	500	300	25	BT-Bolt Through	630
		700	500	32	BB-Back To Back	629
		1000	800			626
		1200	1000			625
						606
						605

Ex: TU.45H.32.450.BB.630

*custom sizes available on request

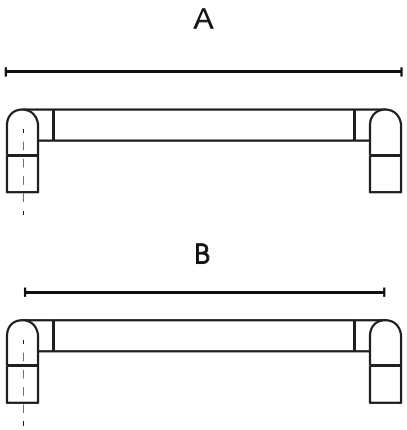
OD Shape Pull Handle

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:



FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers

5

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

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

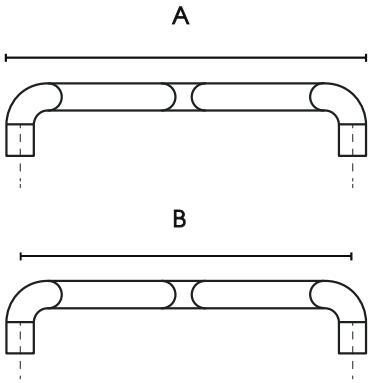
- Maximum height measurement A as function of Diameter Shown Below:

FINISH OPTIONS

- stainless Steel Finish

STANDARD CONFIGURATION

- pull handle
- studs with washers



5

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

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
- 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

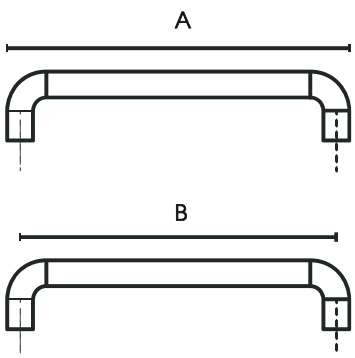
- pull handle
- studs with washers

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			

STANDARD SIZES



Ex: TU.D.169.19.BB.630

*custom sizes available on request

H Shape Pull Handle With Mechanical lock

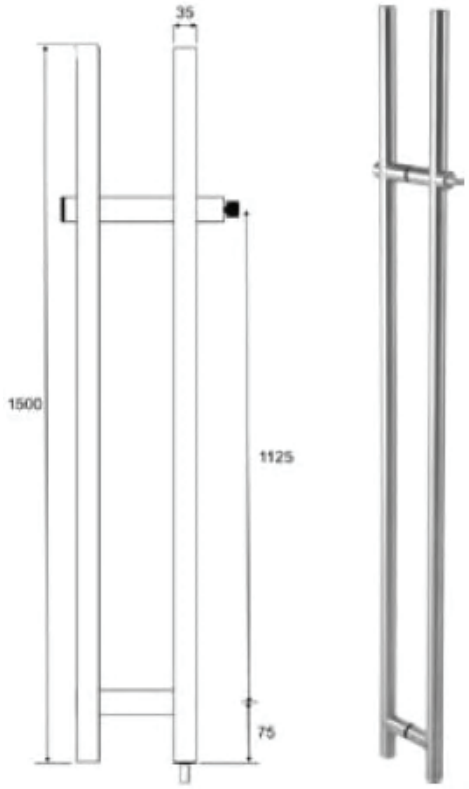
SPECIFICATION

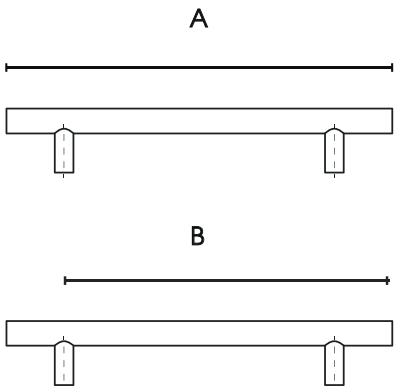
FEATURES

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

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

32mm:maximum 1500 mm





FINISH OPTIONS

- Stainless Steel Finish

STANDARD CONFIGURATION

- Pull handle with Lock
- Studs with washers

5

How to order

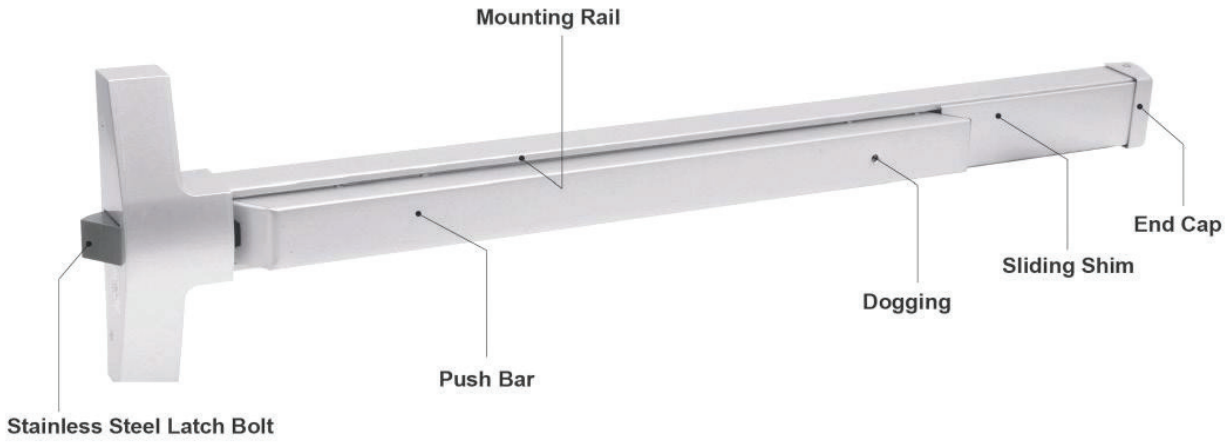
Brand Identity	Model Shape	Length A	Length B	Dia.	Type	Finish
TU	H	1500	200	32	BB-Back To Back	630
						629
						626
						625
						606
						605

Ex: TU.H.1500.32.BB.ML.630

*custom sizes available on request

Emergency Exits

TE9800 Series Exit Device

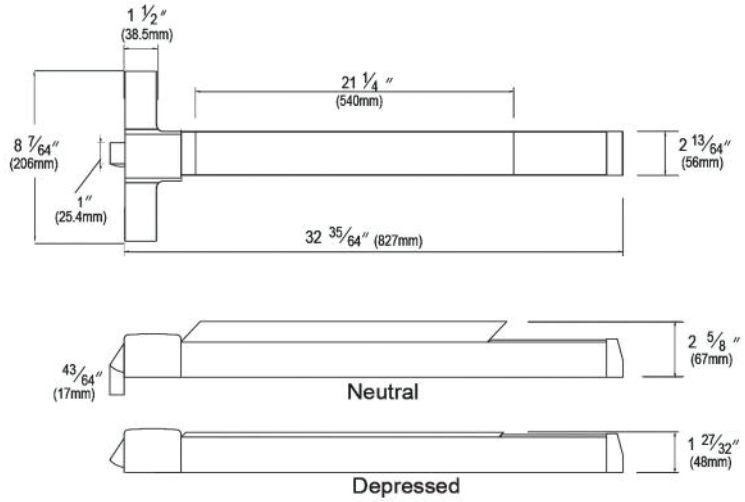


Features

- Tested and certified to BS EN 1125 and CE marked
- 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

Standard for Door Width 36"



Narrow Stile Rim Exit Device

TE9810

Specifications

Hand:	Non-handed
Finishes:	AL & SSS standard (others please consult factory)
Strikes:	800 Roller Strike standard
Alarm:	Available with ALM-2.
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-2.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width:	1 ¾"(45mm)
Doors:	1 ¾"~2" thick standard. (Others please consult factory)
Projection:	Push bar Neutral 2 5/8 " (67mm) Push bar Depressed 1 7/8 " (48mm)
Mounting Height:	41" from CL to finished floor.
Fire Rated:	Certified EN1125 fire rated, 3 hours

6

Narrow Stile Surface Vertical Rod Exit Device

TE9820

Specifications

Hand:	Reversible
Finishes:	AL & SSS standard (Others please consult factory)
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-2.
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-2.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width:	1 ¾"(45mm)
Doors:	1 ¾"~2" thick standard. (Others please consult factory)
Projection:	Push bar Neutral 2 $^{5}/_{8}$ " (67mm) Push bar Depressed 1 $^{7}/_{8}$ " (48mm)
Mounting Height:	41" from CL to finished floor.
Fire Rated:	Certified EN1125 fire rated, 3 hours

Narrow Stile Concealed Vertical Rod Exit Device

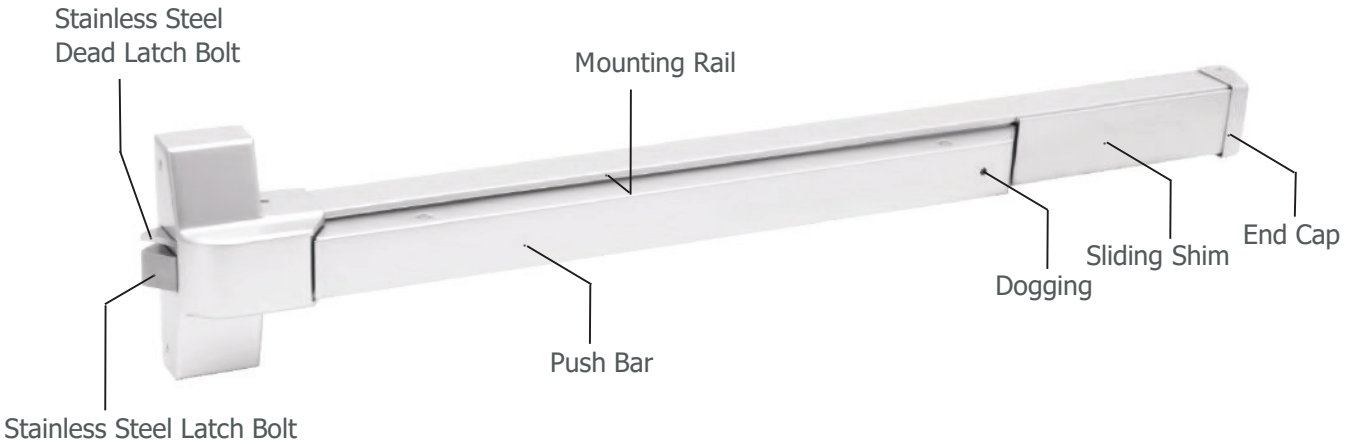
TE9840

Dogging key
(not for Fire-rated)

Specifications

Hand:	Reversible
Finishes:	AL & SSS standard (Others please consult factory)
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	Available with ALM-2.
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-2.
Door Size:	Options for door width 24", 36" (standard), 48"
Minimum Stile Width:	1 ¾"(45mm)
Doors:	1 ¾"~2" thick standard. (Others please consult factory)
Projection:	Push bar Neutral 2 $^{5}/_{8}$ " (67mm) Push bar Depressed 1 $^{7}/_{8}$ " (48mm)
Mounting Height:	41" from CL to finished floor.
Fire Rated:	Certified EN1125 fire rated, 3 hours

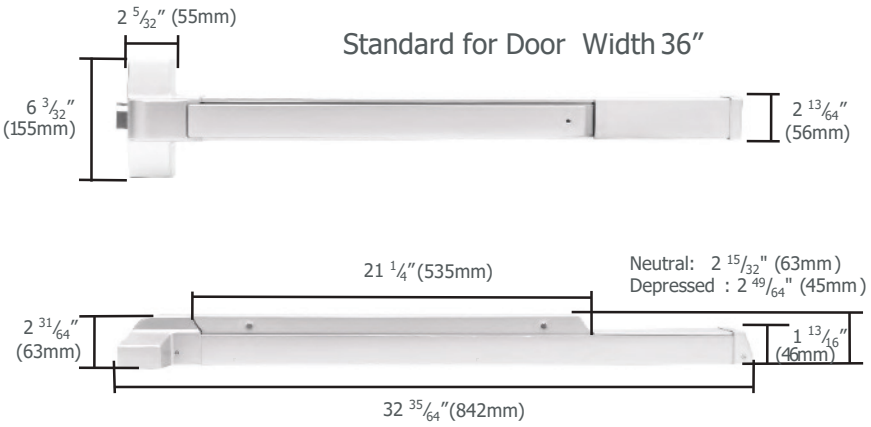
TE9700 Series Exit Device



Features

- Tested and certified to BS EN 1125 and CE marked
- 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
TE9710

Dogging key
(not for Fire -rated)

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 EN1125 fire rated, 3 hours

Surface Vertical Rod Exit Device
TE9720

Top Strike
720

Dogging key
(not for Fire -rated)

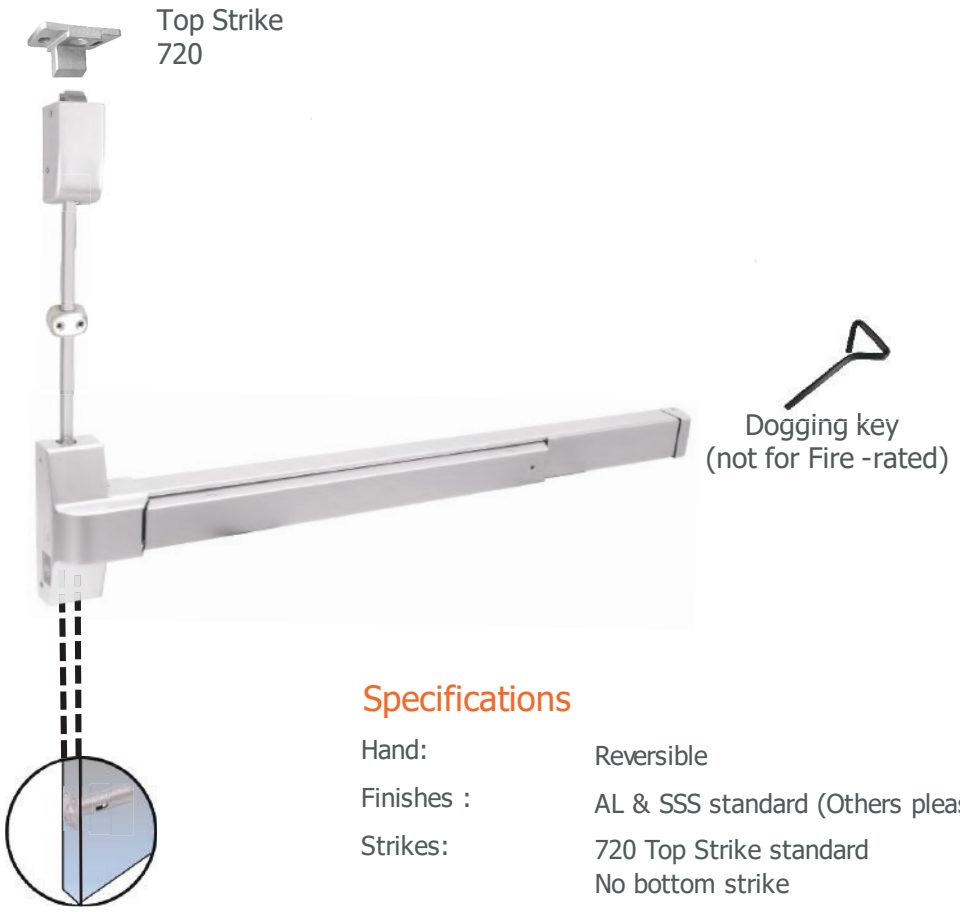
Bottom Strike
730

Specifica ons

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 EN1125 fire rated, 3 hours

6

Less Bottom Rod Exit Device
TE9720 - LBR



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 EN1125 fire rated, 3 hours

Mortise Type Rim Exit Device
TE9730 - MTP

Strike
905

Dogging key
(not for Fire -rated)

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 EN1125 fire rated, 3 hours

Concealed Vertical Rod Exit Device
TE9740 - CVR

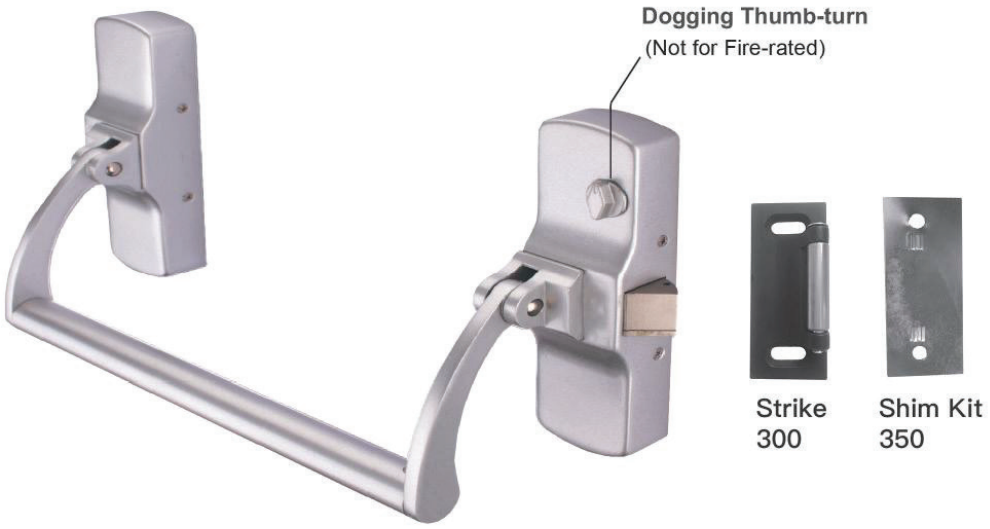
Dogging key
(not for Fire -rated)

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 EN1125 fire rated, 3 hours

6

Rim Exit Device
TE9010



Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	300 Rigid Strike standard
Alarm:	None
Latch bolt:	Stainless Steel, 1" throw
Dead Latch bolt:	None
Dogging Feature:	½ thumb-turn dogging standard Not for fire-rated device
Cylinder Dogging:	None
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 4 1/2" (115mm) Push bar Depressed 3 3/a" (85mm)
Mounting Height:	41" from CL to finished floor
CE:	Certified EN 1125
Fire Rated:	Certified EN1125 fire rated, 3 hours

Surface Vertical Rod Exit Device
TE9020

Specifications

Hand:	Reversible
Finishes :	AL & SSS standard (Others please consult factory)
Strikes:	720 Top Strike standard 730 Bottom Strike standard
Alarm:	None
Latch bolt:	Stainless Steel Top latch ¾" throw Bottom latch ½" throw
Dead Latch bolt:	Stainless Steel
Dogging Feature:	None
Cylinder Dogging:	None
Door Size:	Options for door width 24", 36" (standard), 48"
Doors:	1 ¾" ~2" thick standard (Others please consult factory)
Projection:	Push bar Neutral 4 1/2" (115mm) Push bar Depressed 3 3/a" (85mm)
Mounting Height:	41" from CL to finished floor
CE:	Certified EN 1125
Fire Rated:	Certified EN1125 fire rated, 3 hours

6

How to order

Brand Identity	Model No:	Type	Rating	Length	Dogging	Options
TE	98 Premium	10 - Rim Panic Latch	F-Fire Rated	36	LD	-(None)
	97 Project	20 - Surface Vertical Rod	P-Panic Rated	48	HEX	LBR -Less Bottom Rod
	90 - Commercial	30 - Mortise Panic Latch			CD	DE -Delayed Egress
		40 - Concealed Vertical Rod			MD	REX -Request to Exit
						ALE - Alarm Device with Type E Monitor
						LR - Latch Retraction

Ex: TE9810.F.36.LD.630

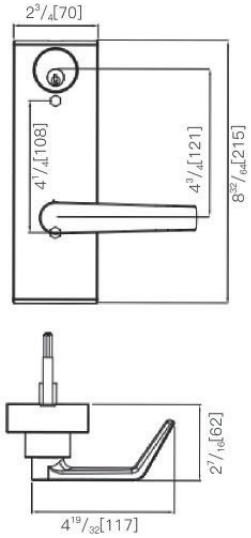
LD - Less Dogging
HEX - Hex key Dogging
CD - Cylinder Dogging
MD - Magnetic Dogging

Escutcheon Lever Trim

Outside Trim Prepared for Euro Profile Cylinder

TE9454

Free-wheeling
clutch mechanism



Entrance	TE9454.01A
Storeroom	TE9454.01B
Passage	TE9454.01C
Dummy	TE9454.01D

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

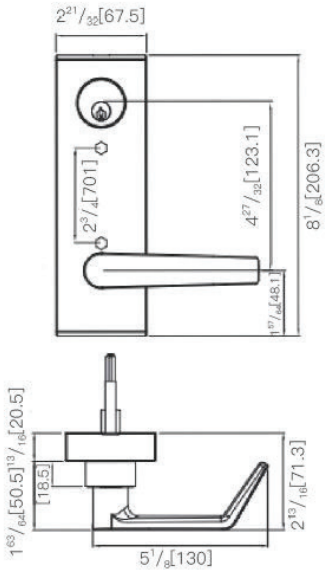
* Non Handed Design
* For Door Thickness up to 50 mm
* Prepared for Euro profile cylinder
* Master Keyed cylinder optional
* Made of Stainless steel 304, Satin Finish
* Extended spindle for door thickness more than 50 mm
  (Please specify when order

Escutcheon Lever Trim

Heavy Duty, Regular Size

TE9464

Free-wheeling
clutch mechanism



Entrance	TE9464.01A
Storeroom	TE9464.01B
Passage	TE9464.01C
Dummy	TE9464.01D

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

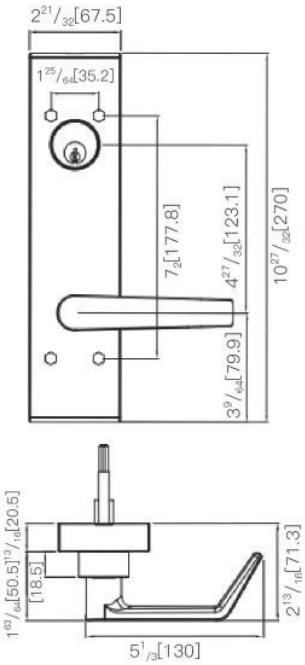
6

Escutcheon Lever Trim

Heavy Duty, Large Size

TE9468

Free-wheeling clutch mechanism



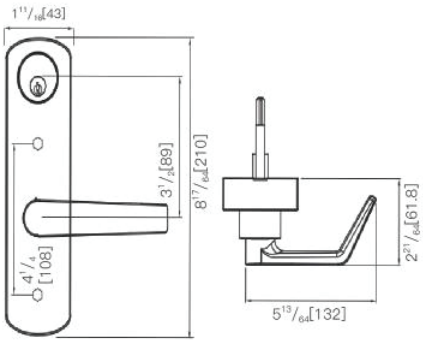
Entrance	TE9468.01A
Storeroom	TE9468.01B
Passage	TE9468.01C
Dummy	TE9468.01D

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

Escutcheon Lever Trim Narrow Stile

TE9434

Free-wheeling clutch mechanism



Entrance	TE9434.01A
Storeroom	TE9434.01B
Passage	TE9434.01C
Dummy	TE9434.01D

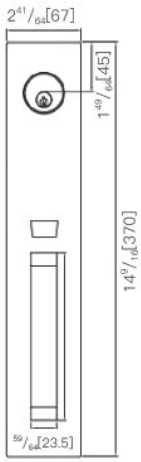
US32D Standard
CT Lever Standard, SD & BN Levers are available

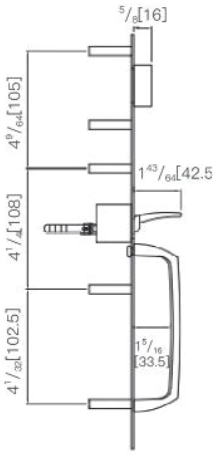
Escutcheon Thumbpiece Trim

Heavy Duty, Large Size

TE9453

Entrance	TE9453.01A
Storeroom	TE9453.01B
Passage	TE9453.01C
Dummy	TE9453.01D





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

Lever option

CT Lever (Standard)

SD Lever

LL Lever

BN Lever

How to order

Brand	Model No:	Trim Type	Function	Handle Option	Cylinder	Finish
TE	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: TE9454.01A.CT.W.630

ABHM Best Practice Guide: Panic And Emergency Exit Devices

ABHM BEST PRACTICE GUIDES

This publication is one in a series of guides addressing the major issues that should be considered when specifying, ordering or using the products it describes. It aims to provide the reader with a concise document which includes a summary of relevant sections from the new European product standards. The reader will then be in a position to seek further specialist advice where necessary and recognise GENUINE conformity to the new standards.

• BS EN 1125 - Panic exit devices

Experience relating to escape from buildings and general safety have made it desirable that doors at exits in public buildings, places of entertainment, shops etc., should be fitted with panic devices operated by a horizontal bar. The emphasis for products covered by this standard is on safe exit rather than security.

• BS EN 179 - Emergency exit devices

This standard covers devices to be used in emergency situations where people are familiar with the emergency exit and its hardware and therefore a panic situation is most unlikely to develop. Lever handle operated escape mortice locks or push pads may therefore be used.

These standards provide details on product types, classification by use, test cycles, door mass, corrosion resistance, as well as definitions, product performance requirements, test apparatus, test methods and marking of products. In addition, the published standards include annexes illustrating the various points made through diagrams and supplementary text.

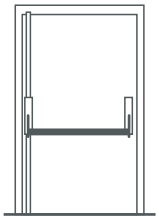
Extracts from BS EN 1906 are reproduced with the permission of the British Standards Institution. BSI publications can be obtained from BSI Customer Services, 389 Chiswick High Road, London W4 4AL Tel +44 (0)20 8996 9001 Email: cservices@bsi-global.com.

BS EN 1125 replaces BS5725 which is withdrawn. BS EN 179 is a new standard.

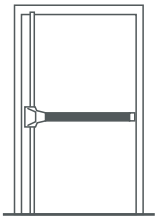
Amendments A1 to BS EN 1125 and BS EN 179 were published in 2001 and these amendments provide for CE marking of conforming products in accordance with the EU Construction Products Directive.

• SCOPE - BS EN 1125

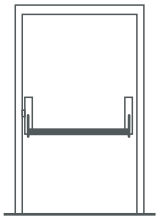
The main purpose of the performance requirements of this standard is to give safe and effective escape through a doorway with minimum effort andwithout prior knowledge of the device, i.e. for locked doors on escape routes where panic situations can be foreseen.



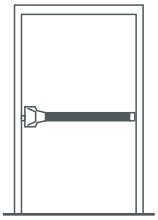
Type A: Panic bolt push bar



Type B: Panic bolt touch bar



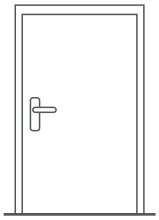
Type A: Panic latch push bar



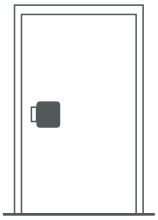
Type B: Panic latch touch bar

• SCOPE - BS EN 179

The main purpose of the performance requirements of this standard is to give safe and effective escape through a doorway with one single operation to release the device although this can require prior knowledge of its operation , i.e. for locked doors on escape routes where panic situations are not foreseen.



Type A: Emergency device lever handle



Type B: Emergency device push pad

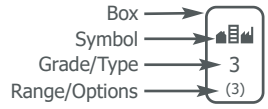
• CLASSIFICATION

BS EN 1125 and BS EN 179 classify panic and emergency exit devices by using a 9 digit coding system. A similar classification applies to all building hardware product standards so that complementary items of hardware can be specified to, for instance, a common level of corrosion resistance, category of use, etc. Each digit refers to a particular feature of the product measured against the standard's performance requirements.

The ABHM recommends the use of graphic icons to enhance clarity of information and has devised a system to facilitate assimilation of the various product classifications. Each feature within the product

ABHM Best Practice Guide: Panic And Emergency Exit Devices

classification is represented by an icon comprising four elements; Symbol, Grade/Type, Range/Options and Box:-



The icon above is for a product which meets Grade 3 in the Category of Use classification, where EN 1125 and EN 179 stipulate only grade 3.

Full details on the ABHM graphic icons system can be found on this CD or at www.abhm.org.uk

Digit 1
Category of use
Only one category is identified, that being
- grade 3: high frequency of use by public and others with little incentive to exercise care.

Digit 2
Number of test cycles
Two categories of durability are defined:

- grade 6: 100 000 cycles.
- grade 7: 200 000 cycles.

Digit 3
Test door mass
Two categories of test door mass are identified:

- grade 5: up to 100 kg.
- grade 6: up to 200 kg.

Digit 4
Fire resistance
Two categories of fire door resistance are identified:

- grade 0: not approved for use on fire/smoke door assemblies.
- grade 1: suitable for use on fire/smoke door assemblies, subject to satisfactory assessment of the contribution of the panic/emergency device to the fire resistance of specified fire/smoke door assemblies. Such assessment is outside the scope of this European standard (see EN 1634-1).

Digit 5
Safety
All panic and emergency devices have a critical safety function therefore only the top grade - 1 - is identified

Digit 6
Corrosion resistance
Two grades of corrosion resistance are identified according to EN 1670:

- grade 3: high resistance.
- grade 4: very high resistance.

Digit 7
Security
Products covered by BS EN 179 have 3 identified categories and generally have the opportunity of greater security against forced opening than devices covered by BS EN 1125.

BS EN 179
- grade 2: 1 000 N.
- grade 3: 2 000 N.
- grade 4: 3 000 N.

BS EN 1125
Only one category of security is identified
- grade 2: 1000N panic devices are primarily for the operation of a door from the inside. Safety considerations will always be given priority over security.

Digit 8
Projection of device
Two grades are identified relating to the projection of the device from the door face:

- grade 1: projection up to 150 mm (standard projection).
- grade 2: projection up to 100 mm (low projection).

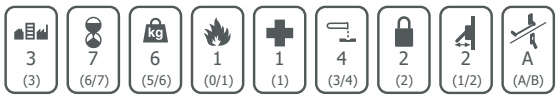
Digit 9
Type of device
Two categories are identified for each standard:

BS EN 179
- type A: emergency device with lever handle operation.
- type B: emergency device with push pad operation

BS EN 1125
- type A: panic device with push bar operation
- type B: panic device with touch bar operation

• EXAMPLE: :

The following marking denotes a panic exit device tested to 200 000 operations for a door mass up to 200 kg, suitable for fire door use with very high corrosion resistance and low bar projection.



• MARKING

(a) Manufacturer's name or trademark or other means of positive identification.
(b) Classification as detailed.
(c) The number of the European standard.
(d) The month and year of final assembly by the manufacturer.
Note: This information can be in coded form. Items (b) and (c) should be clearly visible after installation.

ABHM Best Practice Guide: Panic And Emergency Exit Devices

• CE MARKING

Panic and emergency exit devices intended for use on escape route doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, these standards are regarded as "harmonised" standards and compliance with them, supported by suitable evidence, allows for the application of the CE mark.

As panic and emergency exit devices have a critical safety function, application of the CE mark will require the involvement of a notified certification body to provide verification of the compliance claims. This will involve initial type-testing of the product to either EN 1125 or EN 179, initial inspection of the manufacturer's factory production control and continuing surveillance and approval of the factory production control. On satisfactory fulfilment of these tasks, the notified body issues an EC Certificate of Conformity which then permits the manufacturer to declare compliance and affix the CE marking to his product.

The standard requires the following additional information to accompany the CE marking:-

- the identification number of the notified certification body
- the name or identifying mark of the manufacturer
- the registered address of the manufacturer
- the last two digits of the year in which the marking was applied
- the number of the EC certificate of conformity
- reference to EN 1125 + A1: 2001, or EN 179 + A1: 2001, as appropriate
- the classification code of the product

Note that, although the notified body has to be involved to verify the manufacturer's claims, the manufacturer remains responsible for designing and producing the product, for affixing the CE marking, and for ensuring that the product meets the requirements of the Directive.

• SPECIFICATION ISSUES

- The decision as to which products are specified should be made on the basis of the building use and occupancy. Products incorporating a horizontal bar (BS EN 1125) to operate the exit device must be used in public buildings, places of public entertainment, shops and any other location where the building occupants do not have prior knowledge of the escape device and where a panic situation can be foreseen.

- Products incorporating a push pad or lever handle to operate the exit device (BS EN 179) should only be used where building occupants are familiar with the emergency exit and its hardware and where panic situations are not foreseen.

- If there is any doubt about the conditions relating to building occupancy, the ABHM recommends that devices covered by BS EN 1125 should be specified.

- For safety reasons the push bar of a type "A" panic device shall not protrude beyond either of the end supports. This means that for pairs of rebated doors, the traditional British designed "double panic bolt" willnot be permitted. An acceptable solution is for a single vertical panic bolt to be fitted on the "inactive leaf" and a panic latch on the "active leaf".

- A grade 2 (low projection) panic device should be used in situations where there is restricted width for escape or where doors are not able to open beyond 90°.

- Panic device push and touch bars should be installed to provide the maximum effective length but never less than 60% of the door leaf width.

Where To Place The CE Mark

	On product – and visible after installation	On product	With installation instructions	On product packaging	On commercial documents
CE symbol	R	E	E	R	O
Notified Body number	R	E	E	R	O
Name of Producer	O	O	E	O	O
Address of Producer	O	O	E	O	O
Year of marking	O	O	E	O	O
C of C number	O	O	E	O	O
Product std number	R	R	E	R	O
Classification code	R	R	E	R	O

E = Essential
O = Optional
R = Recommended

For some products it may be appropriate to specify a combination of locations for the CE marking and the accompanying information. For example, a minimum of information could appear on the product itself, with the complete information appearing on the installation instructions or on the accompanying commercial documents. Where the information is split in this way, the location(s) lower in the hierarchy must always repeat that part of the information already placed higher up in the hierarchy.

In addition to ensuring that products satisfy the requirements of this standard, other factors should be taken into consideration when selecting lever handles and knob furniture. These not only include sourcing products from a reputable manufacturer, but also quality assurance, support services and unequivocal conformity to the standard as detailed below:

• QUALITY ASSURANCE

The internationally recognised standard for quality assurance, BS EN ISO 9000 provides confidence that the products are being manufactured to a consistent quality level. All ABHM members operate recognised BS EN ISO 9000 Quality Assurance Schemes.

Companies displaying this symbol are registered under the BSI Registered Firm Scheme.

• SUPPORT SERVICE

The correct specification and installation of panic and emergency exit devices is essential to ensure that they are able to operate efficiently within the performance levels described in this standard. Specialist advice is available from ABHM members in support of their products from specification stages through supply to effective operation on site.

• CONFORMITY

Conformity to the standard must be clearly and unequivocally stated. Such phrases as "tested to ...", "designed to conform to ...", "approved to", are not sufficient. To avoid misleading or confusing claims it is recommended that one of the following phrases is used when stating conformity.

"This product has been successfully type-tested for conformity to all of the requirements of (BS EN 1125 + A1: 2001/BS EN 179 + A1: 2001), including the additional requirement for (fire/smoke door use*). Regular audit testing is undertaken. Test Reports and/or Certificates are available on request."
* Add as appropriate.

It is recommended that an ARGE Declaration of Compliance is also completed, as this gives a clear and unambiguous method of demonstrating test evidence and compliance.

Further Reading: Panic & Emergency Exit Devices

1.0 Introduction

Experience relating to escape from buildings and general safety has shown the importance of fitting doors on escape routes with suitable exit devices to enable the occupants of the building to escape quickly and easily from a building in the case of fire or some other emergency. Different groups of users will have differing requirements to enable them to make an effective escape and this has to be reflected in the type of device chosen. For example, in buildings frequented by the general public it is importantthat doors can be released easily by people who may have no training in emergency procedures or the use of the exit device and may therefore panic in the rush to escape. Other buildings may be occupied, predominantly by authorised personnel who will have been trained specifically in the procedures for escape and are, therefore, unlikely to panic in the case of an emergency.

At the same time, where escape route doors are part of the final exit from a building, there will be some additional requirements for security of the door against intrusion andburglary. In this case thereis a clear conflict between the requirements of building users to be able to escape easily and the requirements of building owners to secure their building and its contents against crime.

Where escape route doors are part of the fire compartmentation of the building there will be additional requirements to ensure that the escape hardware fitted does not compromise the fire resisting performance of the doorset.

For the purpose of this Code of Practice therefore, exit door hardware is divided into the following categories:

a) Panic exit devices (for use where panic situations may be envisaged);
b) Emergency exit devices (for use by trained personnel where panic situations are not envisaged);
c) Exit devices for use on fire resisting doorsets;
d) Accessories for exit devices.

Note: This list does not imply suitability of any device for fireor escape door use – see Secti on 3.0 for further information.

2.0 Critical recommendations

2.1 General recommendations (for all exit devices)

2.1.1 The device and its accessories must be chos en taking account of the type of user :-

(i) devices intended for use by the general public should comply fully with BS EN 1125 –Panic exit devices operated by a horizontal bar. Preferably this compliance should be demonstrated byapplication of the CE marking.

(ii) devices for use by trained personnel may alternatively comply fully with BS EN 179 –Emergency exit devices operated by a lever handle or pushpad. Again, this compliance should be demonstrated by application of the CE marking

If there is any doubt about the conditions relating tobuilding occupancy, it is recommended that devices covered by BS EN 1125 are specified.

2.1.2 devices for use on double doors should have been spec ifically tested and approved for that purpose. (see section 3.3.3).

2.1.3 low projection exit devices should be used where there is restricted width for escape, or where the exit doors are unable to open beyond 90°.

2.1.4 care should be taken that hinges and any seals are correctly fitted so that the escape doors are able to open freely once the exit device is operated.

2.1.5 a regular programme of maintenance should be undertaken to ensure that the correct operational performance is maintained for the life of the building (see 'Installation and maintenance advice').

2.1.6 NO additional security devices should ever be fitted to escape route doors unless specifically approved by fire and building control officers. (see section 3.4).

Further Reading: Panic & Emergency Exit Devices

2.2 Additional recommendations for devices for fire door use

2.2.1 The exit device and any accessories should have dem onstrated their ability to be suitable for the intended purpose, by inclusion in satisfactory fire tests to BS EN 1634-1, on a type of doorset and configuration in which it is proposed to be used. This evidence should be provided by an approved third party certification or testing body. (see Notified Bodies in the 'Guidance Notes on CE Marking' section of this CD, clause 2.3).

2.2.2 devices for use on double doors should have been spec ifically fire tested on an appropriate double doorset assembly and approved for that purpose. (see section 3.3.3);

2.2.3 the exit device should NOT include any dogging mechanism unless its use is proven by fire test evidence on self-closing unlatched fire doors. (see section 3.3.1).

3.0 Commentary

3.1 General

The Building Regulations Approved Document B requires that all escape doors be fitted with escape hardware that is simple to operate and does not require specialist knowledge or tools for their operation(for example panic bars).

Panic or emergency exit devices intended for use on esc ape doors are covered by a Construction Products Directive mandate issued by the European Commission. Consequently, BS EN 1125 and BS EN 179 are regarded as "harmonised" and compliance with them, supported by suitable evidence, allows application of the CE mark. It is strongly recommended that, once these products are available, only panic or emergency exit devices bearing the CE mark should be specified.

European product standards have been developed to provi de a benchmark for the performance and safety of escape hardware and as such, they can be considered as describing best practice in this important area.

Under these standards escape hardware is divided into two basic types:-

(i) Panic exit devices to BS EN 1125: These devices are inten ded primarily for buildings where the public are likely to be present and a panic situation could arise if the building is required to be evacuated quickly. For this reason the devices are designed to operate by body pressure alone and require no knowledge of their operation to enable safe and effective evacuation of a building. BS EN 1125, therefore, contains specific performance tests to ensure that a panic device will release by body pressure even if people are pushing on the door leaf itself while the device is being operated.

(ii) Emergency exit devices to BS EN 179: These devices are intended for escape from buildings where the public are unlikely to be present in large numbers, and where the staff in the building have been trained both in emergency procedures and in the use of the specific emergency exit devices fitted. For this reason, panic situations are considered unlikely and these devices are therefore permitted to have higher operating forces and do not have to release by body pressure alone.

From the above descriptions it can be appreciated that it is very important that a device according to BS EN 1125 is always specified where there is a possib ility that the public are present and that subsequently, a panic situation could arise.

BS EN 179 devices should only be specified where it is int ended that the occupants will be trained in emergency escape procedures and are therefore most unlikely to panic. If there is any doubt, then a device to BS EN 1125 should be specified.

Further Reading: Panic & Emergency Exit Devices

3.2 Escape considerations

3.2.1 Panic exit devices

The main purpose of the performance requirements contained in BS EN 1 125 is to give safe and effective escape through a doorway with minimum effort and without prior knowledge of the panic exit device. The requirements emphasise the importance of ease of opening by the young, elderly and infirm.

Whilst reasonable external security will be provided by the panic exit devices covered in this standard, the main objective is to enable a door to be opened at all times by hand or body pressure along its inside face on the panic exit device, and not requiring the use of a key or any other object.

It is important that any panic exit device is able to operate safely for a realistic lifetime and tests are included in BS EN 1125 to verify the durability of the product. Two categories of durability are recognised:-

Grade 6: 100 000 test cycles
Grade 7: 200 000 test cycles.

If the escape door to which the panic device is fitted is also used during the day as a normal access door, it is important to ensure that the panic device is proven for at least 200 000 cycles.

Panic devices are classified according to the amount that they project from the door face. When the door is in the open position at around 90°, any projection of the panic device effectively reduces the clear escape width of the opening. It is therefore important that a low projection device (100 mm or less) is chosen where the door may only be able to open to around 90°, in order to maintain a clear opening width.

3.2.2 Emergency exit devices

The main purpose of the performance requirements contained in BS EN 1 79 are to give safe and effective escape through a doorway with one single operation to release the emergency exit device, although this can require prior knowledge of its operation.

The European Standard deals with emergency exit devices designed to be used in emergency situations, where people are familiar with the emergency exit and its hardware and therefore a panic situation is m

Where panic situations are foreseen, reference should be made to BS EN 112 5, covering panic exit devices operated by a horizontal bar.

It is important that any emergency exit device is able to operate safely for a realistic lifetime and tests are included in BS EN 179 to verify the durability of the product. Two categories of durability are recognised:-

Grade 6: 100 000 test cycles
Grade 7: 200 000 test cycles.

If the escape door to which the exit device is fitted is also used during the day as a normal access door, it is important to ensure that the exit device is proven for at least 200 000 cycles.

Emergency exit devices are also classified according to the amount that they project from the door face. When the door is in the open position at around 90°, any projection of the exit device effectively reduces the clear escape width of the opening. It is therefore important that a low projection device (100 mm or less) is chosen where the door may only be able to open to around 90°.

Further Reading: Panic & Emergency Exit Devices

3.3 Exit devices for use on fire resisting doorsets

Where panic or emergency exit devices are used on fire resisting or smoke control doors there are additional performance requirements that have to be met, beyond those required for escape, to ensure that the device does not jeopardise the fire compartmentation properties of the doorset.

3.3.1 Dogging: Dogging is a method of holding the latchbolt of the exit device in a withdrawn state, for easy passage through the door. Where the doorset relies on the provision of a latchbolt for its fire resistance rating, then devices with a dogging feature should never be used. However, dogging may be permitted where the fire test evidence has been obtained from unlatched fire doorsets, as these tests will have proved that the self-closing device fitted to that particular doorset is capable of maintaining the closed position without any help from the latch. In these circumstances, it is essential that the fire test evidence covers the particular doorset assembly of door leaf, frame, closer, exit device and hinges. A good certification scheme will address all these points.

3.3.2 Automatic relatching: This feature is currently required by BS EN 1125:1997 and BS EN 179:1998 where devices are for use on fire resisting doorsets, but a future revision will not require automatic relatching where the fire testing evidence has been obtained from an unlatched device. Clearly, if the test evidence has proven the fire compartmentation performance without the need for the engagement of a latchbolt, then automatic relatching is not necessary. Where devices without automatic relatching are being considered, the detailed fire test fire test report should be consulted to ensure that the testing was carried out on an unlatched door.

3.3.3 Double door use: Both BS EN 1125 and BS EN 179 include specific durability and release tests depending on whether the device is intended for single or double door use. It is important to check that the device is approved for the correct end use, as there is no guarantee that a device approved for single door applications only will perform safely if used on a double door configuration. Some products are tested and approved for both applications and these will often be the best option if the precise end use is not known at the time of specifying.

Where exit devices are intended for use on double doorsets particular care should be taken that any intumescent material contained in the meeting stiles is not damaged during the installation or operation of the exit devices. In the case of rebated doors it is important to ensure that doorlippings and any intumescent material is protected from damage by the latchbolt action.

For safety and reliability reasons, the UK traditional double panic bolt consisting of a single bolt and slave arm connected by bevelled plugs, is now not permitted by BS EN 1125. For rebated doors this product is now usually replaced by a panic latch on the first opening leaf and a panic bolt on the second opening leaf, although more sophisticated multiple locking devices are now becoming available. In all cases the manufacturer's installation instructions should be followed closely, particularly where supplementary intumescent protection is required to achieve the correct fire rating.

3.4 Security

Both BS EN 1125 and BS EN 179 are concerned primarily with quick and effective escape from a building, and the question of security of the building and its contents from the outside is considered to be of secondary importance. All panic and emergency exit devices will provide a basic level of security against intrusion, but there is increasingly a need for higher security in buildings such as supermarkets and stores with high insured content, and even in schools and hospitals to protect the occupants against the attentions of intruders.

For these cases there are additional security measures that can be taken to enhance the physical security of the building, without compromising the ability of people to escape during an emergency. Such measures should always be discussed with local building and fire authorities and will generally be determined on a building occupancy and risk assessment basis.

When buildings are occupied, such measures include:-

a) exit devices equipped with additional locking, such as deadbolts or electromagnetic locks;

Further Reading: Panic & Emergency Exit Devices

In all cases it is essential that the escape function of the door is not compromised at any time while the building is occupied. In particular, any additional deadbolt locking used must still enable the exit device to comply with the release requirements of BS EN 1125 or BS EN 179. If delayed egress devices are to be used, they must be designed such that after the delay period approved by the building authority, the door will automatically be released. In the case of genuine emergency, such as a fire alarm or power failure, the door has to be released immediately.

Panic and emergency exit systems incorporating the type of measures outlined above, are covered by two new European product standards, currently in draft form:-

prEN 13633 – Electrically controlled panic exit systems;
prEN 13637 – Electrically controlled emergency exit systems.

When published, these two standards will give much needed guidance on safe ways of combining physical security with effective means of escape, and they will be used to satisfy the requirements of the Construction Products Directive in this regard. Until they are available, it is strongly recommended that any proposed additional security measures to be applied to escape doors are approved with the local building and fire authorities.

3.5 Accessories for exit devices

3.5.1 Outside access devices (OADs) : These devices are used to enable authorised access from the opposite side to the escape direction, and can consist of a cylinder, lever/knob or keypad assembly. All are connected to the latchbolt of the exit device in some way, either through a mechanical link or an electrical connection.

From an escape point of view it is essential that the provision of these OADs cannot override or inhibit the escape function from the inside, at any time. The manufacturer's data sheets should specify which OADs have been tested for use with a specific exit device, and this should be proven by checking that the test evidence covers the correct outside access devices. Use of a non- approved OAD could cause a dangerous situation in which the exit device would not release properly when called upon to do in an emergency.

From a fire compartmentation point of view, care must be taken that any OAD chosen will not compromise the fire rating of the complete doorset. It is therefore important to follow the manufacturer's installation instructions and also check that the fire test evidence includes the use of the appropriate OAD with the exit device.

3.5.2 Striking plates: Most panic or emergency exit devices are offered with a choice of striking plates to suit different frame materials or configurations. For example, a panic latch may be approved for use on a single non-rebated door, the active leaf of a rebated pair of doors, an aluminium profile door frame, a timber frame or a steel rebated frame. In each case a different striking plate may be needed. The design of a striking plate can have a very significant effect on the release forces and correct operation of an exit device, so care should be taken that the test evidence and approval covers the particular striking plate required.

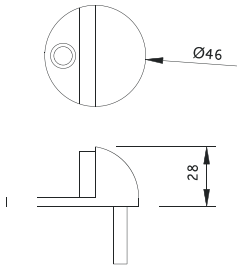
3.5.3 Other components: Break-glass emergency bolts - these devices are unable to comply with the design requirements of BS EN 179, as they require more than one single hand operation to effect an exit. For this reason this Code of Practice cannot recommend the use of such devices.

Many other components could be used in conjunction with panic or emergency exit devices. In all cases these components must not be allowed to inhibit the escape function in any way. If appropriate certification from a third party is not available, then specific test evidence should be sought for all combinations of building hardware intended to be used together.

Notes:

Ancillary Products

Door Stop



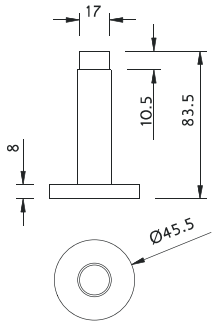
TU.DS 001

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



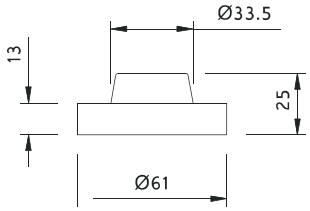
TU.DS 006

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



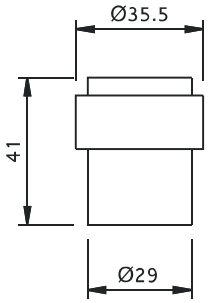
TU.DS 009

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



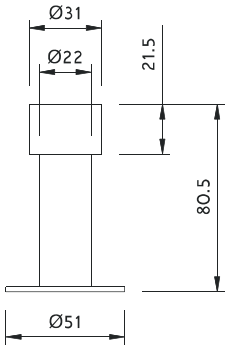
TU.DS 015

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



TU.DS 020

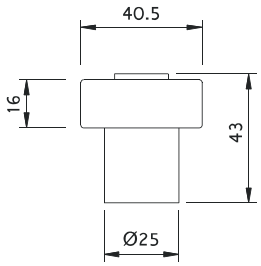
FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request

Door Stop



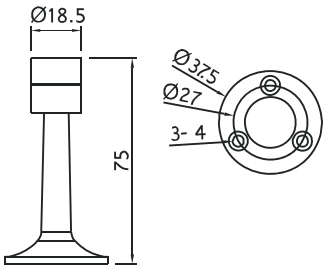
TU.DS 029

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



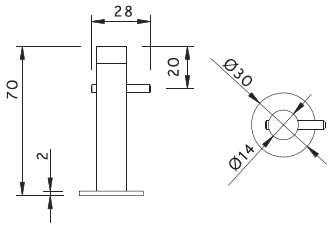
TU.DS 030

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



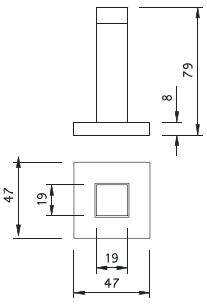
TU.DS 032

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



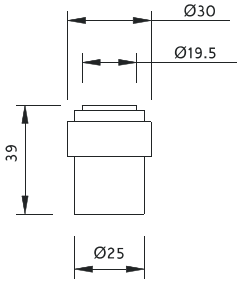
TU.DS 033

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request



TU.DS 034

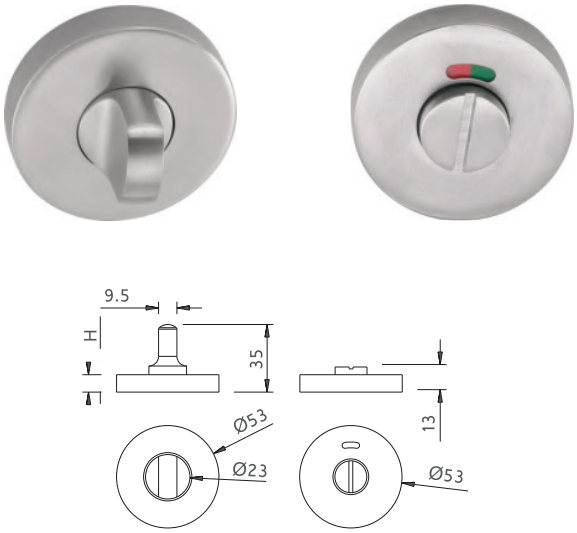
FEATURES

* Stainless Steel 304
* Applicable for various door
* With Finest Rubber Stopper, Reduce Noise

Finish :

* Stain
* Other Finishes upon request

Thumb Turn Indicator

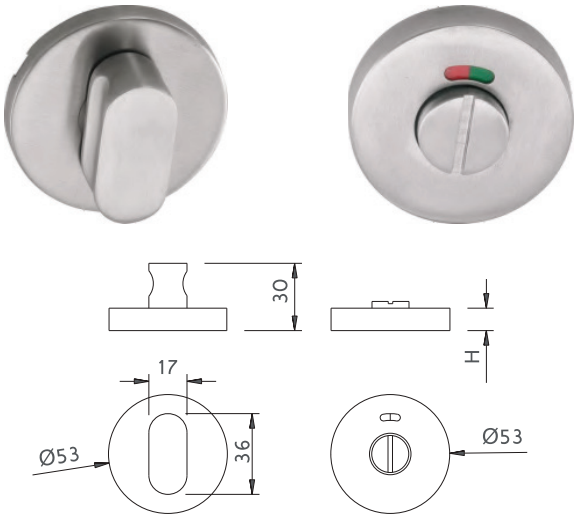


TU.TT001SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain. Polished
* Other finishes upon request

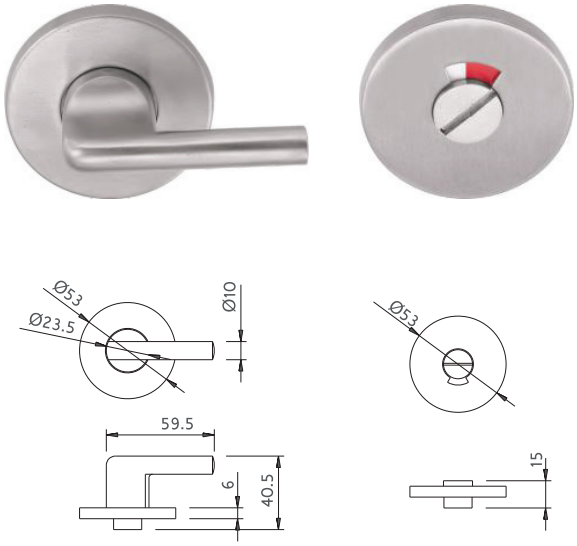


TU.TT005SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain. Polished
* Other finishes upon request



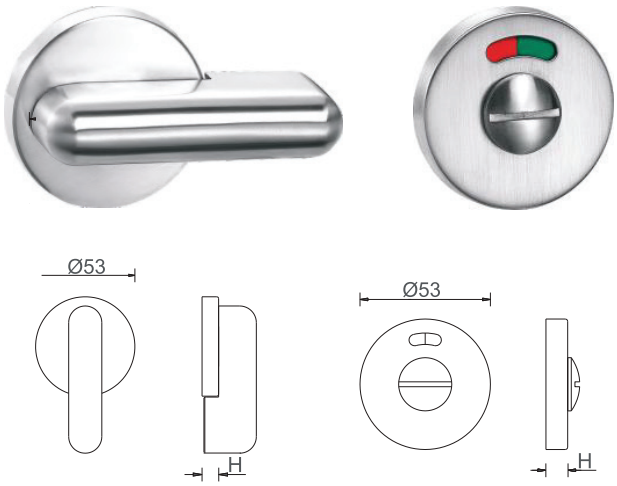
TU.TT007SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain
* Other Finishes upon request

Thumb Turn Indicator

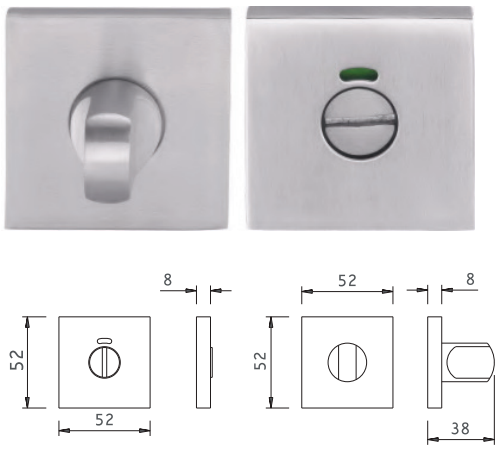


TU.TT014SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain
* Other Finishes upon request

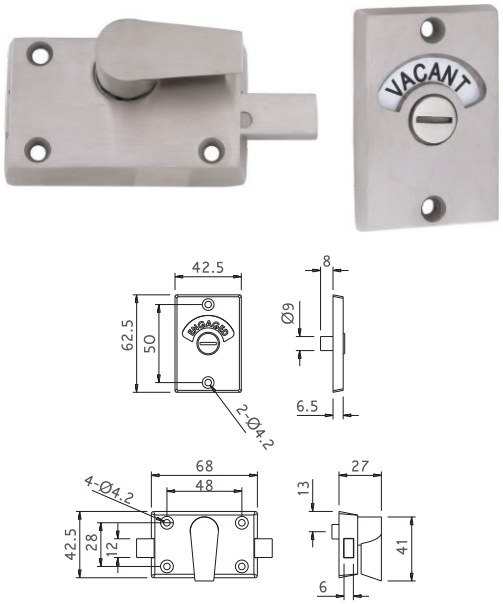


TU.TT011SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain
* Other Finishes upon request



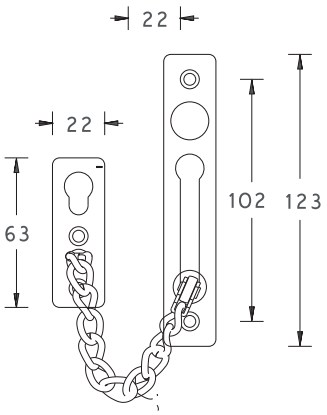
TU.TT009SS

* Stainless Steel 304
* Applicable for wood door
* Applicable for door thickness 35-45mm
* Lengthened spindle available
  for door thickness above 45mm

Finish :

* Stain

Door Guard

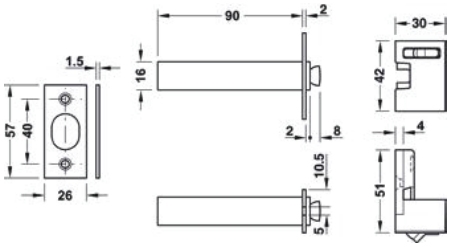


TU.DG004

* Stainless Steel 304
* Applicable for wood door

Finish :

* Stain
* Other Finishes upon request



TU.DG005

* Application - For inwards opening wooden doors
* Material - Cover plate and chain: Stainless steel

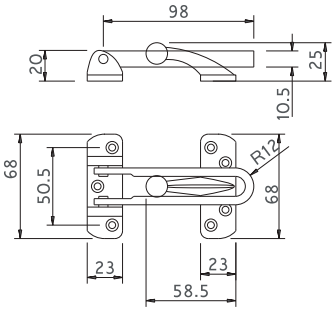
Product Features:

Supplied with

*1 security door guard

*1 frame component

*1 set of fixing material



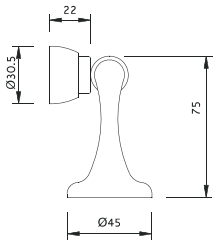
TU.DG002

* Stainless Steel 304
* Applicable for various door

Finish :

* Stain
* Other Finishes upon request

Door Holders



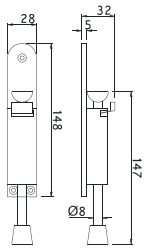
TU.DH 003

FEATURES

* Stainless Steel 304
* Applicable for various door
* With Magnet, Keep Door Open

Finish :

* Stain
* Other Finishes upon request



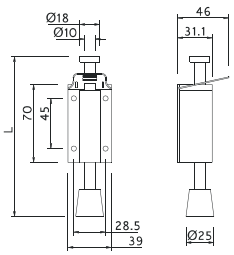
TU.DH 004

FEATURES

* Stainless Steel 304
* Applicable for various door
* Keep Door Open

Finish :

* Stain



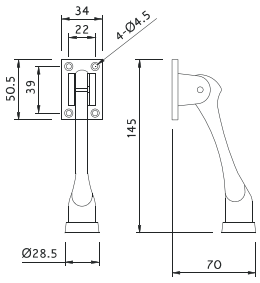
TU.DH 005

FEATURES

* Stainless Steel 304
* Applicable for various door
* Keep Door Open

Finish :

* Stain



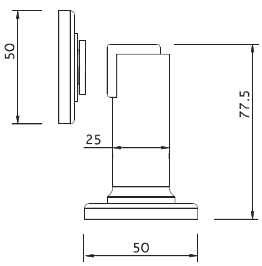
TU.DH 007

FEATURES

* Stainless Steel 304
* Applicable for various door
* Keep Door Open

Finish :

* Stain Nickel



TU.DH 008

FEATURES

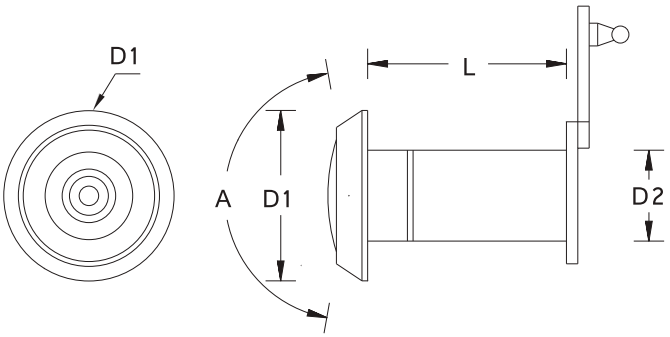
* Stainless Steel 304
* Applicable for various door
* With Magnet, Keep Door Open

Finish :

* Stain
* Other Finishes upon request

Door Viewer

TU.DV001



Product Features:

* Finest Brass material
* With Brass Trim washer
* 180 or 200 degree angle of view
* Applicable for door thickness 35-55mm
* Suggested installation height 1500mm

Dimension:

	D1	D2	A	L3
* DV001 - 180	28	14	180	35-55
* DV001 - 200	30	16	200	35-55

Finishes:

* Satin Stainless Steel
* Other finishes Available upon request

Escutcheon

TU.ESC01

TU.ESC02.AB

TU.ESC09

TU.ESN01

Lever Action Flush Bolt

TU.DB006

Specification

Fixing : Screw Fixing

Finish :

* Satin Stainless Steel
* Other finishes Available upon request

Model No	Size
TU.DB006-8	203 x 19 mm
TU.DB006-10	254 x 19 mm
TU.DB006-12	305 x 19 mm

Lever Action Flush Bolt

TU.DB014

Specification

Fixing : Screw Fixing

Finish :

* Satin Stainless Steel
* Other finishes Available upon request

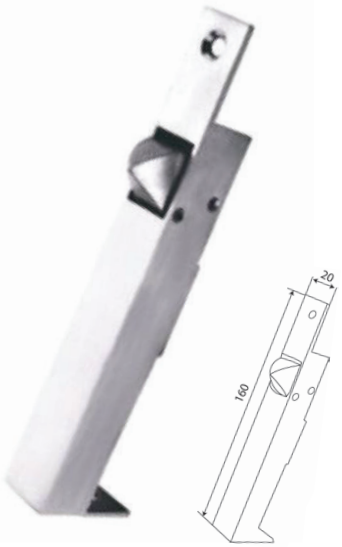
Model No	Size
TU.DB014-8	203 x 19 mm
TU.DB014-10	254 x 19 mm
TU.DB014-12	305 x 19 mm

Automatic Flush Bolt For Wood Doors

Item Description : Automatic Flush Bolt for Wood Door

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

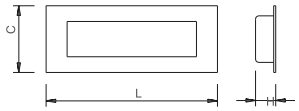
TU.DB016



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 - (20 x 160) Bolt – (19 mm) Rod Backset - (19.06) Keeper -(20 x 100) Guide - (20x 50)

Flush Handle



TU.FH 031

FEATURES

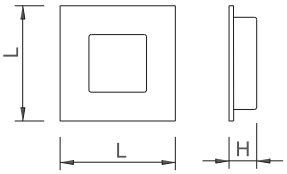
* Stainless Steel 304
* Applicable for wood sliding door

Finish :

* Stain, polished
* Other Finishes upon request

Dimensions :

	L	C	H
• TU.FH 031	150mm	50mm	15mm



TU.FH 032

FEATURES

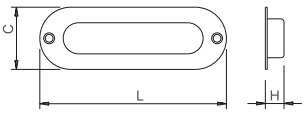
* Stainless Steel 304
* Applicable for wood sliding door

Finish :

* Stain, polished
* Other Finishes upon request

Dimensions :

	Dia	Thickness
• TU.FH 032	70mm	15-5mm



TU.FH 009

FEATURES

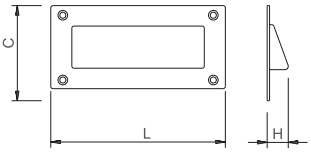
* Stainless Steel 304
* Applicable for wood sliding door

Finish :

* Stain, polished
* Other Finishes upon request

Dimensions :

	L	C	H
• TU.FH 009	150mm	50mm	14mm



TU.FH 010

FEATURES

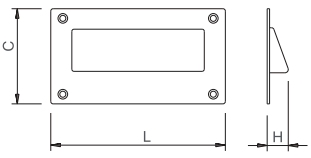
* Stainless Steel 304
* Applicable for wood sliding door

Finish :

* Stain, polished
* Other Finishes upon request

Dimensions :

	L	C	H
• TU.FH 010	102mm	51mm	12mm



TU.FH 029

FEATURES

* Stainless Steel 304
* Applicable for wood sliding door

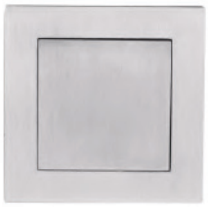
Finish :

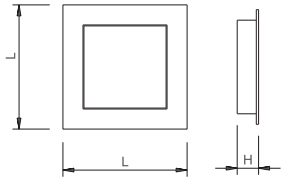
* Stain, polished
* Other Finishes upon request

Dimensions :

	L	C	H
• TU.FH 029	125mm	83mm	19mm

Flush Handle





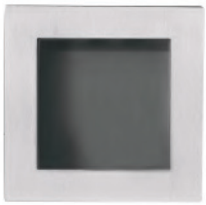
TU.FH 112

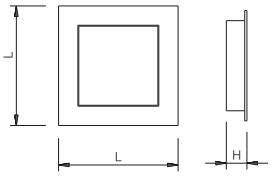
FEATURES
- ⁎ Stainless Steel 304
- ⁎ Applicable for wood sliding door
- ⁎ spring contruction, Keep surface flush

Finish :
- ⁎ Stain.polished
- ⁎ other finishes upon request

Dimensions :

	C	L	H
• TU.FH 112	75mm	75mm	17mm





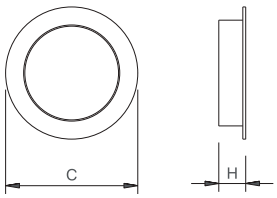
TU.FH 113

FEATURES
- ⁎ Stainless Steel 304
- ⁎ Applicable for wood sliding door

Finish :
- ⁎ Stain, polished
- ⁎ Other Finishes upon request

Dimensions :

	C	L	H
• TU.FH 113	75mm	75mm	17mm



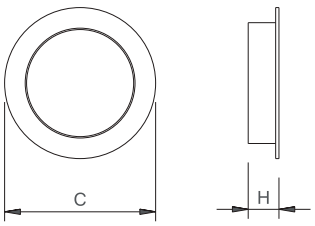
TU.FH 112

FEATURES
- ⁎ Stainless Steel 304
- ⁎ Applicable for wood sliding door
- ⁎ Spring contruction, Keep surface flush
- ⁎ Applicable for door thickness 35-45mm

Finish :
- ⁎ Stain, polished
- ⁎ Other Finishes upon request

Dimensions :

	C	L	H
• TU.FH 112	75mm	75mm	17mm



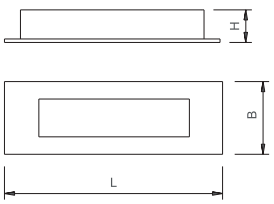
TU.FH 111

FEATURES
- ⁎ Stainless Steel 304
- ⁎ Applicable for wood sliding door

Finish :
- ⁎ Stain, polished
- ⁎ Other Finishes upon request

Dimensions :

	C	H
• TU.FH 111	75mm	17mm



TU.FH 117

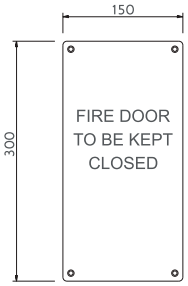
FEATURES
- ⁎ Stainless Steel 304
- ⁎ Applicable for wood sliding door

Finish :
- ⁎ Stain, polished
- ⁎ Other Finishes upon request

Dimensions :

	L	B	H
• TU.FH 117	155mm	45mm	17mm

Push Plate



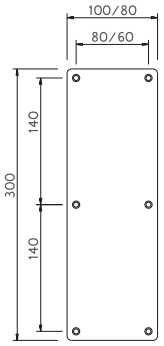
TU.LH 81A

FEATURES

* Stainless Steel 304
* Beveled on 4 sides, Drilled for counter sunk screws mounting
* cutom made dimension available

Finish :

* Stain.polished



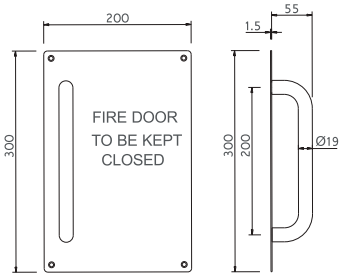
TU.FH 81B

FEATURES

* Stainless Steel 304
* Beveled on 4 sides, Drilled for counter sunk screws mounting
* cutom made dimension available

Finish :

* Stain.polished



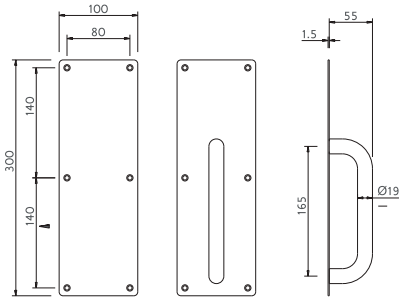
TU.LH 4608 - 1

FEATURES

* Stainless Steel 304
* Beveled on 4 sides, Drilled for counter sunk screws mounting
* cutom made dimension available

Finish :

* Stain.polished



TU.LH 4608 - 2

FEATURES

* Stainless Steel 304
* Beveled on 4 sides, Drilled for counter sunk screws mounting
* cutom made dimension available

Finish :

* Stain.polished

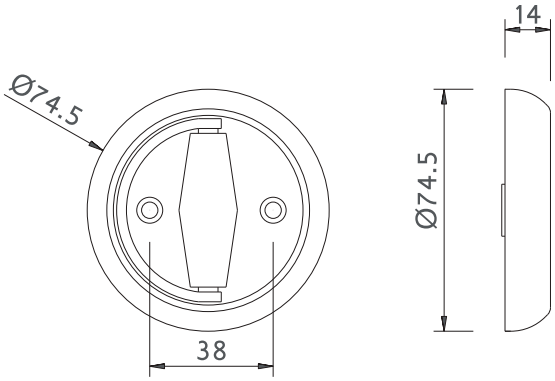
Flush Ring Pull Handle

TU.CH 001A

* Stainless Steel 304
* Applicable for well door
* use with shaft lock

Finish:

* Stain

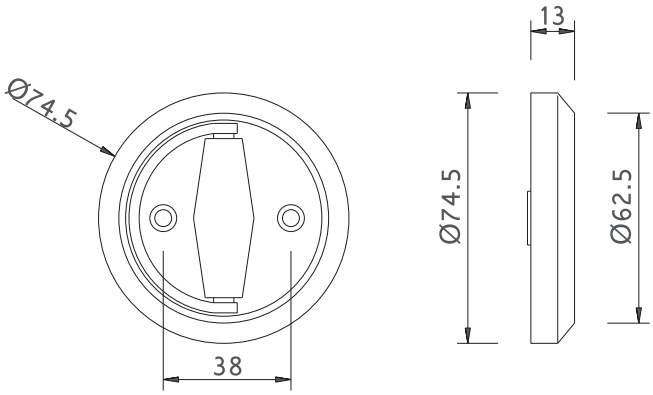


TU.CH 001B

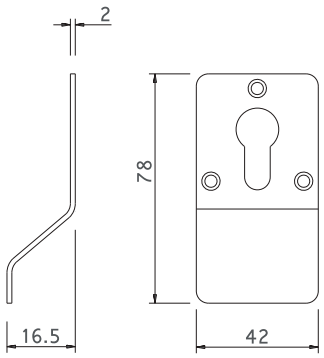
* Stainless Steel 304
* Applicable for well door
* use with shaft lock

Finish:

* Stain



Finger Pull

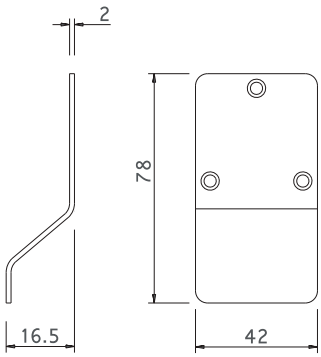


TU.CH 004

* Stainless Steel 304
* Applicable for well door
* use with Flush Bolt

Finish:

* Stain



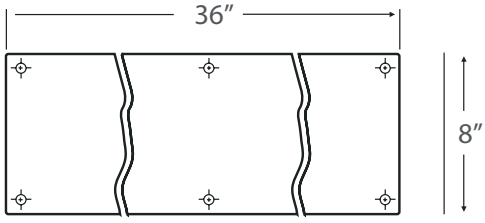
TU.CH 004A

* Stainless Steel 304
* Applicable for well door

Finish:

* Stain

Door Protection Plates

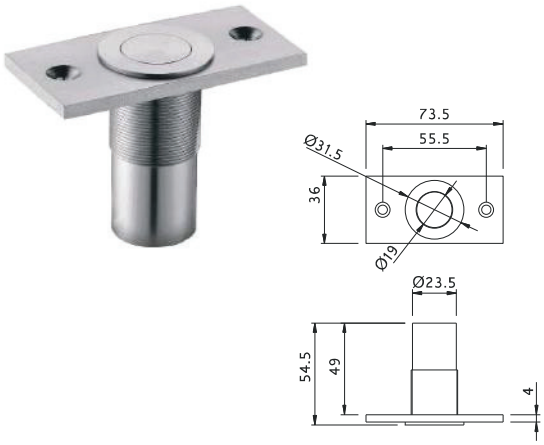


How to order

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

Dust Proof Strikes



TU.DP 410

FEATURES

* Stainless Steel 304
* Desinged to Eleminate Dust & Debris from collecting in the Floor Strike
* Removable plate,making it versatile for carpet,Threshold & concrete Installations
* use with Flush Bolt

Finish:

* Stain

Dust Exculding Floor Socket

TU.DP001

Specification

Fixing : Screw Fixing

Finishes:

* Satin Stainless Steel
* Other finishes Available upon request

Easy Clean Floor Socket

TU.DP002

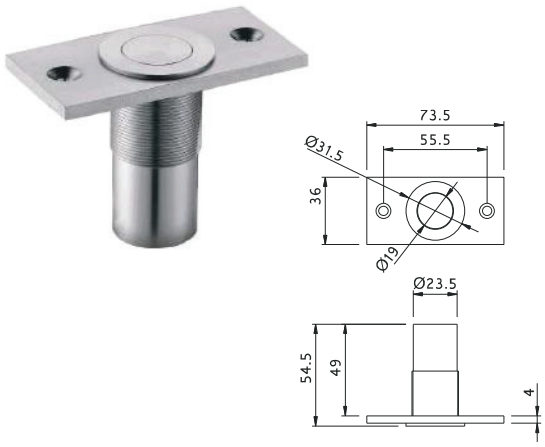
Specification

Fixing : Screw Fixing

Finish:

* Satin Stainless Steel
* Other finishes Available upon request

Dust Proof Strikes



TU.DP 410

FEATURES

* Stainless Steel 304
* Desinged to Eleminate Dust & Debris from collecting in the Floor Strike
* Removable plate,making it versatile for carpet,Threshold & concrete Installations
* use with Flush Bolt

Finish:

* Stain

Dust Exculding Floor Socket

TU.DP001

Specification

Fixing : Screw Fixing

Finishes:

* Satin Stainless Steel
* Other finishes Available upon request

Easy Clean Floor Socket

TU.DP002

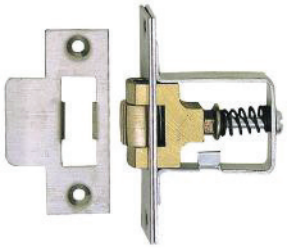
Specification

Fixing : Screw Fixing

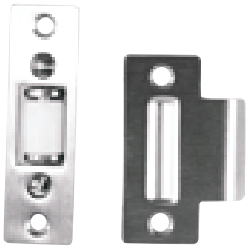
Finish:

* Satin Stainless Steel
* Other finishes Available upon request

Roller Latches



TU8403
Heavy Duty "Adjustable" roller latch



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

Coat Hook

TU.H001

Specification

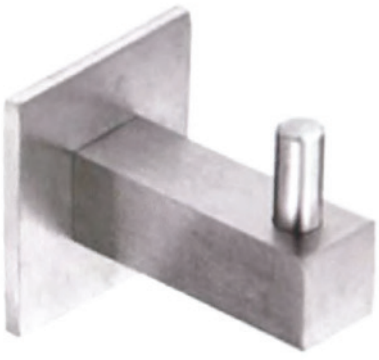
Fixing : Surface Fixing

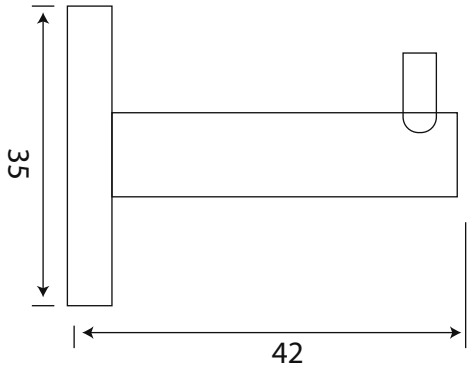
Finishes:

* Satin Stainless Steel
* Other finishes Available upon request

Model No	Size	Material Thickness	Buffered
TU.H001	80 x 80 x 19 mm	3mm	Yes

TU.H002





Sign Plates

TU.SP007 TU.SP008 TU.SP009 TU.SP010 TU.SP011

Specification

Fixing: Screw Fixing
Graphic Colour: Black

Finishes:

* Satin Stainless Steel
* Other finishes Available upon request

Special Sign Plates

200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 200mm 80 x 80mm 200 x 200mm 80 x 80mm

300 x 100mm 300 x 100mm 300 x 100mm 300 x 100mm

200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm 200 x 150mm

ANSI 304 STAINLESS STEEL HARDWARE PRODUCTS

SS 202 Grade Stainless Steel Tower Bolts

Product	Description Size	Code
	Tower Bolt Square 3"	
	Tower Bolt Square 4"	TU.TBS4S
	Tower Bolt Square 6"	TU.TBS6S
	Tower Bolt Square 8"	TU.TBS8S
	Tower Bolt Square 10"	TU.TBS10S
	Tower Bolt Square 12"	TU.TBS12S
	Tower Bolt Round 3"	TU.TBR3S
	Tower Bolt Round 4"	TU.TBR4S
	Tower Bolt Round 6"	TU.TBR6S
	Tower Bolt Round 8"	TU.TBR8S
	Tower Bolt Round 10"	TU.TBR10S
	Tower Bolt Round 12"	TU.TBR12S
	Tower Bolt Oval 4"	TU.TBO4S
	Tower Bolt Oval 6"	TU.TBO6S
	Tower Bolt Oval 8"	TU.TBO8S
	Tower Bolt Oval 10"	TU.TBO10S
	Tower Bolt Oval 12"	TU.TBO12S
	Tower Bolt Rectangle 4"	TU.TBRC4S
	Tower Bolt Rectangle 6"	TU.TBRC6S
	Tower Bolt Rectangle 8"	TU.TBRC8S
	Tower Bolt Rectangle 10"	TU.TBRC10S
	Tower Bolt Rectangle 12"	TU.TBRC12S
	Tower Bolt Flat 4"	TU.TBF4S
	Tower Bolt Flat 6"	TU.TBF6S
	Tower Bolt Flat 8"	TU.TBF8S
	Tower Bolt Flat 10"	TU.TBF10S
	Tower Bolt Flat 12"	

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.

Notes:

Notes:

Notes:

Notes:

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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