



Door Closer

What our customers should expect from us.



Trusted every day

Door Closer

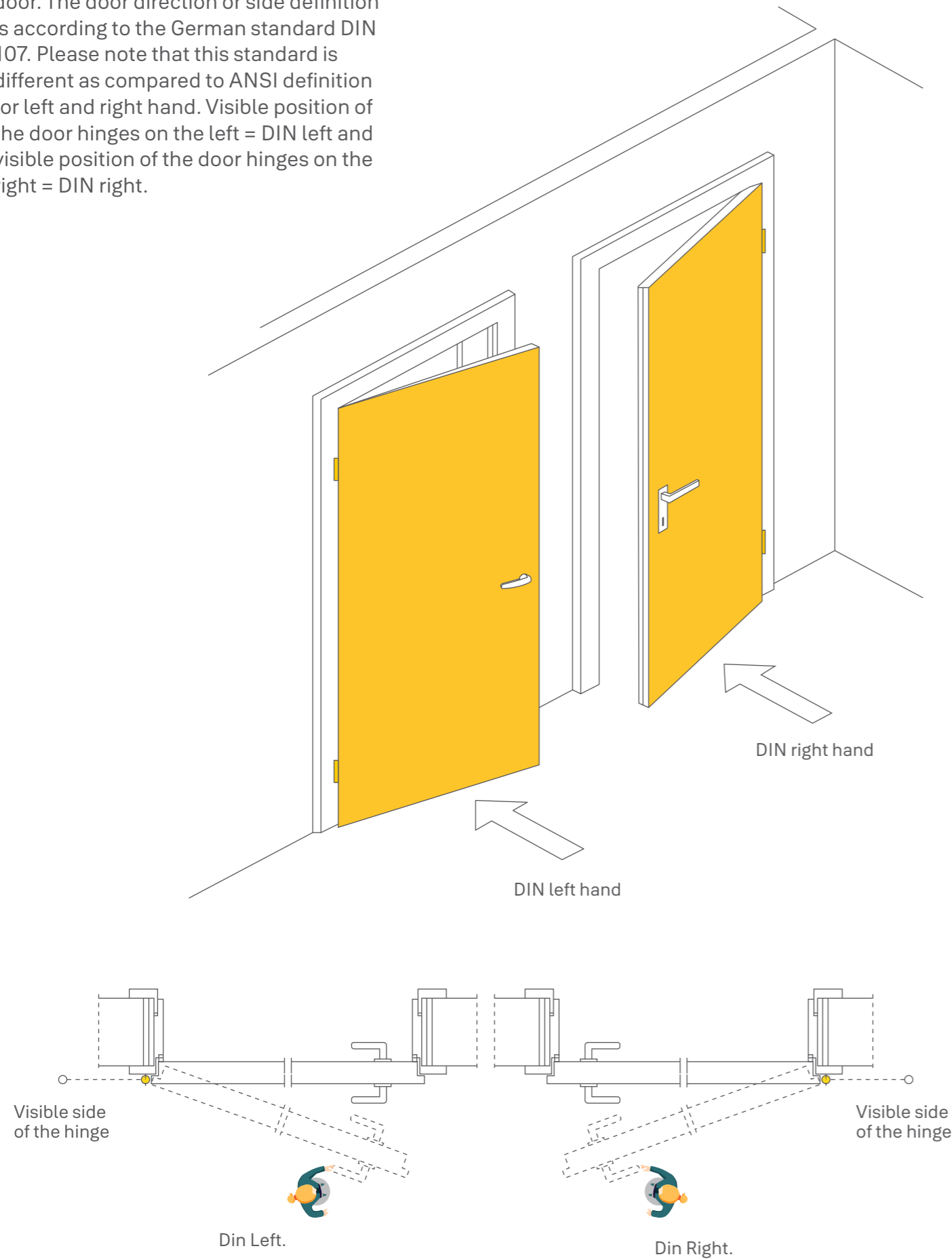
Protection
for the home,
peace for
the mind

We don't just make homes secure;
we make people feel secure too.
We reassure them: if they've chosen Yale,
they can get on and enjoy their lives.



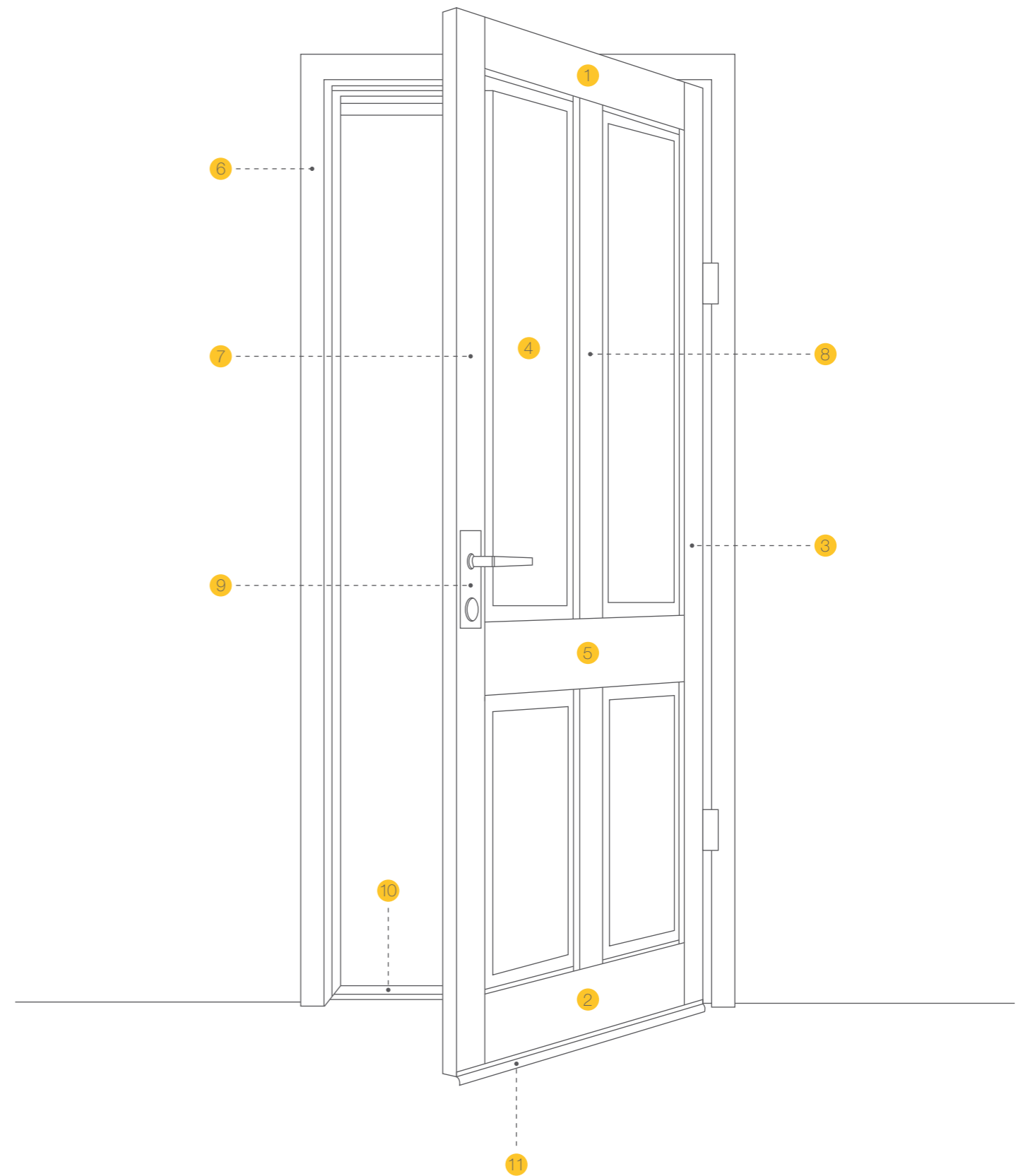
Door Direction

Depending on the pivot direction of a door, a door is classified as a left or right hand door. The door direction or side definition is according to the German standard DIN 107. Please note that this standard is different as compared to ANSI definition for left and right hand. Visible position of the door hinges on the left = DIN left and visible position of the door hinges on the right = DIN right.



Parts of a Door

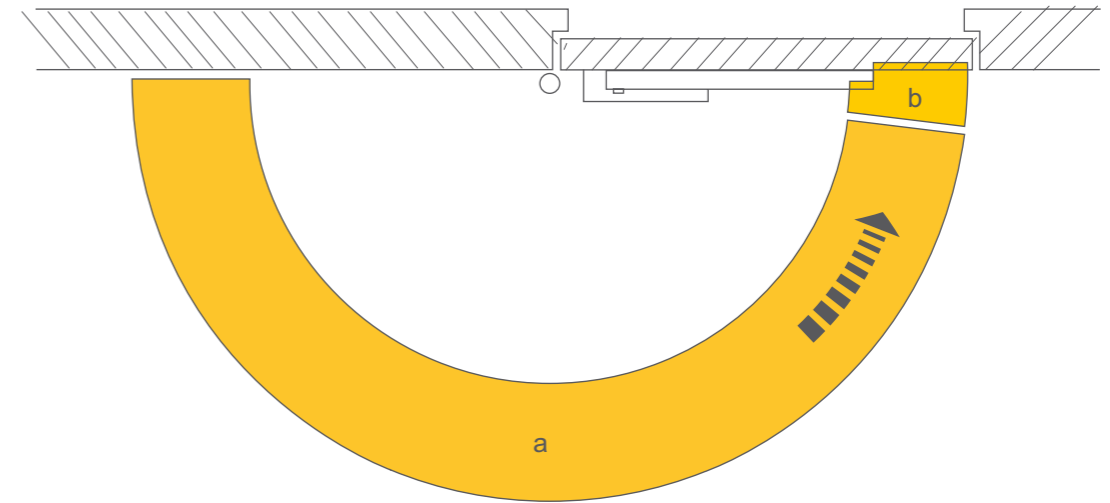
- 1 Top Rail
- 2 Bottom Rail
- 3 Hinge Stile
- 4 Panel
- 5 Lock Rail
- 6 Door Frame
- 7 Latch Stile
- 8 Mullion
- 9 Lockset
- 10 Threshold
- 11 Door Seal



Rack & Pinion Technology

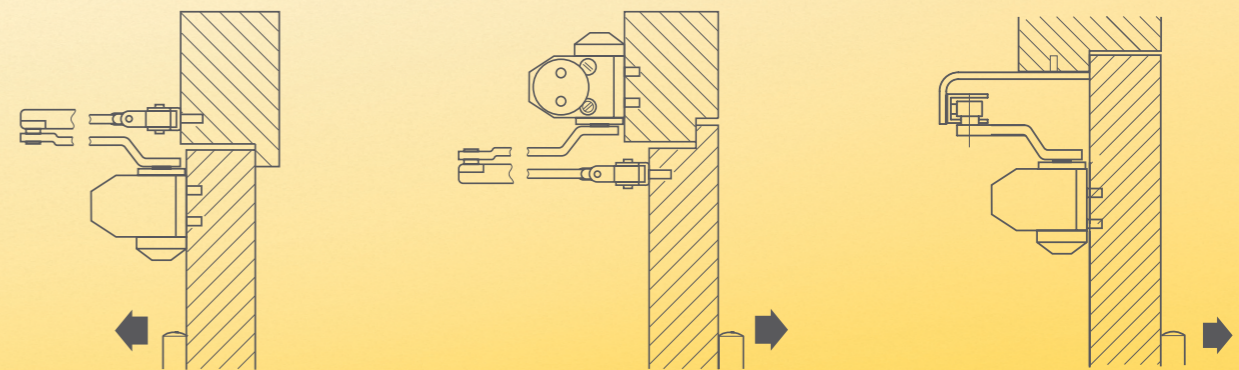
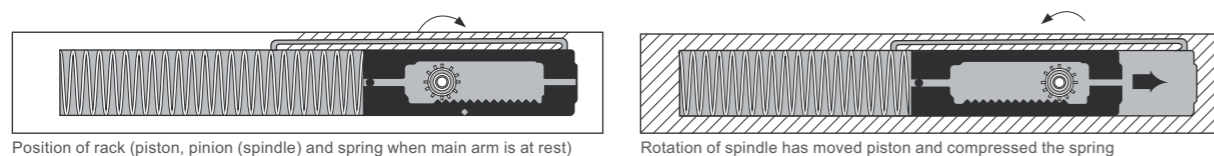
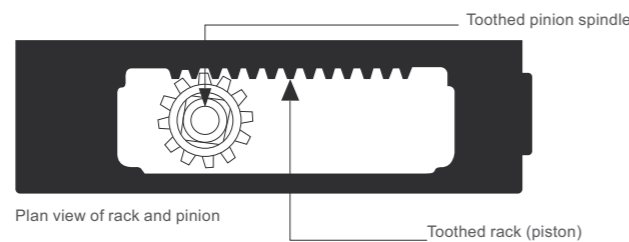
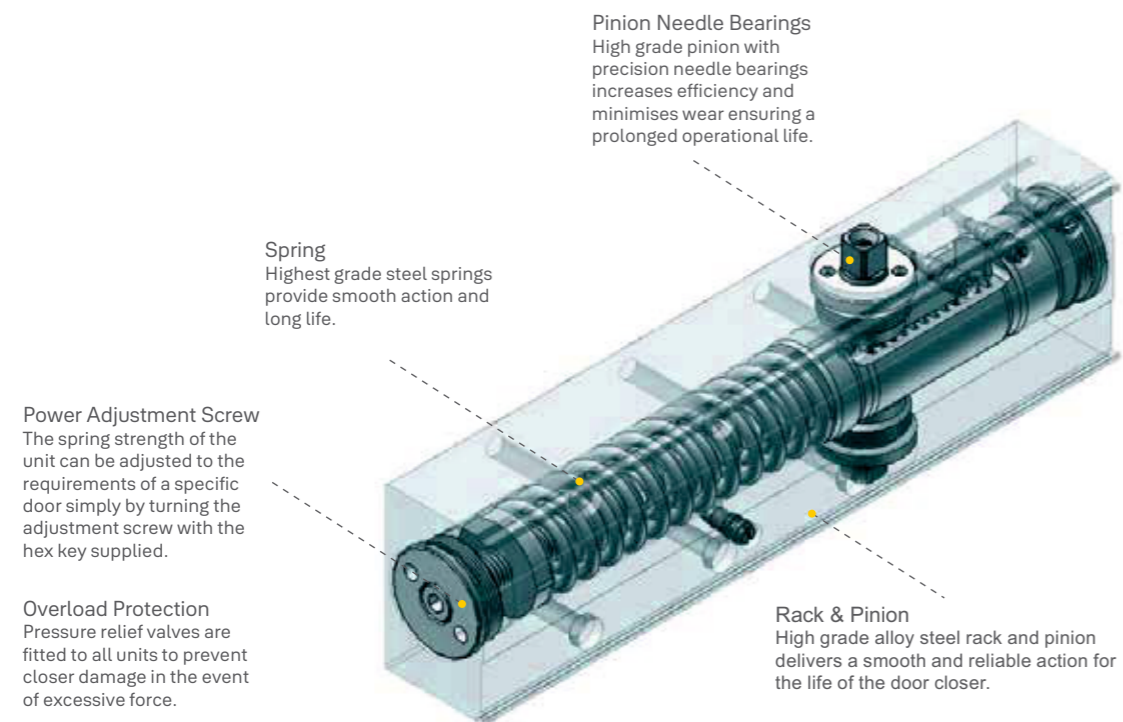
- Rack and Pinion is the mechanism used on Yale range of door closers
- As the door is opened, the arm is pulled around, rotating the pinion
- The pinion runs through the door closer body and its teeth engage with the teeth of a rack in a piston
- As the arm rotates the pinion, it in turn drives the piston down the cylinder bore
- The piston compresses the spring lying in the cylinder bore
- The energy used to open the door is stored in the spring and when the door is released the spring begins to expand which puts the process in reverse and the door closes
- The speed of closing is controlled by the hydraulic fluid in the system. It flows unrestricted in one direction as the door is opened but it has to make the return journey through valves
- These valves can be adjusted to control the rate of flow, and this governs the closing and latching speed

Door Closer Speed Checks



a Closing speed
The exact setting of the closing speed guarantees a controlled closing of the door leaf.

b Latching action
The latching action controls the closing of the door and ensures the lock closes reliably. Therefore the door closer increases the speed of the door. The hydraulic latching action is reducing the speed of the door to achieve a softer closing of the door.



Standard installation
(Door leaf installation) on the pull side

Overhead installation
(Transom fixing) on the push side

Parallel arm installation
On push side

* parallel arm to be purchased separately

BS EN Standards for Controlled Door Closing Devices

Standards

There are two standards currently in existence for door closing devices:

EN 1154:1997 - Mechanical closers

EN 1155:1997 - Electronically controlled closers

EN 1154:1997 - Controlled door closing devices - requirements and test methods

Scope

The standard covers all controlled surface mounted, concealed, or transom mounted closers.

Attention should be paid to Digit 3, which deals with the power size and door width.

Classification



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 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 the door closing device manufactured to this standard:

Grade 8 : 500,000 cycles



Digit 3 - Test door mass/size

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

Test door mass and recommended door widths		
Power size of closer	Max. mass of leaf	Width of test door leaf
1	20 kg	<750mm
2	40 kg	850mm
3	60 kg	950mm
4	80 kg	1,100mm
5	100 kg	1,250mm
6	120 kg	1,400mm
7	160 kg	1,600mm



Digit 4 - Fire behaviour

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 emergency device to the fire resistance of specified fire/smoke door assemblies



Digit 5 - Safety

All door closers are required to satisfy the Essential Requirement of safety in use contained in the Construction Products Directive by the EU. Therefore only Grade 1 is identified.



Digit 6 - Corrosion resistance

Five grades are identified according to EN 1670:

Grade 0: No defined corrosion resistance

Grade 1: Low resistance

Grade 2: Moderate resistance

Grade 3: High resistance

Grade 4: Very high resistance

Classification Code



3:8:2/5:0:1:0

EXAMPLE:

The following marking denotes a closer capable of opening to at least 105°, and with a range of power sizes 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.

Fire Resistant Doors

EN 1154 makes the following recommendations as to the feature considered necessary for such devices when they are fitted to fire and smoke resisting doors.

- a The door closer when installed in accordance with the manufacturer's installation instruction 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 sizes 1 and 2 are not considered suitable for use on fire/smoke resisting 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 electrically powered device in accordance with EN 1155
- 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 angle 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 size assembly in accordance with EN 1634-1

CE conformity



Fire resistance and smoke control

Where a door closing device has a CE certificate of conformity, this will be shown. Hence, it is stated in 8300 that all fire doors must have closing devices that are CE marked.

- Tested for fire resistant and smoke control doors.
- The use of a hold open device on fire resistant and smoke control doors are not permitted or they are not tested for resistance and smoke control.

We give below a guide to the terminology used in connection with door closing devices.

Backcheck

A device built into the closer that checks the outward swing of the door. The backcheck damping is inversely proportional to the speed of the outward swing of the door. It should not be regarded as a door stop.

Closing speed

The speed with which the door is closed. Normally adjustable.

Closing force

The power that the closer exerts to close the door. Measured in the EN standard from 1-6. See table below.

Latching action

The door movement becomes accelerated in the last few degrees of closing, in order to be able to overcome any resistance, such as seals, latch bolts, etc.

Delayed action

The closing speed of the door is reduced to minimal or the door stops, for a preset period, to allow passers-by sufficient time to pass through the door opening. i.e. elderly persons, hospital staff with beds, etc.

Hold open

This is a device to enable the closer to be held in the open position, usually at 90°, but some are variable in the opening degree. These closers must not be used on fire doors (except where they are electronically controlled to close when the fire alarm is sounded).

Door stops

Always use a door stop, where practicable, whether a closer has a backcheck or not. This may take the form of a floor mounted version, wall/skirting mounted version or built-in as found with guide rail closers. The positioning of the stop is also important, and must be at least 66% (2/3rds) the door width away from the hinge, otherwise the stop acts as a fulcrum and could damage the door, the frame and the hinges. Where there is a maximum angle of opening stated the stop must be positioned at that point, otherwise damage to the closer will occur.

Note

Please ensure that the correct closing device is the appropriate one for the job it is intended to do and that it is the correct size. Too many closers are under specified, purely in an effort to reduce costs.

Size	Max. door width mm	Min. closing moments N.m
1	750	9
2	850	13
3	950	18
4	1100	26
5	1250	37
6	1400	54

It should be noted that size 3 is the minimum requirement for fire doors.



DCR 502-IS

Surface Mounted Door Closer

Make your door smarter with a door closer designed to secure and simplify your life. Sleek design combine with state-of-the-art technology

In order to close the door in a controlled speed, a door closer is used in order to prevent the door from slamming. Yale DCR 502-IS is an economical door closer for light duty door applications .



Trusted every day

Specifications

Details

Product Description
Type
Spring Sizes
Arm Assembly Type (Standard / Slide Channel Arm / Hold Open Type)
Adjustments Facility
Area of Application
Back Check
Hold Open / Slide Arm / Parallel Arm
Standards
UL Listed
Suitable for door width
Suitable for door weights
Finishes

Features

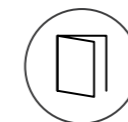
Yale Surface Mounted Door Closer, EN Size 2, Standard Arm, Silver
Rack & Pinion
EN 2
Standard Arm
Closing Speed and latching action are adjustable
Wooden or Metal Doors
NA
NA
In compliance with EN 1154
Yes
850mm
45 kg
Silver



Suitable for **DIN Left** and **DIN Right** Handed Doors



Conforms to EN Size 2



Door Max Weight Capacity 45kg



Door Max Opening Angle 120°



3 Year Warranty



DCR 503-90

Surface Mounted Door Closer

Make your door smarter with a door closer designed to secure and simplify your life. Sleek design combine with state-ofthe-art technology

Yale DCR503-90 door closer suits all types of doors and requirements. It comes with speed control and fire rating for best performances under all circumstances.



Trusted every day

Specifications

Details

Product Description
Type
Spring Sizes
Arm Assembly Type (Standard / Slide Channel Arm / Hold Open Type)
Adjustments Facility
Area of Application
Back Check
Hold Open / Slide Arm / Parallel Arm
Standards
UL Listed
Suitable for door width
Suitable for door weights
Finishes

Features

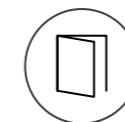
Yale Surface Mounted Door Closer, EN Size 3, Standard Arm, Silver
Rack & Pinion
EN 3
Standard Arm
Closing Speed and latching action are adjustable
Wooden or Metal Doors
NA
NA
In compliance with EN 1154
Yes
950 mm
90 kg
Silver



Suitable for **DIN Left** and **DIN Right** Handed Doors



Conforms to EN Size 3



Door Max Weight Capacity 90Kg



Conforms to CE



3 Year Warranty



DCR 504-90

Surface Mounted Door Closer

Make your door smarter with a door closer designed to secure and simplify your life. Sleek design combine with state-ofthe-art technology

Yale DCR504-90 door closer has been designed to meet the optimum closing requirements of most of the doors used at home or your office space. CE Marked and tested for durability.



Trusted every day

Specifications

Details

Product Description

Type

Spring Sizes

Arm Assembly Type (Standard / Slide Channel Arm / Hold Open Type)

Adjustments Facility

Area of Application

Back Check

Hold Open / Slide Arm / Parallel Arm

Suitable for door width

Suitable for door weights

Finishes

Features

Yale Surface Mounted Door Closer, EN Size 4, Standard Arm, Silver

Rack & Pinion

EN 4

Standard Arm

Closing Speed and latching action are adjustable

Wooden or Metal Doors

NA

NA

1100mm

90 kg

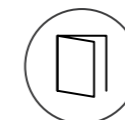
Silver



Suitable for **DIN Left** and **DIN Right** Handed Doors



Conforms to EN Size 4



Door Max Weight Capacity 90Kg



Conforms to CE



3 Year Warranty



DCR 3003 SH-90

Surface Mounted Door Closer

Make your door smarter with a door closer designed to secure and simplify your life. Sleek design combine with state-of-the-art technology

In order to close the door in a controlled speed, a door closer is used in order to prevent the door from slamming. Yale DCR 8003 SH-90 is an aesthetically appealing premium, high quality door closing device suitable for public and commercial applications .



Trusted every day

Specifications

Details

Product Description

Type

Spring Sizes

Arm Assembly Type (Standard / Slide Channel Arm / Hold Open Type)

Adjustments Facility

Area of Application

Back Check

Standards

Suitable for door width

Suitable for door weights

Finishes

Features

Yale Door Closer - Size 3, Sliding Arm, Slim, HO (Surface)

Rack & Pinion

EN 4

Slide Arm - Hold Open Type

Closing Speed and latching action are adjustable

Wooden Doors

NA

In compliance with EN 1154

950 mm

90 kg

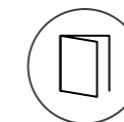
Silver



Suitable for **DIN Left** and **DIN Right** Handed Doors



Conforms to EN Size 4



Door Max Weight Capacity 90Kg



Door Max Opening Angle 120°



5 Year Warranty



DCR 6003 H-90

Concealed Mounted Door Closer

Make your door smarter with a door closer designed to secure and simplify your life. Sleek design combine with state-ofthe-art technology

In order to close the door in a controlled speed, a door closer is used in order to prevent the door from slamming. Yale DCR 6003H-90 is a concealed mounted door closer with variable speed controls suitable for superior performance under all circumstances.



Trusted every day

Specifications

Details

Product Description	Yale Concealed Mounted Door Closer - Size 3, Sliding Arm, Slim, HO
Type	Rack & Pinion
Spring Sizes	EN 4
Arm Assembly Type (Standard / Slide Channel Arm / Hold Open Type)	Slide Arm - Hold Open Type
Adjustments Facility	Closing Speed and latching action are adjustable
Area of Application	Wooden Doors
Back Check	NA
Standards	In compliance with EN 1154
Suitable for door width	850mm to 950 mm
Suitable for door weights	90 kg
Finishes	Silver

Features

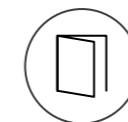
Yale Concealed Mounted Door Closer - Size 3, Sliding Arm, Slim, HO
Rack & Pinion
EN 4
Slide Arm - Hold Open Type
Closing Speed and latching action are adjustable
Wooden Doors
NA
In compliance with EN 1154
850mm to 950 mm
90 kg
Silver



Suitable for **DIN Left** and **DIN Right** Handed Doors



Conforms to EN Size 4



Door Max Weight Capacity 90Kg



Door Max Opening Angle 120°



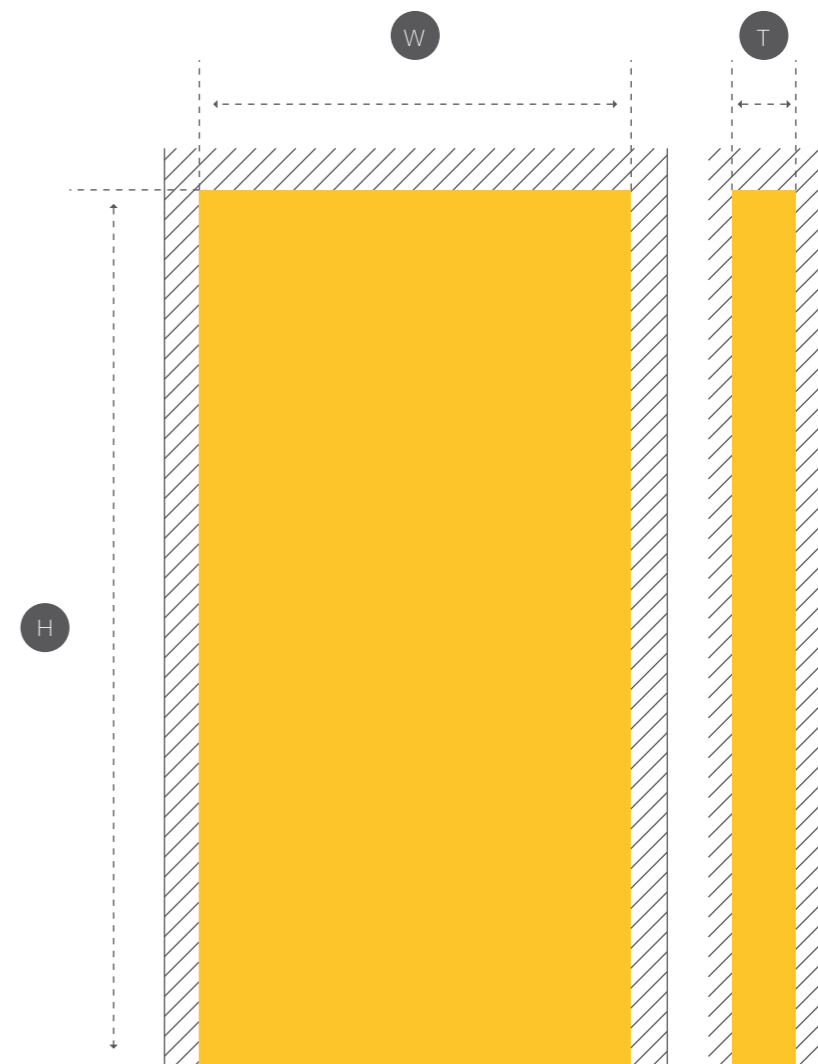
5 Year Warranty

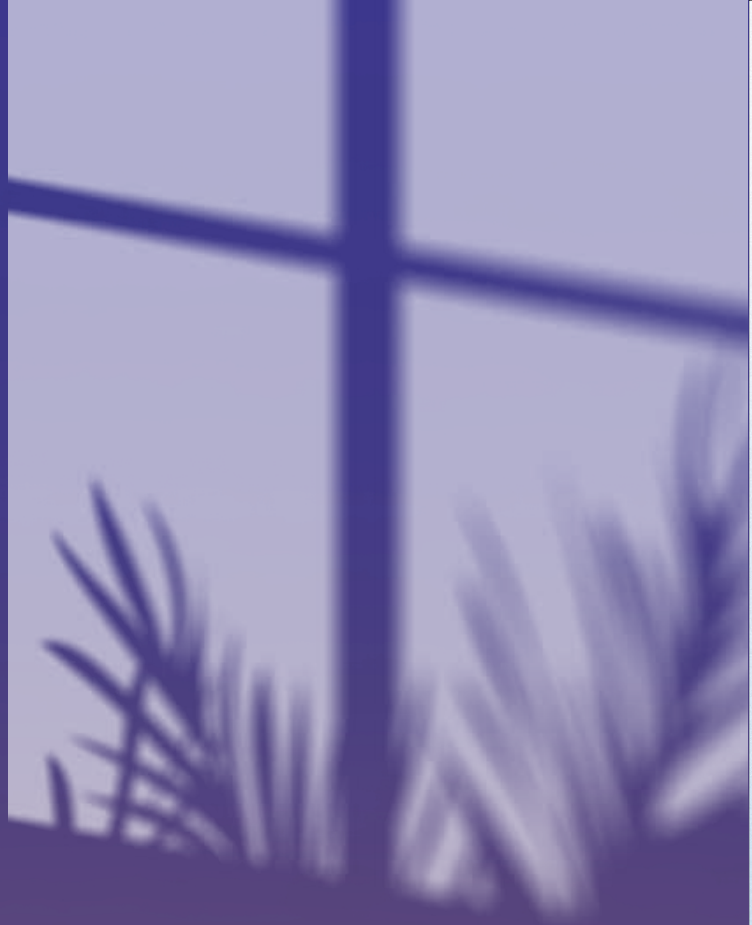
**Know
Your Door**





Weight Calculation of a Door

Measure Door Height (In Mtr.)	H
Measure Door Width (In Mtr.)	W
Measure Door Thickness (In Mtr.)	T
Select Door Density (m ³) As Per Material (F)	F
MDF – 800	
Particle Board – 700	
Plywood – 600	
Flush Door – 500	
Glass/Mirror – 2500	
Acrylic - 1200	

Calculate Door Weight (Kg.)
 $H \times W \times T \times F$





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ASSA ABLOY Opening Solution India PVT. LTD

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Vishweshwar Nagar, Goregaon East,
Mumbai - 400063,
Maharashtra, India

ASSA ABLOY Opening Solution India PVT. LTD

Sr. No.36, Hissa No.1, Plot No.11,
Undari Pisoli Road Haweli Kondwa,
Dagude Vasti, Opp. Trenz Furniture
Pune – 411028,
Maharashtra, India

ASSA ABLOY Opening Solution India PVT. LTD

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Patalamma Temple Basavanagudi,
Bengaluru - 56000
Karnataka, India

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Haryana, India

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