



WINDOW TECHNOLOGY  
DOOR TECHNOLOGY  
AUTOMATIC ENTRANCE SYSTEMS  
BUILDING MANAGEMENT SYSTEMS



AUTOMATIC ENTRANCE SYSTEMS

## Swing door drive DTN 80

Securing technology for you



# Swing door drive DTN 80





Architectural visions become reality with the right technical solutions. Architects and planners therefore depend on the Gretsch-Unitas group of companies. We are the competent partner for forward-thinking architecture and state-of-the-art technical systems – whether straightforward or complex. Our expertise is founded in the 100-year old tradition of our family-owned company, which has always stood for innovation, progress and cost-effectiveness. Today, GU is one of the international market leaders in window and door technology, as well as automatic entrance and building management systems. In keeping with the guiding principle "Securing technology for you", we support our customers from planning through to implementation of automatic entry door system solutions. This applies for new build and refurbishment projects alike. We provide a wide range of technical and design options to ensure that our customers find the perfect system for their requirements. GU Automatic GmbH is your committed, competent and reliable partner in this regard.

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# Greater opportunities for challenging architectural solutions

Swing-door drives open up new opportunities: automatic opening and closing fire and smoke protection doors as well as interior and exterior doors increase freedom of movement and safety in public buildings. Comfortable access is provided via radar motion sensors, push-buttons or an access control system.

A combination of multi-point lock and motor-driven shoot bolt lock is recommended for entrance doors in the facade. This makes accessibility, burglar protection and escape route safety a reality.





# Swing-door drives

## System features



### **For use and retrofitting universally**

The DTN 80 swing-door drive can be used on doors with any frame material. It can be supplied in various surfaces. Automation of existing swing doors is possible at any time by retrofitting the DTN 80.

### **Burglar protection**

Outside doors present special challenges with regard to burglar resistance. The DTN 80 ensures convenient access to entrance areas and can be used on all certified swing doors up to resistance class RC4.

### **Wind tightness and tightness against driving rain**

When used in combination with the DTN 80 swing door drive, certified swing doors satisfy the performance characteristics described in EN 14351-1 and therefore provide a tight seal.

### **Fire protection and accessibility**

The DTN 80 swing-door drive is the perfect solution for barrier freedom at fire protection doors, such as those found in hospitals and residential homes. This is because the DTN 80 swing-door drive is able to overcome any spring force that may be present at fire and smoke protection doors in normal mode: in the event of fire, they must be able to close safely purely by means of the spring force. The DTN 80 thus ensures barrier-free access on a daily basis.

### **System solutions for escape and rescue routes**

Escape and rescue route systems can only offer maximum security if all components are perfectly matched to the requirements of the particular building situation. Isolated solutions are therefore not an option in this case.

The DTN 80 swing-door drive is a compelling product and satisfies the requirements of the EN 179 and EN 1125 standards in combination with our tested and approved units consisting of panic lock and door hardware.



## The full potential

We know that even the best products can only perform to their full potential if they function optimally and harmoniously with one another.

The DTN 80 swing-door drive has this capability: to automate 1- and 2-leaf swing doors, it can be combined with the wide range of motor-driven locks which are available from GU group.

This includes the motor-driven locks in the 19/21 series, SECURY multi-point locks and the motor-driven shoot-bolt locks MTRS.

In addition to the lock solutions, we provide a comprehensive product range of door hardware and door hinges. We therefore provide the right solution for every application.

## Impressive service

The Gretsch-Unitas group provides all services necessary to ensure that all door-related components interact smoothly: including expert advice, a nation-wide installation service and maintenance by our in-house specialists.

## Impressive application

If you combine our DTN 80 swing-door drive with our SECURY ePOWER motor-driven multi-point lock and an electric strike, for example: when opening swing doors via the pulse of a radar motion sensor you can reduce the locking time by the electric strike to a minimum.

## Your EXTRA safety and convenience

Single-leaf swing doors can be conveniently opened using the described combination in daytime mode. Outside opening hours, especially in nighttime mode, the three hook bolts of the SECURY ePOWER ensure a higher degree of burglar protection.

# Swing door drive DTN 80

## Product characteristics



### ■ Universal application

All applications can be implemented using only one swing-door drive:

- 1- and 2-leaf swing doors
- Fire doors
- Escape doors
- Push-open or pull-open

### ■ For door leaf weights up to 600 kg

### ■ For door leaf widths up to 1600 mm

### ■ Patented energy-store consisting of two spring assemblies which can be adjusted separately

### ■ Closing force instead of latching speed

### ■ Patented closing damping via the dynamic effect of the drive motor

### ■ Door closer effect

### ■ Servo assistance adjustable from 0°

### ■ 24 V/2.5 A power supply for external components

### ■ High dynamics and therefore high opening speed

### ■ Mechanical closing sequence control for 2-leaf fire protection doors or for doors in escape routes concealed under the drive cladding

### ■ Modular system reduces inventory management

### ■ Quiet running properties make it particularly suitable for use in noise-sensitive areas, such as offices or hospitals

### ■ Convenient adjustment options directly at the drive via the rotary knob/push-button with integrated display under the drive cladding

### ■ Assembly friendly: retaining pins on the camshaft make spring-biased assembly easier

### ■ Elegant and stable design of scissor-action arm and slide arm

### ■ Tested quality

- Type-tested by TÜV and certified to EN 16005
- Tested by VdS and material testing office in Germany in accordance with DIN 18263-4/EN 1158
- Design approval by German Institute of Building Engineering (application filed)



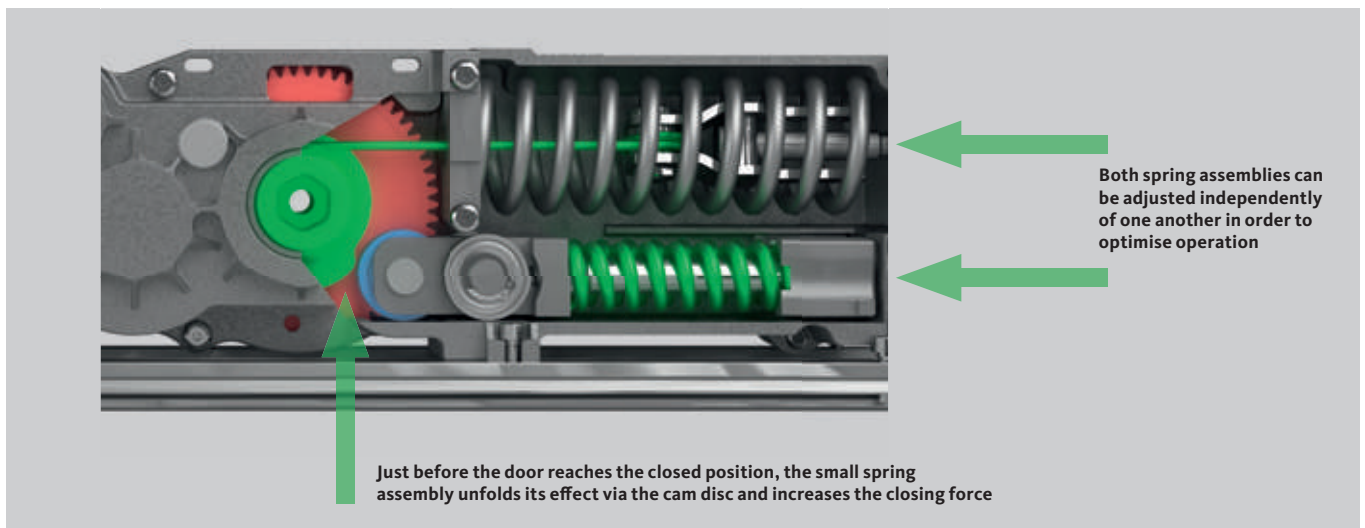


## Patented double-spring system for high closing force before closing position

Due to challenging building conditions, it is not certain that doors will always be closed by swing-door drives or door closers. This includes draughts, wind, positive pressure in double door systems, or the need to overcome the mechanical resistance of gaskets or multi-point locks.

This challenge is particularly noticeable just before the door engages in the lock. This is namely the point at which the force of the closing spring, which is applied throughout the entire closing operation of typical swing-door drives, is at its weakest.

We have therefore installed **two spring assemblies** in the DTN 80 swing-door drive, instead of just one. The second acts, controlled by a cam disc, just before the door reaches the closing position – in other words, exactly at the point where a higher closing force is required.



### The advantages of the second spring assembly are obvious:

**Advantage 1:** doors which are activated via radar motion sensors and open automatically can be securely shut by an active motor-driven final closing operation of up to 150 N.

However, radar activation is frequently undesirable or technically not possible. In this case the doors are activated via a push-button to allow barrier-free entry. The push-button is however often not used and the door is mainly opened manually. Active motor-driven final closing in this case is perceived by users as annoying and uncomfortable. Additionally, when the door is opened manually a load acts against the active motor-driven closing operation of the drive system and the swing door.

The DTN 80 on the other hand can be set so that when the door is opened manually in door closer mode, the effect is a sharply falling opening torque. This dispenses with the need for active closing (which is possible with the DTN 80).

**Advantage 2:** with fire protection doors, safe closing is a mandatory requirement in order to achieve a functional seal between two fire zones. To do so, the fire protection door must also close safely in the de-energised state, in other words without motor-driven final closing. In standard systems, only activation of the latch action is then required. This is accompanied by undesirable noise, which is required to achieve secure closing.

### NOT SO WITH THE DTN 80 SWING-DOOR DRIVE...

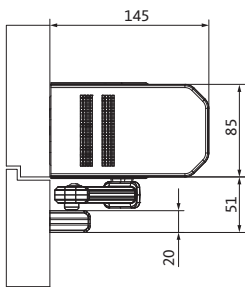
This is because the two spring assemblies allow the closing force to be perfectly adjusted to the constructional conditions. Instead of the abrupt latch action, the second spring assembly ensures a precisely dosed mechanical locking pulse.

# Swing door drive DTN 80

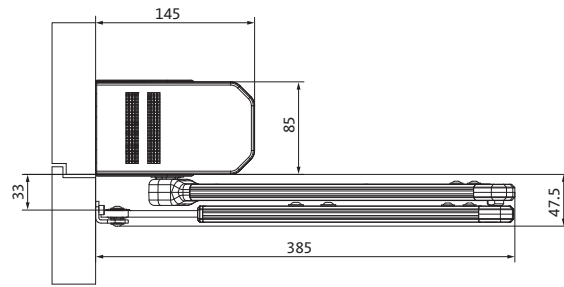
## Technical data



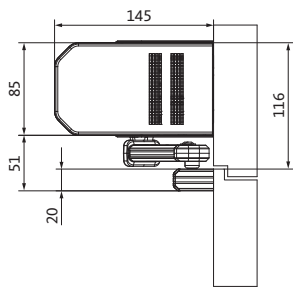
### Installation types



Transom installation on side opposite to hinges – slide rail



Transom installation on side opposite to hinges – scissor-action arm



Transom installation on hinge-side – slide rail

#### Technical data

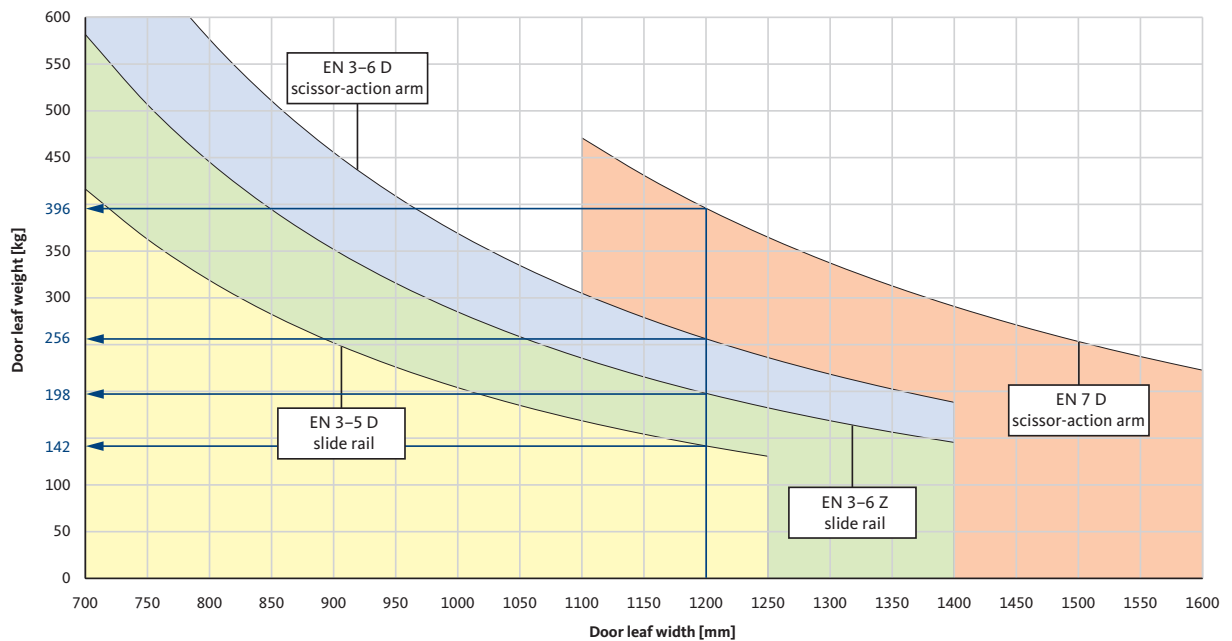
##### Swing door drive DTN 80

Height x Depth x Length	85 x 145 x 680 mm <sup>[1]</sup>
Weight	11 kg
Leaf width (1-leaf)	700–1600 mm
Closing force sizes for fire protection doors	EN 3–EN 7
Distance between hinges (2-leaf)	1450–3200 mm
Mass inertia, max.	190 kg/m <sup>2</sup> <sup>[2]</sup>
Torque, max.	260 Nm
Max. door leaf weight	600 kg
Current consumption for external devices, max.	24 V DC/2.5 A
Opening angle, max.	135°
Lintel depths, scissor-action arm	0–300 mm
Lintel depths, slide rail	+10/-10 mm
Axle extensions	30, 60 und 90 mm
Power consumption max.	80 W
Standby operation	7 W
Ambient temperature	-15 °C to +50 °C
Protection type	IP20
Test cycles according to DIN 18263-4	500,000
Test cycles according to EN 16005	1,000,000

[1] Drive height also with 2-leaf doors with integrated closing sequence control  
 [2] Depending on scissor-action arm



## Permissible door leaf weights with fire protection doors according to DIN 18263-4 and in accordance with EN 16005



### Examples for a door leaf width of 1200 mm

- Push-open scissor-action arm EN 7: 396 kg
- Push-open scissor-action arm EN 3-6: 256 kg
- Pull-open slide rail EN 3-6: 198 kg
- Push-open slide rail EN 3-5: 142 kg



## High-performance swing-door drive for fire protection doors: DTN 80-F

### Extended set of fire protection measures

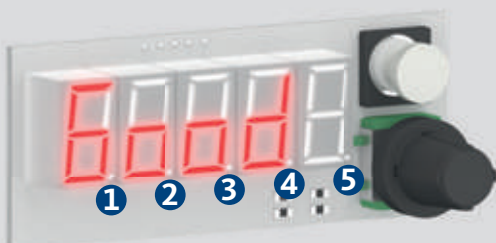
The swing-door drive becomes the DTN 80-F when combined with the extended set of fire protection measures for DTN 80. Together with a smoke switch and a "CLOSE DOOR" push-button, the DTN 80-F can be used as component of a hold-open system on fire and smoke protection doors.

### Closing sequence control set SFR DTN 80

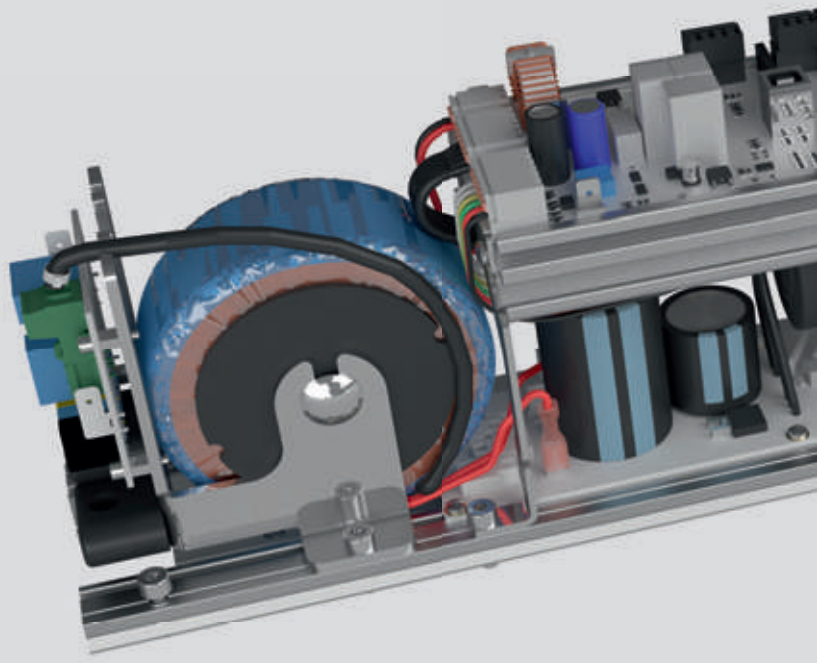
A mechanical closing sequence control is required for use at 2-leaf fire and smoke protection doors. This can be easily mounted on the DTN 80 in just a few steps. The two swing-door drives are connected via a Bowden wire. All components can be found under the drive cover or the cover between swing door drive covers.

# Swing door drive DTN 80

## Start-up and operation



Convenient and intuitive operation  
via rotary knob/push-button



Live display of impulse transmitters and sensors

- ① = Safety sensor hinge-side
- ② = Interior radar
- ③ = Spring-operated key switch
- ④ = Exterior radar
- ⑤ = Safety sensor side opposite to hinges

### PO3 programme switch

The PO3 programme switch is the standard control element of the DTN 80 swing-door drive and is built into the end cover.

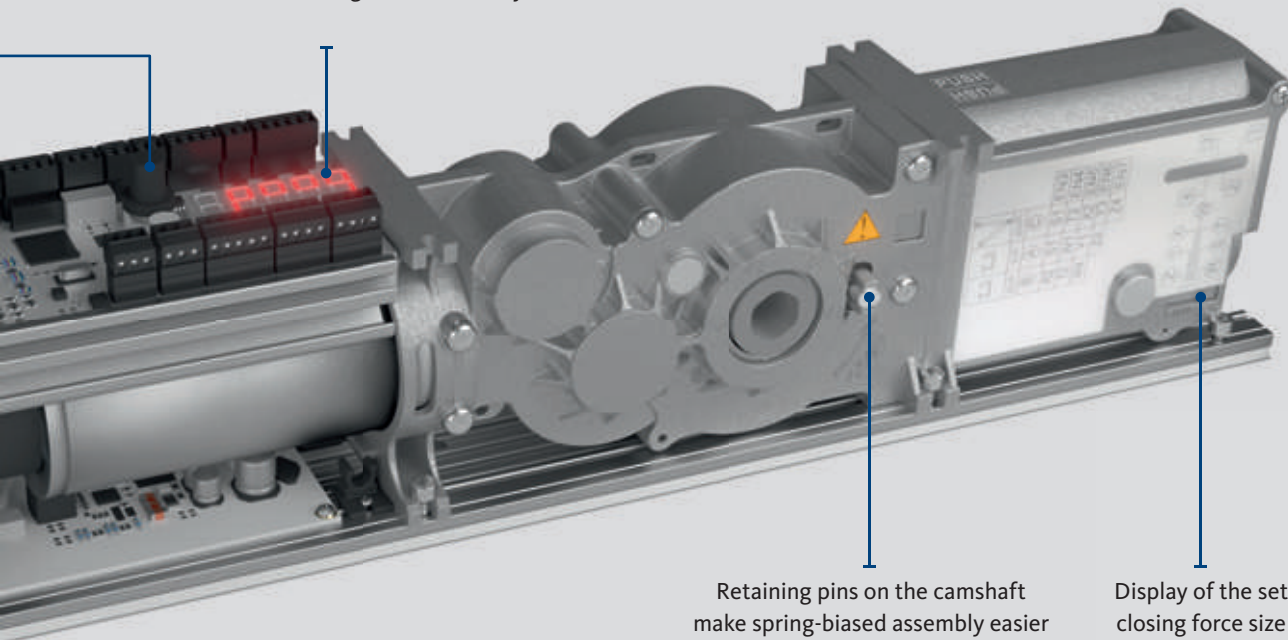
Programme switch PO3 can be used to select any of three different operation modes:

- OFF operation mode
- AUTOMATIC operation mode
- OPEN operation mode





The reading direction can simply be turned according to the assembly orientation



Retaining pins on the camshaft make spring-biased assembly easier

Display of the set closing force size

## POS-5 DTN programme switch

If the operating mode is only to be changed by authorised persons or if the door is extremely high, the external programming switch POS-5 DTN can be used instead of the integrated programming switch PO3.

If the door system is equipped with the optional POS-5 DTN programming switch, actuation of the PO3 programme switch does not function.

The following operating modes are available

- OFF operation mode
- EXIT operation mode
- AUTOMATIC operation mode
- MANUAL operation mode
- OPEN operation mode



# The GU service

The Gretsch-Unitas group – your modern partner



## Safety: successfully certified



### EN 16005 – safety requirements for automatic door systems

EN 16005 regulates safety for automatic door systems. Besides product and safety requirements, it describes the acceptance inspection at the installation location, maintenance and regular checks.

Through a type test, the TÜV confirms that a product meets the requirements from the relevant standards and directives.

But it does not take into account the hazards resulting from local conditions or the specific building use.

A risk analysis must therefore always be carried out prior to installation and commissioning of a system, taking the local conditions into account.

Ideally, the safety concept will be coordinated with the customer or operator in the planning phase.

### The Gretsch-Unitas group offers:

- Individual advice
- Qualified project handling
- Professional installation
- Reliable service

This ensures that commissioning takes place without unpleasant surprises. All required safety components are taken into account and need only be tested for proper functioning at start-up.

## Safety check and maintenance

Regular, professional maintenance is the best guarantee of maintaining the value and functional safety of automatic doors over the years.

GU customer service directly from the manufacturer by in-house personnel or authorised GU partner, outstanding product knowledge and use of original replacement parts ensure maximum functional availability of our automatic door systems. Our network of customer service engineers covers a wide area which also ensures short travel times.

An automatic door system must be tested at least once per year by an expert. Besides this safety check, maintenance according to the manufacturer's specifications must be performed; both tasks should ideally be carried out at the same time.

## The service contract

A service contract with GU for automatic door systems offers many advantages to the customer:

- Early recognition of wear ensures operational and personal safety
- Unplanned service work is markedly reduced
- Regular inspection of safety components reduces the operator's potential liability risk
- A system-specific log book is prepared and kept up-to-date by Service employees
- Possible hazards resulting from a change in use are recognized and can be eliminated
- Service customers receive discounts on parts prices and pay fixed travel fees





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