

## Heavy Duty Solenoid Shotbolt

# 1

Product group

## G HU Z 050

### Function

- energise-to-unlock or energise-to-lock
- integral return spring
- bolt position switch optional
- DC, or AC supply with rectifier plug

### Construction

- coil insulation Class F, up to 250V
- suitable for operation in any attitude
- foot-mounting (4 x 90°)
- high performance, maintenance-free bearings
- independent bolt for tolerance to side-loads
- protection rating IP54 when fitted with plug connector ZKB
- IP65 and ATEX versions available

### Applications

- machine guards, stops, security doors, grills & gates
- general industrial interlocking applications.

### Standards

- designed and tested to VDE 0580.
- manufactured to ISO 9001.

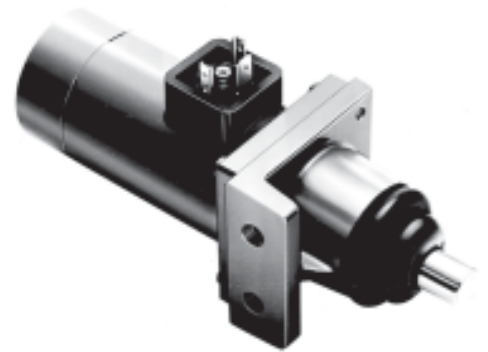


Fig. 1: Type G HU Z 050 E43 A01

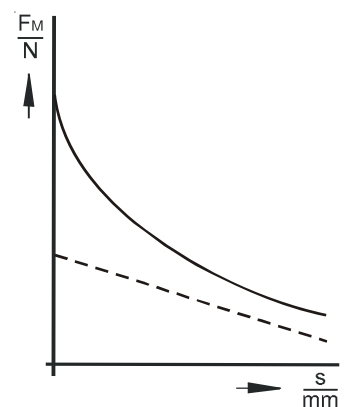


Fig. 2: Force vs stroke graph

**Technical data**

<b>G HU Z 050</b>			
Operating mode - Duty Rating ED		S1 100 %	
Stroke s	(mm)	Magnetic force F <sub>M</sub> (N)	Return-force (N)
	0	57	24
	1	31	22,7
	2	28,5	21,3
	3	28	19,8
	4	27,5	18,5
	6	27	15,6
	8	24	12,9
	10	20	10
Work Rating A <sub>N</sub>	(Ncm)	20	
Rated Power P <sub>20</sub>	(W)	24,5	
Reference temperature δ <sub>11</sub>	(°C)	35	
Frequency of operation S <sub>h</sub>	(1/h)	18000	
Closing time t <sub>1</sub>	(ms)	130	
Opening time t <sub>2</sub>	(ms)	30	
Armature weight m <sub>A</sub>	(kg)	0,10	
Shotbolt weight m <sub>M</sub>	(kg)	1,15	

**Lock-bolt**

Solenoid armature and lock-bolt are loosely coupled, operating in their own bearings, thus preventing transmission of radial thrust to the armature and ensuring maximum reliability and operational life with a minimum of maintenance. Max. radial forces are approximately :

3000N	– bolt in rest position
5N	– bolt in motion

**Switch**

Arrangement A02 (energise-to-lock) and A03 (spring-to-lock) incorporate a switch (250V AC 2.5 amps), with normally open and closed contacts, suitable for interlock or the control of machinery. The switch is set to operate 1mm before the completion of the locking movement.

**Safety**

It is important that the user selects equipment that is suitable for the application, especially if safety would otherwise be compromised. We supply Technical Explanation documents to help users understand our products and assistance is always available from our technical department

**Versions**

Other sizes available – see respective data sheets

Also, special and modified versions, including

- IP65 protection
- Explosionproof ATEX certified

Contact our technical department for assistance.

**Table notes**

1. 0 mm is completion of energised stroke
2. Force figures F<sub>M</sub> are gross.  
To obtain net values deduct springforce figures

**Table Basis**

The terms used are defined in Technical Explanation GXX

Magnetic forces F<sub>M</sub> stated are based on

- 24v 100% duty coil
- 35°C ambient temperature
- working in the Hot condition
- armature in horizontal attitude
- 90% of the rated voltage
- heat-insulated mounting

Duty Rating ED, % of energised time/cycle:  $\frac{t_{on}}{t_{on} + t_{off}} \times 100$

100% : continuous duty

Rated Power P<sub>20</sub> stated with coil at 20°C

Operating times t<sub>1</sub>/t<sub>2</sub> stated are based on

- Hot condition
- weight load of 70% of F<sub>M</sub> at and over rated stroke
- rated voltage

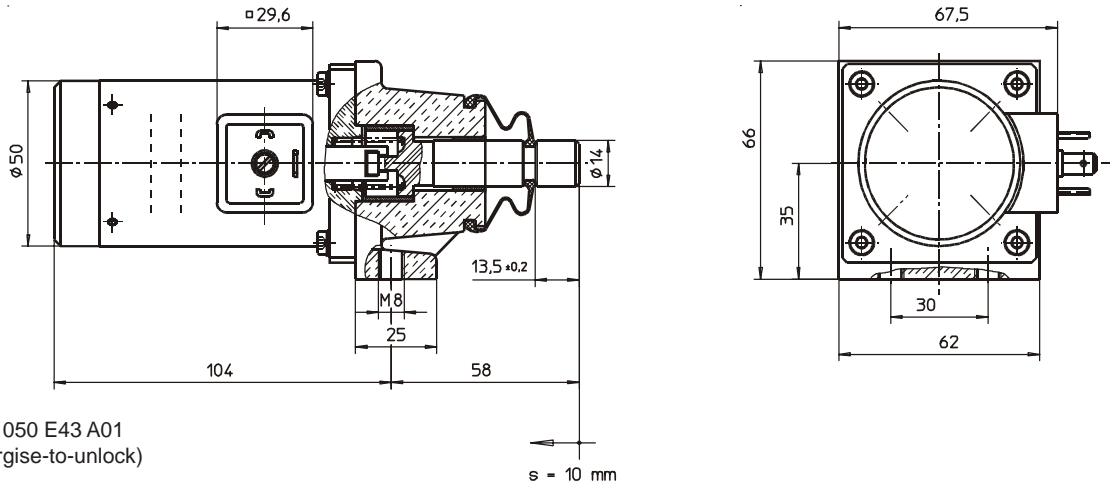
Values given may vary by up to 10% owing to inherent and manufacturing tolerances

**Supply Voltage**

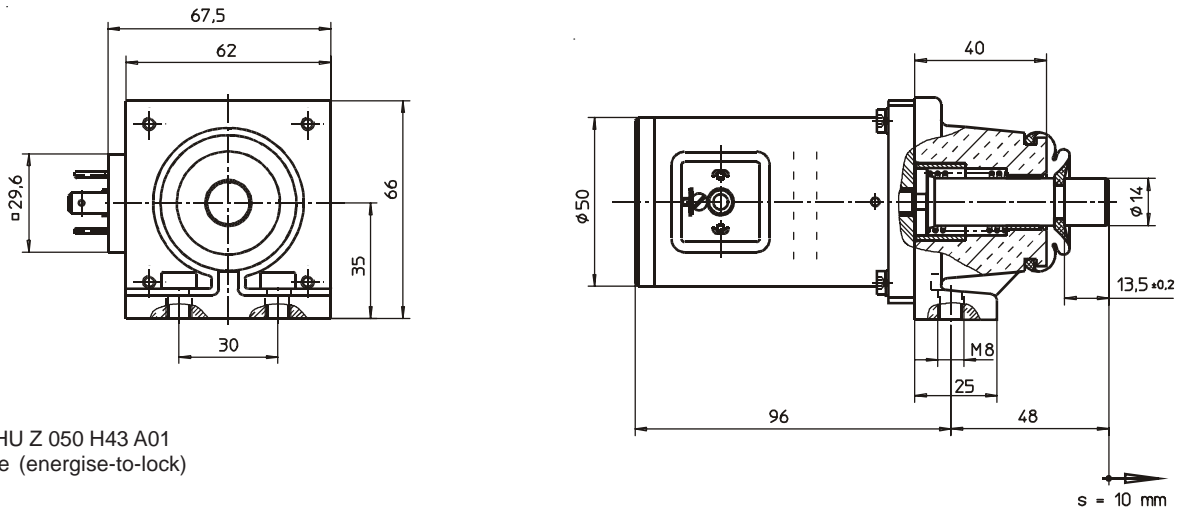
Standard voltages available : 24v DC and 205v DC (for rectified 230v 50/60Hz)

Other voltages upon request

**Dimensions**

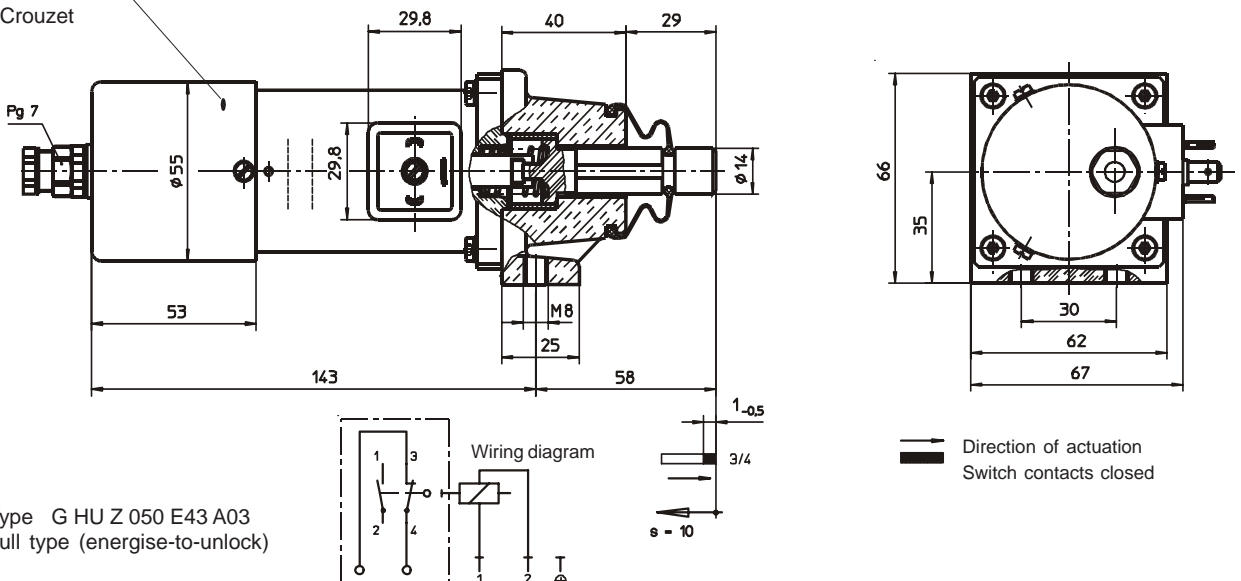


**Fig. 3:** Type G HU Z 050 E43 A01  
 pull type (energise-to-unlock)



**Fig. 4:** Type G HU Z 050 H43 A01  
 push type (energise-to-lock)

micro switch  
 Type 83 109 0  
 comp. Crouzet



**Fig. 5:** Type G HU Z 050 E43 A03  
 pull type (energise-to-unlock)

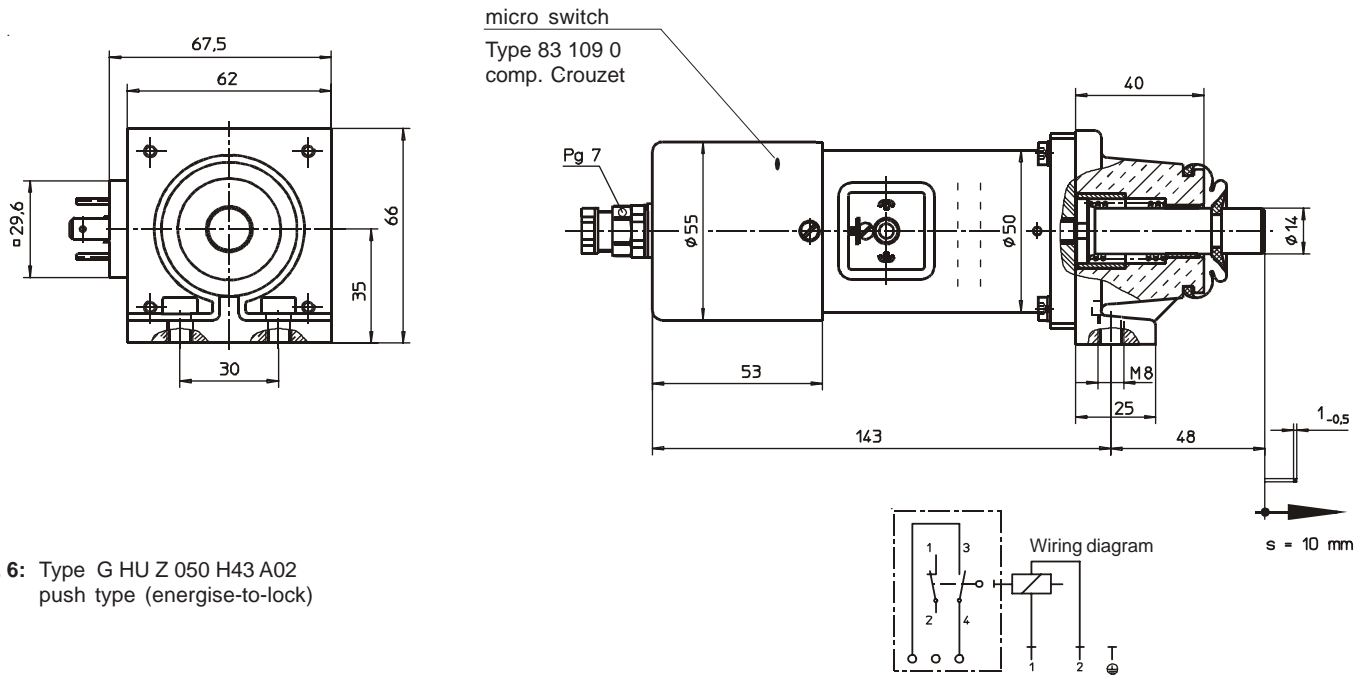


Fig. 6: Type G HU Z 050 H43 A02  
push type (energise-to-lock)

Order example: **G HU Z 050 E43 A01 24V 100%**

Order Codes table:

Order Example	G HU Z	050	E	43	A01	24V 100%
Group Basic Construction & Modification code	G HU Z					
Size		050				
Function			E – Energise to unlock, H – Energise-to-lock			
Basic protection				43		
Design number					A01 - energise-to-lock or unlock, without switch A02 - energise-to-lock, with switch A03 - energise-to-unlock, with switch	
Voltage & Duty Rating						24 V DC 100% 205V DC 100%

**Plug Connector**

Plug connectors are available to suit, as required

- for DC supply: Order Code Z KB X 211
- for AC supply: Order Code Z KB G 211 (built-in rectifier)

**Specials**

Special designs and modifications are available on request for which full application conditions should be specified in accordance with our Technical Explanations