

## Electromagnetically actuated shotbolt lock unit

# 1

Product group

## G HU Z 050

- According to DIN VDE 0580
- Increasing force vs stroke characteristic
- Separately guided shotbolt
- Pull type (de-energized locked) or push type (de-energized unlocked)
- Built-in return spring
- Maintenance-free bearings with long service life
- With or without signal switch
- Exciter coil corresponds to insulation class F
- Electrical connection and protection class with duly executed installation
  - Plug connection with spade connectors to DIN 46247  
Protection class according to DIN VDE / EN 60529 – IP 00
  - Plug connection by plug connector Z KB according to DIN EN 175 301-803  
Cable gland (4x 90-degree rotatable)  
Protection class according to DIN VDE 0470 / EN 60529 – IP 54
  - Cable gland for connection of signal switch PG 7
- Fastening with 2 tapped holes
- Modifications and special designs on request
- Application examples (according to health and safety at work regulations and according accident preventing regulations):

Interlocking of protectors of machines of all sorts



Fig. 1: Type G HU Z 050 E43 A01

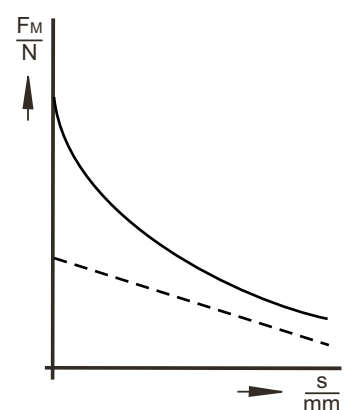


Fig. 2: Force vs. stroke characteristic



## Technical data

<b>G HU Z 050</b>			
Operating mode		S1 100%	
Stroke s	(mm)	Magnetic force $F_M$ (N)	Resetting 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
Rated work $A_N$	(Ncm)	20	
Rated power $P_{20}$	(W)	24,5	
Reference temperature $\delta_{11}$	(°C)	35	
Operating frequency $S_h$	(1/h)	18000	
Actuation time $t_1$	(ms)	130	
Fall time $t_2$	(ms)	30	
Armature weight $m_A$	(kg)	0,10	
Solenoid weight $m_M$	(kg)	1,15	
Maximum lateral load			
Shotbolt stationary	(N)	3000	
Shotbolt in motion	(N)	5	

### Function

The locking units of type G HU Z have to comply with the requirements according to health and safety at work regulations and according accident preventing regulations.

The magnetic armature and the shotbolt are guided separately in maintenance-free bearings. The multi-directional play of the coupling avoids the lateral forces on the armature bearing, which ensures a high function security and a long service life.

The armature movement through electromagnetic force is pulling or pushing depending on the respective execution. The reset in the stroke start position is achieved by the built-in spring. Both operations "de-energized locked" and "de-energized unlocked" are possible. However, the operation "de-energized locked" is preferable.

The designs GHUZ 050 H43 A02 und GHUZ 050 E43 A03 dispose additionally of a corresponding switch (2,5A), which reacts approx. 1 mm before the end of the locking distance and shows the correct snapping in. The machines or systems which have to be protected may be controlled by that switch (see electrical circuit diagram). Other switches e.g. 5 A on request.

With 2 tapped holes M8 in the bearing block a reliable mounting is ensured. A rotation of the electrical connection of 4x 90-degree is possible with means of a simple modification of the bearing block.

Explosion-proof and flame-proof designs on request.

This part list is a document for technically qualified personnel. The present publication is for informational purposes only and shall not be construed as mandatory illustration of the products unless otherwise confirmed expressively.

Rated voltage  $\approx$  24 V, the exciter coil can be adjusted to a rated voltage of  $\approx$  250 V on request.


The force values indicated in the tables refer to 90% of the rated voltage ( $U_n = \approx$  24 V, for other voltages deviations of magnetic force may occur) and to the normal operating temperature.

Due to natural dispersion the force values and the force values of the spring may deviate by  $\pm$  10% from the values indicated in the tables.

The effective magnetic force at the shotbolt is:  
Magnetic force – resetting force (spring)

The normal operating temperature is based on:

- Mounting on badly conductive base
- Rated voltage  $\approx$  24 V
- Operating mode S1 100%
- Reference temperature 35° C

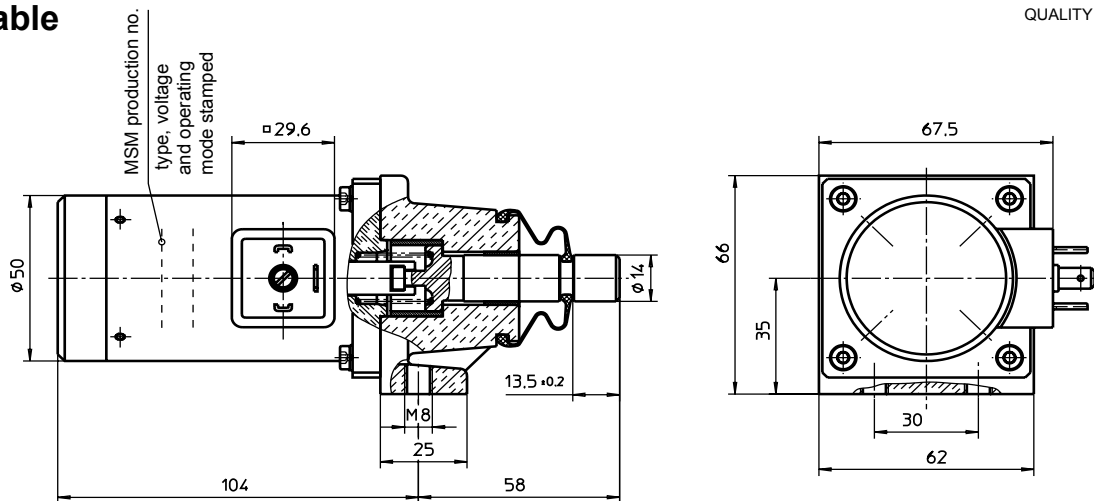
**Please make sure that the described devices are suitable for your application. Supplementary information concerning its duly assembly can be found also in  -Technical Explanations, in the effective DIN VDE0580 as well as in the relevant specifications.**

**Information and remarks concerning European directives** can be taken from the correspondent information sheet which is available under *Produktinfo.Magnet-Schultz.com*.

### Note on the RoHS guideline 2002/95/ EC

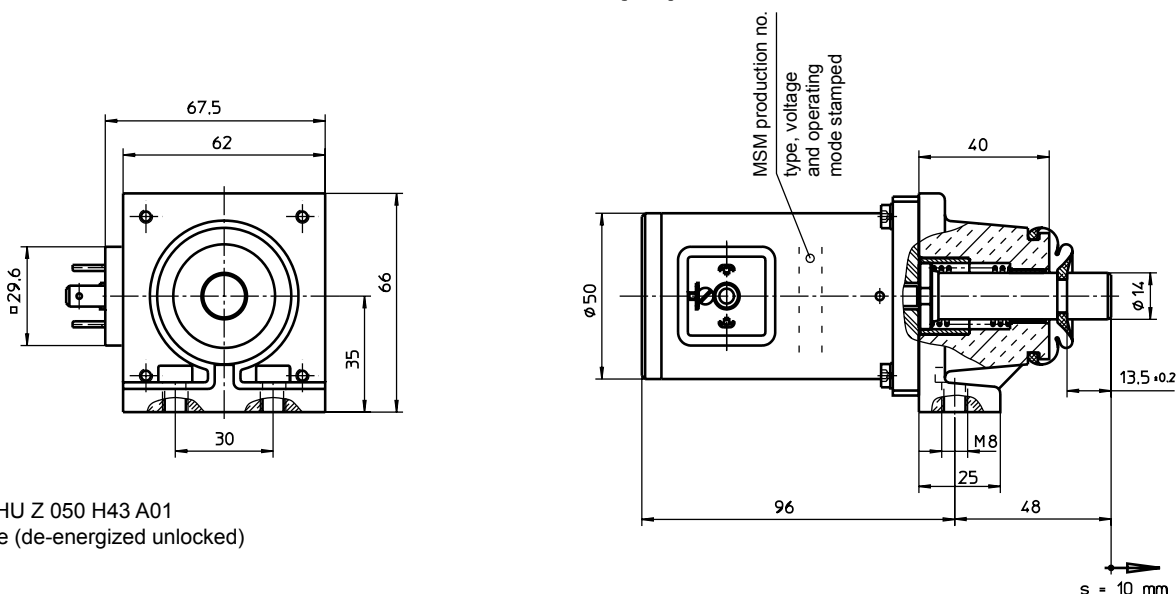
The devices presented in this document do not fall into the scope of regulation 2002/95/EC („RoHS“) and do not become part of products which fall into the scope according to our state of information. In case of surfaces zinc coating with yellow chromating and zinc iron with black chromating separate agreements are necessary for application according RoHS.

# Dimension table



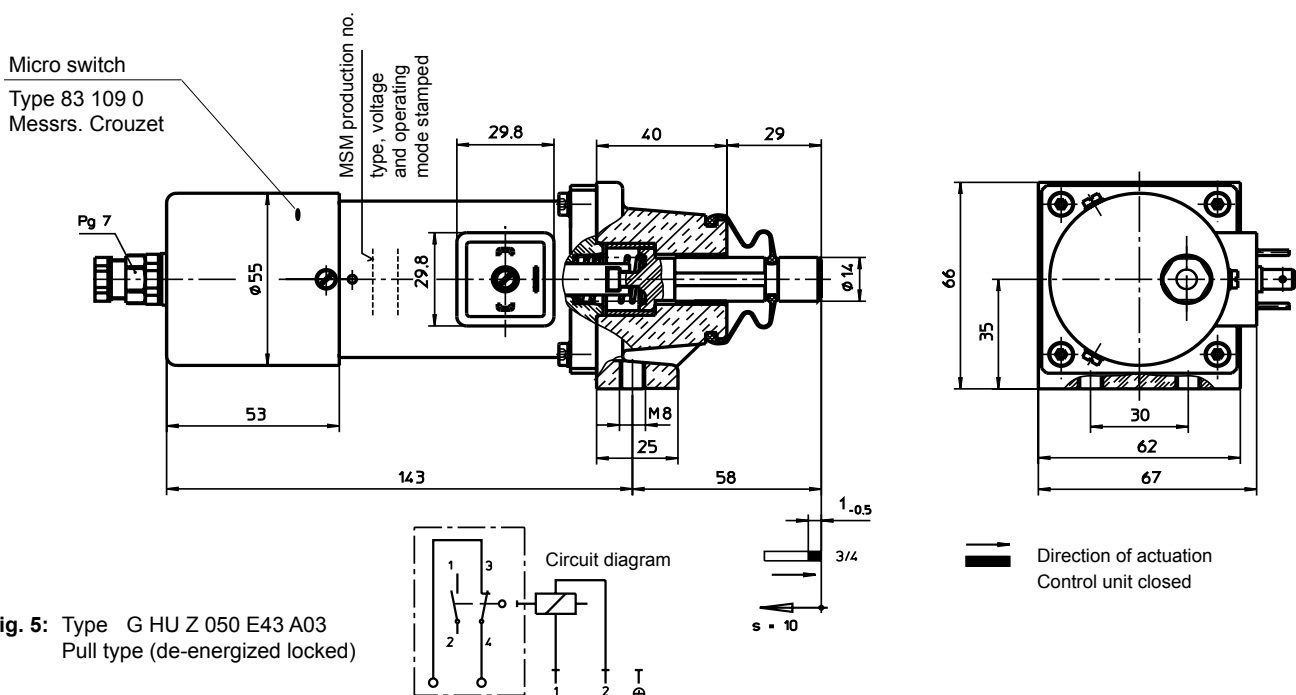
**Fig. 3:** Type G HU Z 050 E43 A01  
Pull type (de-energized locked)

s = 10 mm



**Fig. 4:** Type G HU Z 050 H43 A01  
Push type (de-energized unlocked)

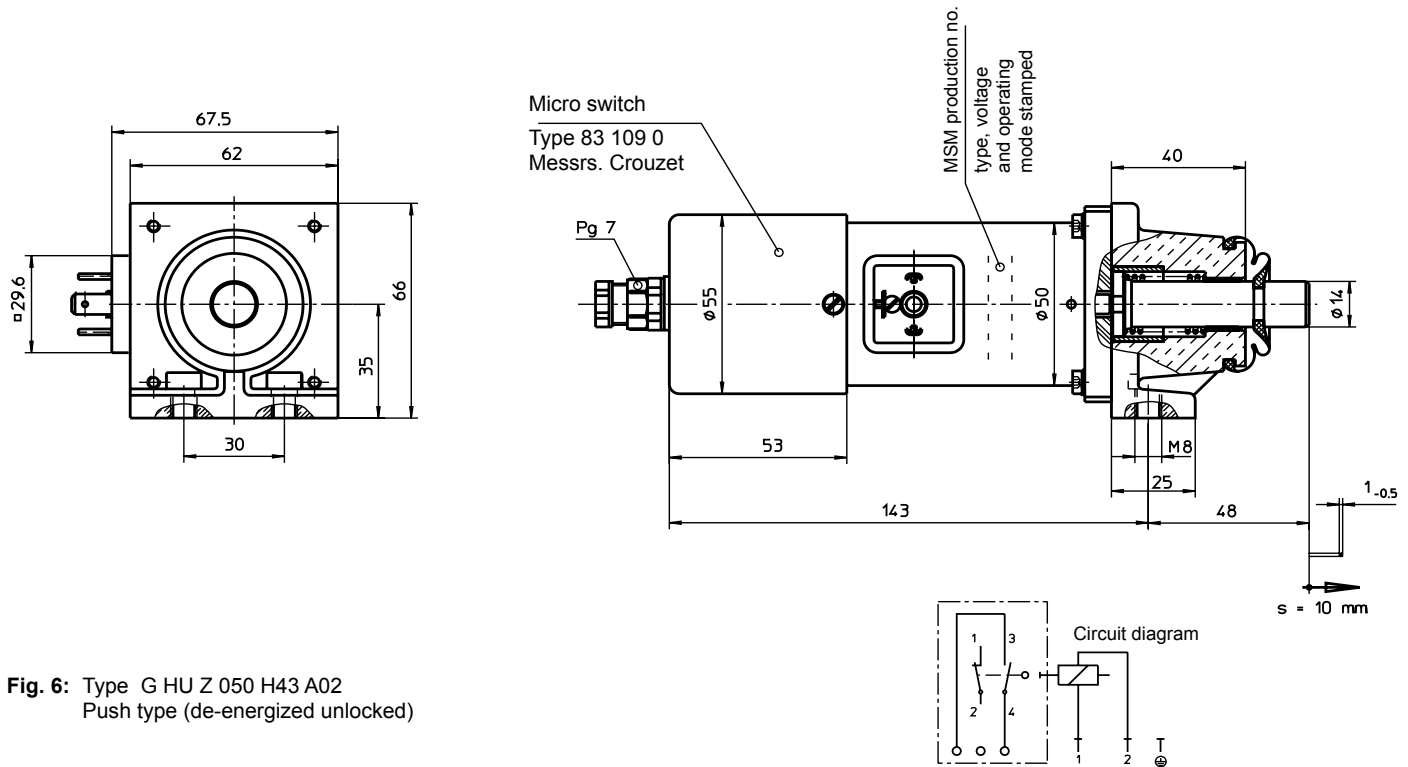
s = 10 mm



**Fig. 5:** Type G HU Z 050 E43 A03  
Pull type (de-energized locked)

s = 10

Direction of actuation  
Control unit closed



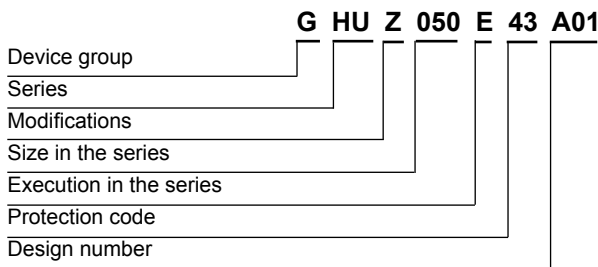
**Fig. 6:** Type G HU Z 050 H43 A02  
Push type (de-energized unlocked)

Through electromagnetic force the armature moves in the direction of the arrow. The reset in the start position is effected by the built-in spring.

The respective switch reacts within approx 1 mm before the end of the lock stroke and announces the correct snapping in.

The here shown solenoids are no ready for use devices in the sense of DIN VDE 0580. The general requirements and protective measures to be taken by the user are included in DIN VDE 0580. The use of the shown devices in safety relevant applications requires always the written agreement of MSM.

### Type code



### Order example

Type	G HU Z 050 E43 A01
Voltage	== 24 V DC
Operating mode	S1 (100 %)

### Special designs

Please do not hesitate to ask us for application-oriented problem solutions. In order to find rapidly a reliable solution we need complete details about your application conditions. The details should be specified as precisely as possible in accordance with the relevant -Technical Explanations.

If necessary, please request the support of our corresponding technical office.