

DC or AC valve solenoids

In high performance and low power designs

3

Product group

X BK

- According to DIN VDE 0580
- Armature space pressure-tight up to 30 bars static pressure
Rated pressure 10 bar
- Armature with spring-supported sealing nipples at both ends,
armature guided in plastic tube, suitable for dry operation
- Armature guided in metal tube type X BK R on request
- Encapsulated design
- Actuation of 2/2 and 3/2-way-seat valves
- Exciter coil corresponds to insulation class F
- Electrical connection and protection class with duly executed installation
 - Plug connection by spade connectors according to DIN 46247
Protection class according to DIN VDE / EN 60529 – IP 00

For size 022:

- Plug connection by plug connector Z KC
Cable gland (180-degree rotatable)
Protection class according to DIN VDE 0470 / EN 60529 – IP 65 (P54)

For size 032:

- Plug connection by plug connector Z KB according
to DIN EN 175 301-803
Protection class according to DIN VDE 0470/EN 60529 - IP 65 (P54)

- Fastening with 4 screws
- Sealing between solenoid and valve with o-ring
- Please contact us for solutions of your problems concerning application
- Please take into consideration that the noise caused by physical conditions
of AC solenoids may be felt disturbing in quiet rooms especially with mounting
on resonant bases!
- Application examples:
Actuation of 2/2 and 3/2-way-seat-valves, especially for pneumatic
application and other gasiform and fluid neutral media



Fig. 1: X BK K 022 K54 A01



Fig. 2: X BK K 032 K54 A01



Technical data

X BK K ... K 54 A01 bis A03 High performance designs			022		032
X BK K ... K 54 A04 bis A06 Low power design				022	
Operating mode			S1	S1	S1
Rated power P_{20}	DC	(W)	5.5	2	7.5
	AC	(VA)	10/7	5.7/3.6	16/10
Stroke s		(mm)	0.6	0.5	0.8
Reference temperature		(°C)	50	50	50
Magnetic force F_M (N) without Spring	DC	Stroke 0 mm	30	20	53
		Stroke s mm	4.5	2.5	7.5
	AC	Stroke 0 mm	10	6.1	20
		Stroke s mm	4	3	6.8
Solenoid weight m_M	(kg)	0.085	0.085	0.17	
Armature weight m_A	(kg)	0.008	0.008	0.017	

Size 032 in low power design on request.

Rated voltage = 24 V, resp. 220 V / 50 Hz, the exciter coil can be adjusted to a rated voltage of maximum = 250 V (A01 to A03) resp. 250 V / 50 and 60 Hz (A01 to A03) = 110 V (A04 to A06) resp. 250 V / 50 and 60 Hz (A04 to A06) on request.

The force values indicated in the tables refer to 90% of the rated voltage without spring ($U_N = 24$ V, for other voltages deviations of the magnetic force may occur) and to the normal operating temperature.

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

The normal operation temperature is based on:

- Mounting on a heat-insulating base
- Rated voltage: = 24 V, AC 230 V / 50 Hz
- Operating mode S1 (100%)
- Reference temperature 50 °C

The response times and the maximum operating frequency are not indicated, because they depend on the respective application case and pressure. According to the application the maximum operating frequency may be up to 36.000 S/h.

These data apply to media compressed air for application as 3/2-way-valve de-energized closed. The nominal width of deaeration has to be adapted accordingly to the nominal width of the valve.

We recommend using compressed air corresponding to DIN ISO 8573/1, class 3. Elastomer neutral oils should be used for lubricating the compressed air, otherwise we ask you to please contact the manufacturer.

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 expressly.

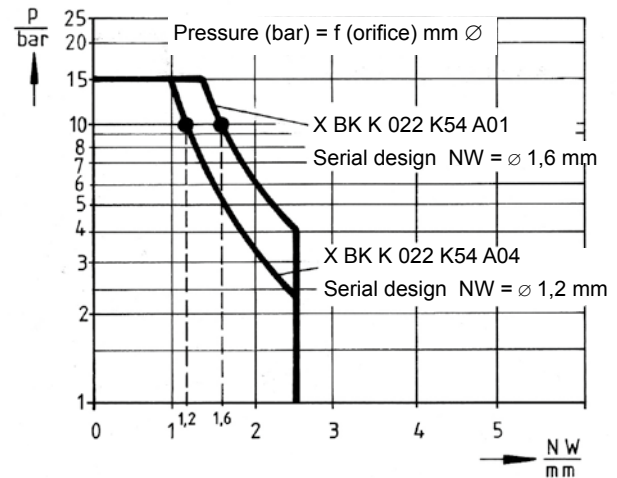


Fig. 3: Switchable pressure as function of the nominal width of the valve seat for type X BK K 022

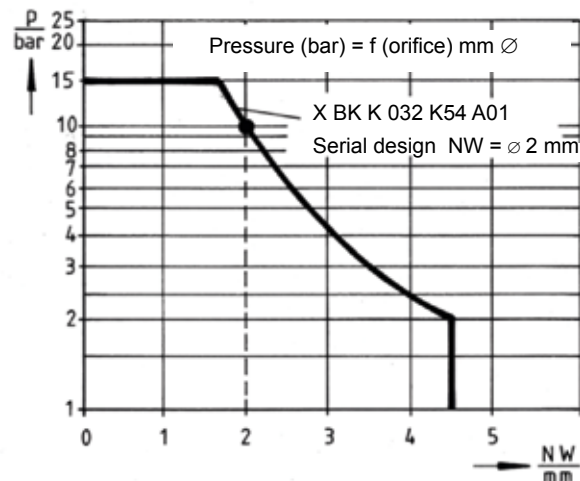



Fig. 4: Switchable pressure as function of the nominal width of the valve seat for type X BK K 032

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

According to our current state of knowledge the devices pictured in this document do not contain any substances in concentration values or applications for which putting into circulation with products manufactured from them is prohibited in accordance to RoHS.

Dimensional drawings

Plug connector ZKC on request
(180-degree rotatable) see part list ZKB ZKC

Torque of the fastening screw
max. 0.6 Nm

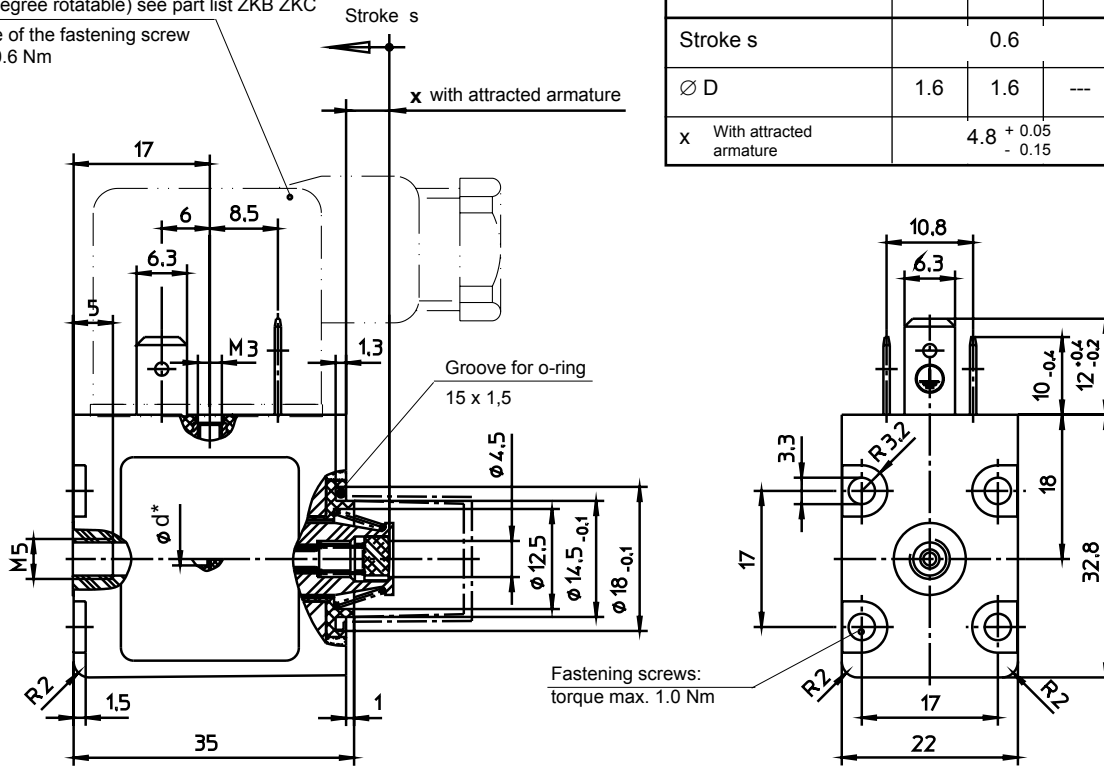


Fig. 5: Type X BK K 022 K54 A01 to A06

*design A03 and A06 without thread M5 and diam. d (see fig. 10)

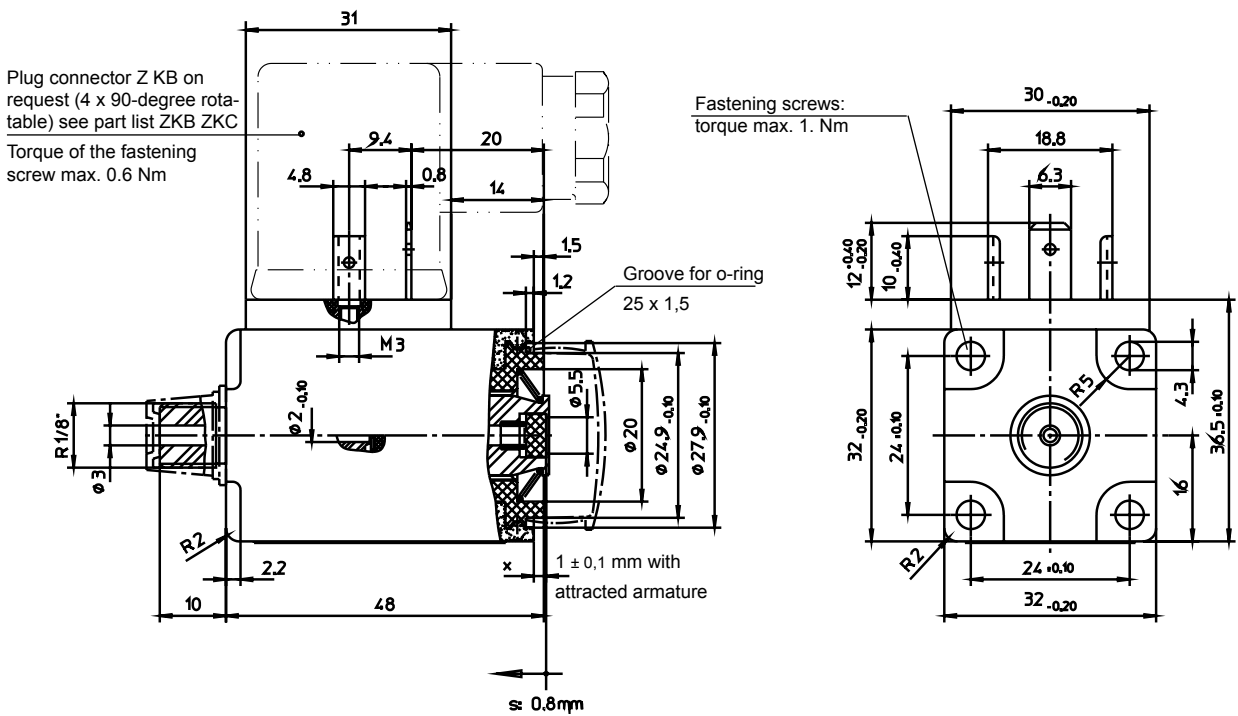


Fig. 6: type X BK K 032 K54 A01 to A03

* design A03 without thread R 1/8" (see fig. 10)

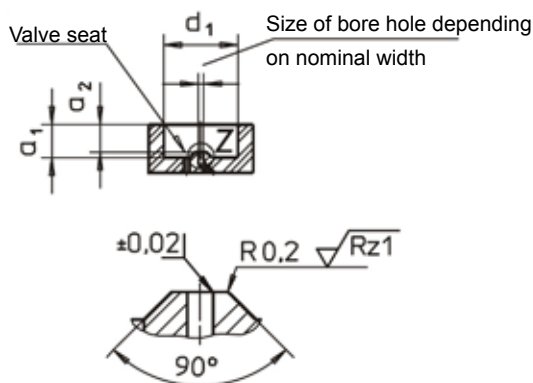


Fig. 7: Valve construction type X BK K

X BK K	Sizes	022	022	032
	Designs	A01 bis A03	A04 bis A06	A01 bis A03
dimensions in mm				
∅ d1		14,6	14,6	25
admissible deviations		± 0,05	± 0,05	± 0,05
a1		6,5	6,5	3
admissible deviations		- 0,1	- 0,1	---
a2		5,4	5,3	1,8
admissible deviations		-0,1	-0,1	-0,1

Standard values for the valve construction corresponding to the indicated list values (stroke and nominal width). The valve construction should be made according to fig. 5. Valve seat with largest possible rectangularity to the armature axis of the solenoid and a conical profile with a smooth surface ensure a maximum performance and service life of the solenoid valve.

Application example and switching function

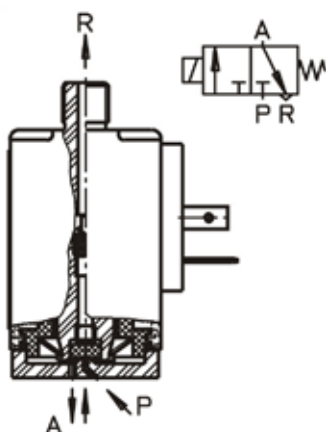


Fig. 8: Types X BK K 022 K54 A01
X BK K 022 K54 A04
X BK K 032 K54 A01
For 3/2-way-valves, de-energized closed

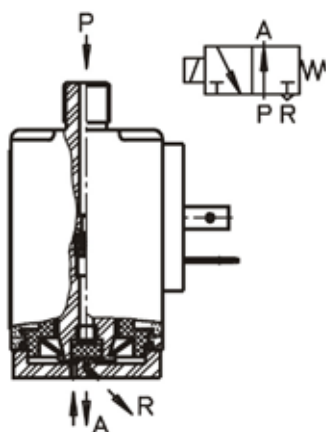


Fig. 9: Types X BK K 022 K54 A02
X BK K 022 K54 A05
X BK K 032 K54 A02
For 3/2-way-valves, de-energized open

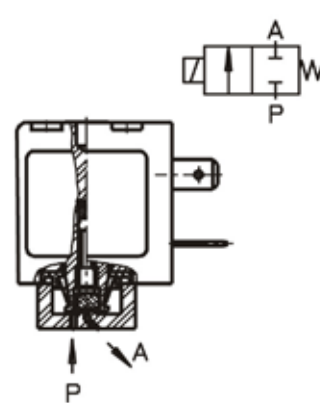
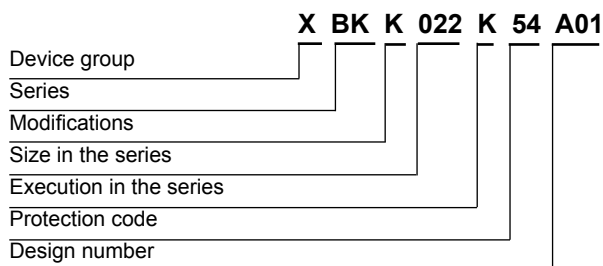


Fig. 10: Types X BK K 022 K54 A03
X BK K 022 K54 A06
X BK K 032 K54 A03
For 2/2-way-valves

Type code



Order example

DC Type X BK K 022 K54 A01
Voltage = 24 V DC
Operating mode S1 (100%)

AC Type X BK K 022 K54 A01
Voltage 220 V / 50 Hz
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.