

2/2-WAY SOLENOID VALVE

TYPE 51



O₂ oxygene applications



DESCRIPTION

Valve type 51 is a 2/2-way pilot operated solenoid valve for general applications with gases and liquids for high flow rates. A minimum pressure differential is required for operation.

CONSTRUCTION

Body material	brass
Internal parts	brass and stainless steel
Sealing material	NBR, EPDM, FPM
Voltages	24 V DC, 24 V 50Hz, 230 V 50Hz
Connections	G3/8 - G2

ON REQUEST

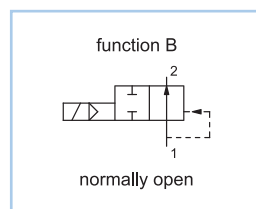
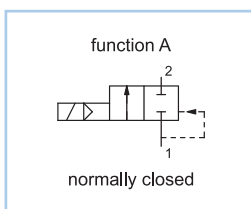
Valve for oxygene applications
 Non-standard coil voltages
 Higher ambient temperature range
 Non-standard equipment
 Manual override

SWITCHING PRESSURE

Ports	Normally closed in bar	Normally open in bar
G3/8	0,5 - 16	0,5 - 5
G1/2	0,5 - 16	0,5 - 5
G3/4	0,5 - 16	0,5 - 5
G1	0,5 - 16	0,5 - 5
G1 1/4	0,5 - 16	0,5 - 12
G1 1/2	0,5 - 16	0,5 - 12
G2	0,5 - 16	0,5 - 12

See details on the website

VARIANTS



DETAILED INFORMATION

General	
type of construction	2/2-way poppet valve, with diaphragm, normally closed NC or normally open NO, coil 360° rotatable
operation	electrically, on request: manual override
ports	G3/8 – G2
ambient temperature	-20°C to +50°C, higher acceptable ambient temperature range on request
fluid temperature	dependent on sealing material and coil
viscosity	max. 21 mm ² /s (cst)
material	body: brass plunger tube: brass and AISI 303 internal parts: brass and stainless steel sealing: see type selection
mounting	installation into fixed piping system
installation	in any position, preferable vertically fixed solenoid coil
unit of supply	without connector

Electrical	
voltage	DC voltage or AC voltage
standard voltages	24 V DC, 24 V 50Hz, 230 V 50Hz
non-standard voltage on request	6 V - 200 V DC, 12 V - 240 V 50Hz or 60Hz
acceptable voltage tolerance	±10%
power consumption	see specifications at solenoid coils
coil temperature classification	temperature class F (155°C), winding class H (180°C)
duty cycle	100%, continuous operation
protection class	IP65 according DIN EN 60529 (DIN 40050) with correctly mounted connector

Pneumatic – Hydraulic	
fluid	all liquids and gases, non-aggressive to the used material
max. valve body pressure	G3/8 - G1: PN 20, >G1: PN 16
response time	depending on operating pressure and fluid
non-standard equipment on request	coil type with cable, bright nickel-plated or chemical nickel-plated, coils for temperature class H (180°C)

CONFIGURATION & PRESSURE RANGE

Sealing material	Code	Fluid temperature	Applicable for
NBR (Perbunan)	B	-10°C to 80°C	neutral gases and liquids
EPDM	E	-10°C to 130°C	hot water, steam, not for oil and grease
FPM	V	-10°C to 130°C	oil, petrol, oxygen

2/2-WAY SOLENOID VALVE

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NORMALLY CLOSED VALVES

Type 51A, normally closed									
type (order-no.)	NW DN in mm	ports	maximum differential pressure in bar						
			coil C1DA		coil C2DA		coil C3AA		
			50Hz	DC	50Hz	DC	50Hz	DC	
51A-3.-AC...	14	G3/8	0,5 - 16	0,5 - 4,8	0,5 - 16	0,5 - 15	0,5 - 16	0,5 - 16	
51A-4.-AC...	14	G1/2	0,5 - 16	0,5 - 4,8	0,5 - 16	0,5 - 15	0,5 - 16	0,5 - 16	
51A-5.-AC...	19	G3/4	0,5 - 16	0,5 - 4,8	0,5 - 16	0,5 - 15	0,5 - 16	0,5 - 16	
51A-6.-AC...	25	G1	0,5 - 16	0,5 - 4,8	0,5 - 16	0,5 - 15	0,5 - 16	0,5 - 16	
51A-7.-AE...	40	G1 1/4	-	-	-	-	-	-	
51A-8.-AE...	40	G1 1/2	-	-	-	-	-	-	
51A-9.-AE...	50	G2	-	-	-	-	-	-	

NORMALLY OPEN VALVES

Type 51B, normally open									
type (order-no.)	NW DN in mm	ports	maximum differential pressure in bar						
			coil C1DA		coil C2DA		coil C3AA		
			50Hz	DC	50Hz	DC	50Hz	DC	
51B-3.-AC...	14	G3/8	0,5 - 5	-	0,5 - 5	0,5 - 5	0,5 - 5	0,5 - 5	
51B-4.-AC...	14	G1/2	0,5 - 5	-	0,5 - 5	0,5 - 5	0,5 - 5	0,5 - 5	
51B-5.-AC...	19	G3/4	0,5 - 5	-	0,5 - 5	0,5 - 5	0,5 - 5	0,5 - 5	
51B-6.-AC...	25	G1	0,5 - 5	-	0,5 - 5	0,5 - 5	0,5 - 5	0,5 - 5	
51B-7.-AE...	40	G1 1/4	-	-	-	-	-	-	
51B-8.-AE...	40	G1 1/2	-	-	-	-	-	-	
51B-9.-AE...	50	G2	-	-	-	-	-	-	

CONFIGURATION & PRESSURE RANGE

Coil power consumption at 20°C			
coil type	inrush power 50Hz in VA	rated power 50Hz in VA	power DC in W
C1DA	9	5	3
C2DA	13	10	6,5
C3AA	17	13	6,3
E5AA	-	-	8
E4AA	-	-	10
E1AA	32	14	12

Type 51A, normally closed

maximum differential pressure in bar							kv-value in m³/h
coil E1AA		coil E4AA		coil E5AA			
50Hz	DC	50Hz	DC	50Hz	DC		
-	-	-	-	-	-	2,7	
-	-	-	-	-	-	3,2	
-	-	-	-	-	-	4,6	
-	-	-	-	-	-	12,3	
0,5 - 16	0,5 - 16	-	0,5 - 16	-	0,5 - 16	19,8	
0,5 - 16	0,5 - 16	-	0,5 - 16	-	0,5 - 16	19,8	
0,5 - 16	0,5 - 16	-	0,5 - 16	-	0,5 - 16	42,5	

Type 51B, normally open

maximum differential pressure in bar							kv-value in m³/h
coil E1AA		coil E4AA		coil E5AA			
50Hz	DC	50Hz	DC	50Hz	DC		
-	-	-	-	-	-	2,7	
-	-	-	-	-	-	3,2	
-	-	-	-	-	-	4,6	
-	-	-	-	-	-	12,3	
0,5 - 12	0,5 - 12	-	-	-	-	19,8	
0,5 - 12	0,5 - 12	-	-	-	-	19,8	
0,5 - 12	0,5 - 12	-	-	-	-	42,5	

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ORDER CODE

Type 51A, normally closed

order code 51 A - 9 B - A E1AA 23050

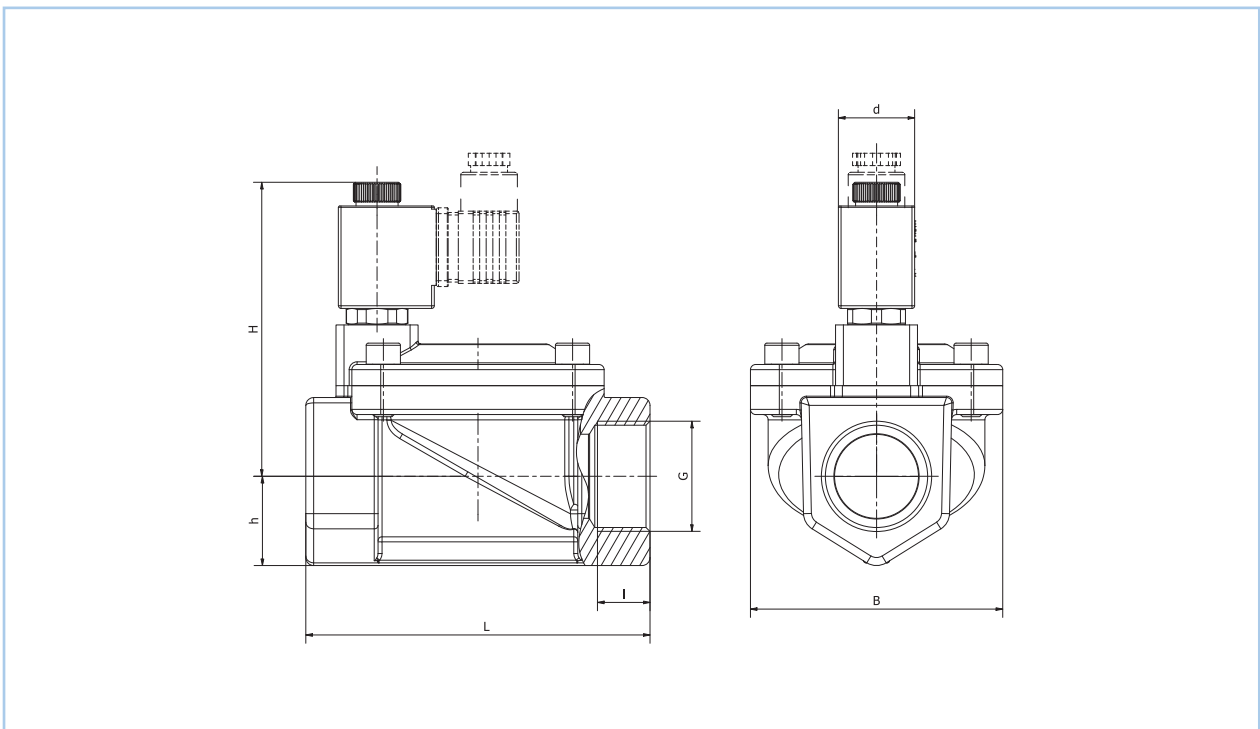
Type 51B, normally open

order code 51 B - 9 B - A E1AA 23050

Code decoding

type	type 51, pilot operated, body and plunger tube: brass
function	A = normally closed, B = normally open
ports	3 = G3/8, 4 = G1/2, 5 = G3/4, 6 = G1, 7 = G1 1/4, 8 = G1 1/2, 9 = G2
seal material	B = NBR (Perbunan), E = EPDM, V = FPM
short circuit ring	A = copper short circuit ring, X = without short circuit ring
coil type	see specifications of the particular coil
supply voltage	always 5-digits, see code for standard voltage

DIMENSIONS



Dimension table for type 51A (normally closed) in mm, approx. weight in g

type	G	B	d	h	H	l	L	approx. weight in g
			C2, E1		C2, E1			
51A-3.-AC...	G3/8	48	22	15	75	12	66	520
51A-4.-AC...	G1/2	48	22	15	75	12	66	520
51A-5.-AC...	G3/4	57,8	22	18	77	12	75	720
51A-6.-AC...	G1	70	22	22	90	12	96	1 070
51A-7.-AE...	G1 1/4	96	30	34	112	17	131	1 630
51A-8.-AE...	G1 1/2	96	30	34	112	19	131	2 220
51A-9.-AE...	G2	119	30	34,5	123	22	166	4 140

Dimension table for type 51B (normally open) in mm, approx. weight in g

type	G	B	d	h	H	l	L	approx. weight in g
			C2, E1		C2, E1			
51B-3.-AC...	G3/8	48	22	15	75	12	66	530
51B-4.-AC...	G1/2	48	22	15	75	12	66	530
51B-5.-AC...	G3/4	57,8	22	18	80,5	12	75	730
51B-6.-AC...	G1	70	22	22	85	12	96	1 080
51B-7.-AE...	G1 1/4	96	30	34	118	17	131	1 850
51B-8.-AE...	G1 1/2	96	30	34	118	19	131	2 240
51B-9.-AE...	G2	119	30	34,5	125,5	22	166	4 160