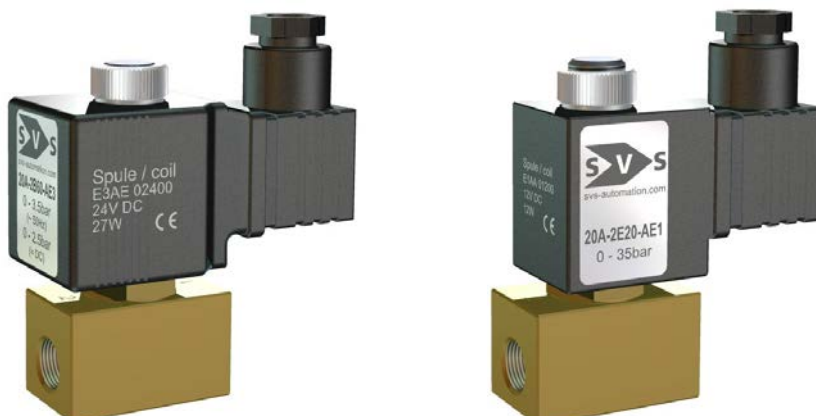
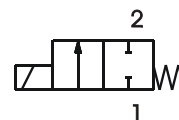


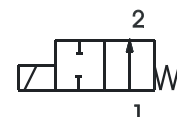
**2/2 way solenoid valve normally closed or normally open  
type 20, brass body  
direct operated, DN 1,5 – 10,0 mm, G1/8 – G1/2**



normally closed NC



normally open NO



SPECIFICATION	
<b>general</b>	
type of construction	2/2-poppet valve, normally closed NC or normally open NO, coil 360° rotatable
operator	solenoid, or by manual override
ports	G1/8 – G1/2
ambient temperature	-20°C to +50°C, higher allowed ambient temperatures on request
fluid temperature	dependent on sealing material and coil
viscosity	max. 37 mm <sup>2</sup> /s (cst) or 5° E
material	body brass, inner parts brass and stainless steel, sealing - see type selection
mounting	installation into fixed piping systems or by use of 2 threads on the bottom side
installation	in any position, preferable vertical fixed solenoid coil
unit of supply	without connector
<b>electrical data</b>	
voltage	DC voltage or AC voltage
standard voltage	24V DC, 24V AC, 230V AC
special voltage on request	6V-200V DC, 12V-240V, 50Hz or 60Hz
acceptable voltage tolerance	+/- 10%
power consumption	see specifications at solenoid coils
coil type	temperature class F (155°C), winding class H (180°C), coil E3 temperature class H
duty cycle	100% ED (DB), continuous operation
protection class	IP65 according DIN EN 60529 (DIN 40050) with correctly mounted connector
<b>pneumatic – hydraulic</b>	
fluid	all liquids and gases, which don't attack the used material
max. body housing pressure	PN 64 (bar) up to DN 4mm, PN 25 (bar) from DN 5 – 10mm
response time	depending on operating pressure and fluid
special equipment on request	stainless steel AISI303 in place of brass, coil type with cable, bright nickel-plated or chemical nickel-plated, coils for temperature class H (180°C), higher differential pressure, PTFE seal

E & OE: We reserve the right to change design, dimensions or materials without notice.

type 20A, normally closed													
type * (order-nr. )	NW DN (mm)	ports	maximum differential pressure in bar **										
			coil E1AA		coil E2AA		coil E3AE		coil EXFA		coil F1AA		kv- value (m³/h)
			~ (50Hz)	= (DC)	= (DC)	= (DC)	~ (50Hz)	= (DC)	~ (50Hz)	= (DC)	~ (50Hz)	= (DC)	
20A-1.15-A...	1,5	G1/8	40	40				40	40			0,08	
20A-2.15-A...		G1/4											
20A-1.20-A...	2,0	G1/8	35	35				35	35			0,13	
20A-2.20-A...		G1/4											
20A-1.25-A...	2,5	G1/8	20	20	30	30	35	20	20			0,19	
20A-2.25-A...		G1/4											
20A-1.30-A...	3,0	G1/8	12	18	25	23	28	16	12			0,25	
20A-2.30-A...		G1/4											
20A-1.35-A...	3,5	G1/8	10	8	20	20	25	12	8			0,30	
20A-2.35-A...		G1/4											
20A-1.40-A...	4,0	G1/8	6	4	14	17	22	7	3,5			0,37	
20A-2.40-A...		G1/4											
20A-2.50-A...	5,0	G1/4	3,5	1	4	10	6	3	1	11	12	0,55	
20A-3.50-A...		G3/8											
20A-4.50-A...		G1/2											
20A-2.60-A...	6,0	G1/4	0,9	0,5	1,9	3,5	2,5	1,4	0,4	7,5	5	0,67	
20A-3.60-A...		G3/8											
20A-4.60-A...		G1/2											
20A-3.80-A...	8,0	G3/8	0,5	0,1	0,6	2	1	0,2	0,1	2,5	1,8	1,25	
20A-4.80-A...	8,0	G1/2	0,5	0,1	0,6	2	1	0,2	0,1	2,5	1,8	1,25	
20A-3.100-A...	10,0	G3/8	0,4	0,05	0,3	1,2	0,5	0,07	-	1,7	0,9	1,95	
20A-4.100-A...	10,0	G1/2	0,4	0,05	0,3	1,2	0,5	0,07	-	1,7	0,9	2,00	

\* Type designation (order-nr.) must be completed with sealing material, short circuit ring, coil and supply voltage. (see order code)  
 \*\* At DC voltage all pressure specifications apply to a fluid temperature up to 80 °C. At higher fluid temperatures, the maximum differential pressure will be reduced by 0,4% / °C. All specifications refer to fluids with a maximum viscosity of 37 cst. (5°E). Higher viscosities cause extended response time and need a special specification of the valve.

sealing material	Code	fluid temperature	applicable for
NBR (Perbunan)	<b>B</b>	max. 80°C	neutral gases and liquids
EPDM	<b>E</b>	max. 120°C	hot water, steam, not for oil and grease
FPM	<b>V</b>	max. 130°C	oil, petrol, oxygen

standard voltage	Code
24V = DC	<b>02400</b>
24V ~ (50Hz)	<b>02450</b>
230V ~ (50Hz)	<b>23050</b>

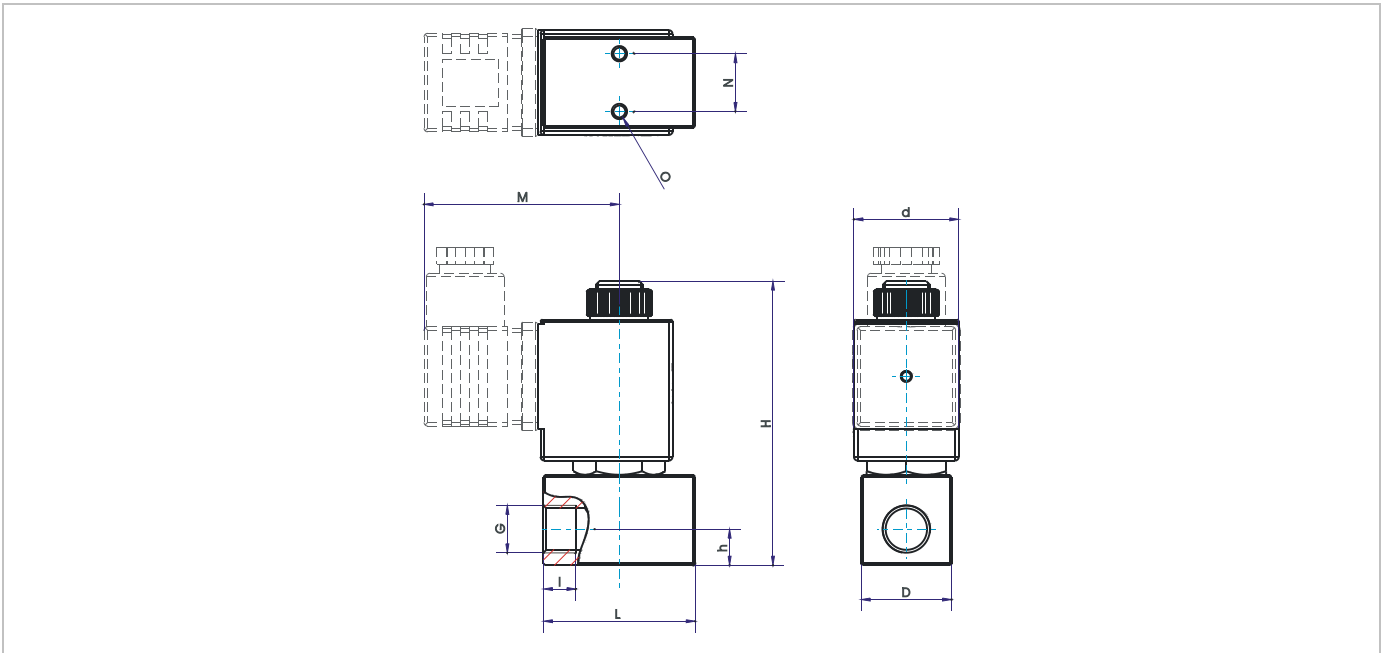
coil power consumption at 20 °C, protection class, interface					
coil type	inrush power ~ (50Hz) VA	rated power ~ (50Hz) VA	power = (DC) (W)	protection class with/without connector	interface
E1AA	32	14	12	IP65 / IP00	Connector DIN EN 175301-803 (DIN 43650) type A
E2AA	-	-	17	IP65 / IP00	Connector DIN EN 175301-803 (DIN 43650) type A
E3AE	70	30	27	IP65 / IP00	Connector DIN EN 175301-803 (DIN 43650) type A
EXFA	9	9	10,3	IP65	Coil explosion proof according to ATEX II 2G Ex mb II T4, II 2D ExtDA21 IP65 T130°C, cable length 3m
F1AA	70	35	27	IP65 / IP00	Connector DIN EN 175301-803 (DIN 43650) type A

order code	
	<b>20 B - 2 E 30 C Z - A E1AA 23050</b>
	type ——— function ——— ports ——— seal material ——— nominal size seat ———
	supply voltage ——— coil type ——— short circuit ring ——— stroke compensation spring ——— throw off spring ———
type	type 20, direct operated, body brass, tube stainless steel
function	A = normally closed, B = normally open
ports	1 = G 1/8, 2 = G1/4, 3 = G3/8, 4 = G1/2
seal material	B = NBR (Perbunan), E = EPDM, V = FPM
nominal size seat	nominal size x 10 = specification for order code
throw off spring	C,D,F = only normally open
stroke compensation spring	Z = only normally open
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-digit, see code of standard voltage

type 20B, normally open								
type * (order.-nr.)	NW DN (mm)	connection	maximum differential pressure in bar **				kv-value (m³/h)	
			coil E1AA	coil EXFA	coil E3AE			coil F1AA
			~ (50Hz) und = (DC)	~ (50Hz) und = (DC)	~ (50Hz)	= (DC)		~ (50Hz) und = (DC)
20B-1.15CZ-AE...	1,5	G1/8	35	35			0,08	
20B-2.15CZ-AE...		G1/4						
20B-1.20CZ-AE...	2,0	G1/8	22	22			0,13	
20B-2.20CZ-AE...		G1/4						
20B-1.25CZ-AE...	2,5	G1/8	13	13			0,19	
20B-2.25CZ-AE...		G1/4						
20B-1.30CZ-AE...	3,0	G1/8	10,5	10,5			0,25	
20B-2.30CZ-AE...		G1/4						
20B-1.35CZ-AE...	3,5	G1/8	6,5	6,5			0,30	
20B-2.35CZ-AE...		G1/4						
20B-1.40CZ-AE...	4,0	G1/8	5,5	5,5			0,37	
20B-2.40CZ-AE...		G1/4						
20B-2.50FZ-A...	5,0	G1/4			9	9	0,54	
20B-3.50FZ-A...		G3/8						
20B-4.50FZ-A...		G1/2						
20B-2.60FZ-A...	6,0	G1/4			6	6	0,64	
20B-3.60FZ-A...		G3/8						
20B-4.60FZ-A...		G1/2						

\* Type designation (order-nr.) must be completed with sealing material, coil and supply voltage.

\*\* Higher differential pressure on request.



Dimension table for type 20 in mm, weight approx. in g

G	coil	N	O	M	H		d	h	l	L	D	weight (approx. g)								
					type 20A-	type 20B-						type 20A-	type 20B-							
G 1/8	E1	16	M4	55.1	79	86	30	10	7.5	42	25	370	390							
	E2			57			35					436	456							
	E3			56			36					456	476							
	EX			54			38					710	730							
	F1			57			90					93	526	516						
G 1/4	E1			55.1	79	86	30		9			36	426	446	700	720	446	466		
	E2			57			35												446	466
	E3			56			36												446	466
	EX			54			38												700	720
	F1			57			90												93	516
G 3/8	E1			55.1	79	86	30		10			36	446	466	466	486	466	486		
	E2			57			35												446	466
	E3			56			36												466	486
	EX			54			38												720	740
	F1			57			90												93	536
G 1/2	E1	55.1	79	86	30	12	36	456	476	476	496	456	476							
	E2	57			35									456	476					
	E3	56			36									476	496					
	EX	54			38									730	750					
	F1	57			90									93	546	536				