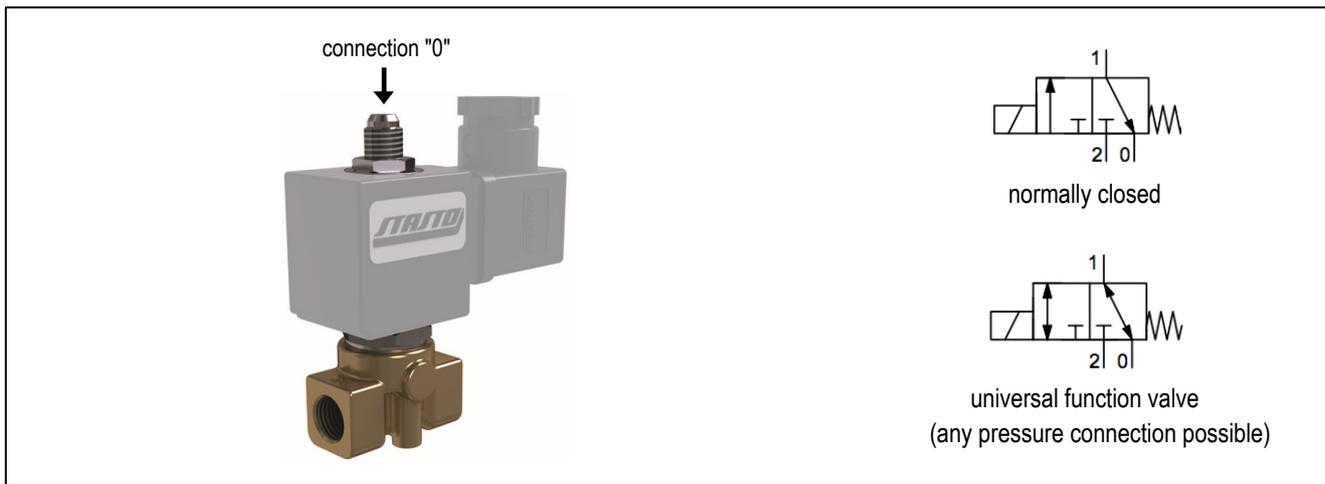


## 3/2-way solenoid valve - directly operated series 31A



design	3/2-way solenoid valve with elastic seal, directly operated, normally closed or universal function valve (any pressure connection possible)
connection	G1/8"...G1/4" according to ISO228/1
materials	body brass, stainless steel tube, inner parts similar to stainless steel 1.4104, seal FKM or Rubin
type of fixing	installed into rigid pipework resp. via mounting thread
mounting position	any
application	gaseous and liquid fluids which do not affect the used materials
viscosity	max. 12mm <sup>2</sup> /s (cst)
switching time	10...30ms
medium temperature	dependent on sealing material and coil
ambient temperature	see table "coils"
electrical data	
type of coil	type BDA, connector size 32mm (standard coil) type BDV, connector size 32mm (coil for humid area)
electrical connection	connector acc. to EN175301-803-form A (see separate datasheet)
type of current	AC and DC
standard voltage	230V/50-60Hz, 24V/50-60Hz, 24VDC
special voltage	12...380V/50Hz or 60Hz, 12...220VDC
acceptable voltage tolerance	AC +10%/-15% DC +10%/-5%
power consumption	see to the table "power consumption of coils"
duty cycle	100% duty cycle (continuous operation)
protection class	IP65 according to EN 60529 for a correctly mounted connector (protection against the penetration of dust and jet water)
direction for use	please specify voltage and type of current by order. we always recommend connecting a strainer in front of the valve, otherwise malfunction can occur in the event of contaminated medium. these valves can also be used for rough vacuum. ATEX: The valves may only be used for media that are not explosive.

## type code

		31A 3 A V 25 - U - M - BDA - 230V/50-60Hz				
<b>connection</b>	G1/8"	3				
	G1/4"	2				
<b>nominal diameter tube</b>	2,5mm	A				
	1,5mm	F				
<b>seal</b>	FKM	V				
	ruby	R				
<b>nominal diameter</b>	1,5mm	15				
	2,0mm	20				
	2,5mm	25				
<b>function</b>	normally closed (blank position)					
	universal function valve	U				
<b>manual emergency override</b>	without manual operation (blank position)					
	manual operation (only nominal diameter of 2mm and 2,5mm)	M				
<b>coil</b>	BDA standard coil - approval CE					BDA
	BDV coil for humid area - approval CE-CSA-UL-VDE					BDV
	Y1 coil for ATEX areas with cable length of 3m					Y1
<b>voltage</b>	230V/50-60Hz					230V/50-60Hz
	24V/50-60Hz					24V/50-60Hz
	24VDC					24VDC
	12...380V/50Hz or 60Hz					
	12...220VDC					

## application of the individual seal materials

material	medium temperature	examples of use
RUBIN*	-40...+180°C	heavy duty heating oil, aggressive media
FKM	-10...+140°C	petrol, diesel, air, oils, water, neutral gases and liquids
*for hard sealing materials like ruby, a small leakage of 2 cm <sup>3</sup> /min at a pressure of 1 bar may be the case.		

## coils

type	protection class	use	ambient temperature	approvals
BDA	IP65	medium temperature up to max. 120°C	-10...+40°C	CE
BDV	IP65	medium temperature up to max. 180°C, high humidity	-20...+60°C	CE-CSA-UL-VDE
Y1	Ex II 2G Ex mb IIC T4 Ex II 2D Ex mb tb IIIC T130°C	in areas where there is a risk of explosion, zone 1/2/21/22, ignition class T4, maximum medium temperature 70°C	-20...+50°C	ATEX

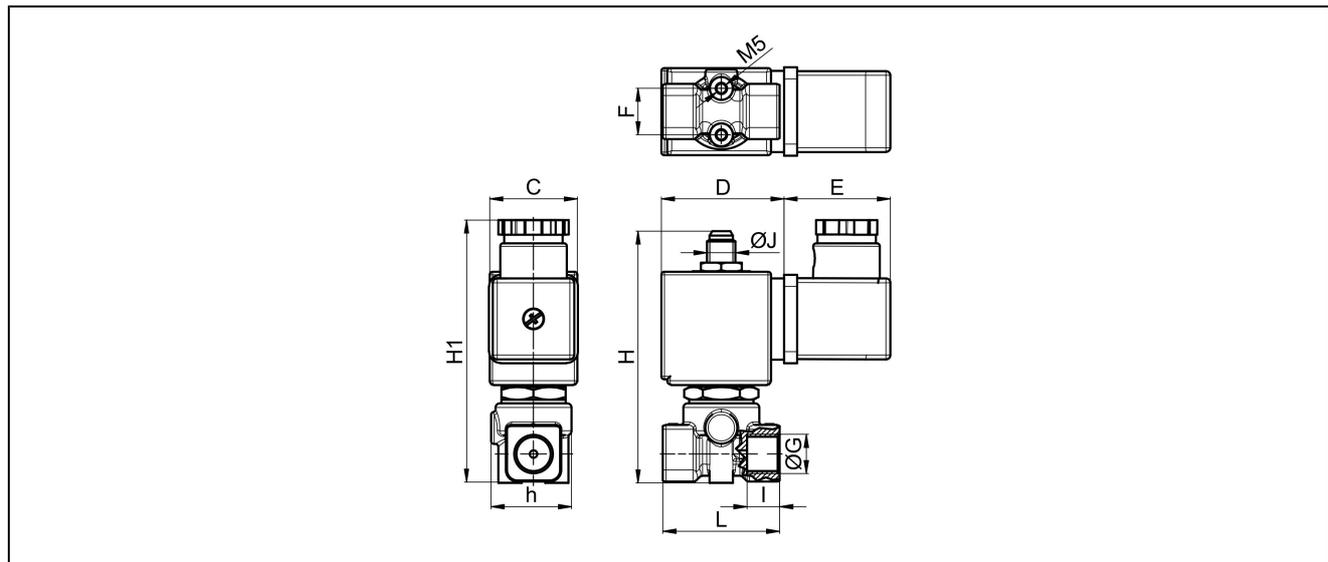
## power consumptions of the coils

voltage	inrush power (AC) VA	holding power (AC) VA	holding power (direct current) at operating temperature W	type
220-230V/50-60Hz	25	14,5	-	BDA08223DS
24V/50-60Hz	25	14,5	-	BDA08024DS
24VDC	-	-	8	BDA08024CS
380V/50-60Hz	25	14,5	-	BDA08380DS
115V/60Hz	25	14,5	-	BDA08115BS
110V/50-60Hz	25	14,5	-	BDA08110DS
48V/50Hz	25	14,5	-	BDA08048AS
42V/50Hz	25	14,5	-	BDA08042AS
110VDC	-	-	8	BDA08110CS
12VDC	-	-	8	BDA08012CS
230V/50Hz 240V/60Hz	25	16	-	BDV08230AY
24V/50-60Hz	25	17	-	BDV08024DY
24VDC	-	-	11	BDV08024CY
110V/50Hz 120V/60Hz	25	15	-	BDV08110AY
220-240V/50-60Hz	-	max. 9,2	-	Y1220-240V/50-60Hz
24VDC	-	-	10,1	Y124VDC

## permissible pressure range into bar and kv value

nominal diameter seat DN[mm]	nominal diameter tube DN[mm]	permissible pressure				kv value [m <sup>3</sup> /h water]	type
		coil BD.		coil Y1			
		AC	DC	AC	DC		
1,5	2,5	0 - 15	0 - 15	0 - 15	0 - 15	0,08	31A.A.15
2	2,5	0 - 10	0 - 10	0 - 10	0 - 10	0,12	31A.A.20
2,5	2,5	0 - 6	0 - 6	0 - 6	0 - 6	0,20	31A.A.25
1,5	1,5	0 - 10	0 - 10	0 - 10	0 - 10	0,08	31A.F.15-U
2,5	2,5	0 - 4	0 - 4	0 - 4	0 - 4	0,20	31A.A.25-U

## dimensions



connection G	B	C	D	E	F	H	H1	L	I	J connection "0"	weight [approx. kg]	coil	type
G1/8"	28	30	42	36	16	88	91	41	7	G1/8"	0,32	BD.	31A3.
G1/8"	28	36	43	36	16	88	114	41	7	G1/8"	0,44	Y1	31A3.
G1/4"	28	30	42	36	16	88	92	41	7	G1/8"	0,32	BD.	31A2.
G1/4"	28	36	43	36	16	88	114	41	7	G1/8"	0,44	Y1	31A2.

illustrations are non-binding

all designs, configurations, measurements and materials are subject to change without prior notice