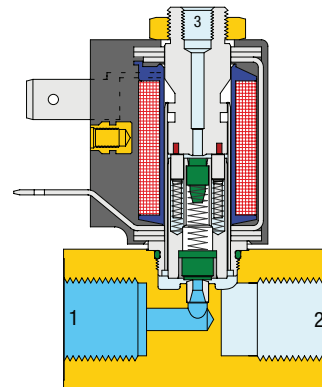


2/2- and 3/2-Way Solenoid Valves Type EAV Series 200



Solenoid valve series with familiar constructional design, however with significantly improved magnetic circuit.

On the lower part of the guide tube a magnetic nipple is welded on, which reduces the magnetic resistance of the circuit.

This improvement enables among other things the use of solenoid valves with significantly reduced power consumption and thus lowers the self-heating of the system.

A further feature of this series is the especially strong and corrosion-resistant construction. Solenoid coils with four graduated performance classes enable convenient adjustment to various requirements, with respect to nominal width, diameters, operating pressure, power consumption, Type of current or permitted self-heating.

CHARACTERISTICS

GENERAL

Constructional design	Seat valve, rubber seals			
Product name	2/2-way solenoid valve		3/2-way solenoid valve	
Actuation	electric, direct-acting, resting manual override optional			
Product type	EAV-2..-A..	EAV-2..-B..	EAV-2..-C..	EAV-2..-D..
Function	"A" normally closed (closing with flow)	"B" normally open (closing against current)	"C" normally closed with "1", "2" to "3" discharged (closing against current)	"D" in 0 position "1" to "2" open, "3" closed (closing against current)
Nominal diameter	DN 1.2 to DN 2.2		DN 1.2 to DN 1.8	
Connection	M 5 or pipe thread (ISO 228) G 1/8 to G 1/4			
Ambient temperature	-20 °C to +60 °C (others on request)			
Medium temperature	with NBR: -10 °C to +90 °C for FKM: -10 °C to +130 °C (for exceptions see table)			
Medium viscosity	up to approx. 20 mm ² /s			
Valve body material	Brass			
Manual override	PPE (Polyphenylene ether)			
Seat nozzle material	Stainless steel			
Other inner component material	Stainless steel and non-ferrous metal. DC non-ferrous metal-free version			
Seal material	NBR (Nitrile rubber) or FKM (Fluoride rubber) (others on request)			
Mounting method	2 M3 tapped holes in valve body or using rigid pipework			
Mounting position	optional, preferably upright			
PNEUMATIC - HYDRAULIC				
Nominal pressure	According to Type table. The numerical value of the nominal pressure PN signifies the permitted excess operating pressure OP in bar at 60 °C ambient temperature and 60 °C medium temperature. Insofar as two values are given, the first value refers to solenoid coils with highest electrical power consumption, the second value to that with lowest power consumption.			
Pressure range	Technical vacuum up to permitted operating pressure OP. For exceptions which refer to minimum permitted operating pressure see table.			
Flow rate	Kv-value and QNn-value according to Type table			
Medium	gaseous or liquid Sealing material NBR: e.g. compressed air, water, hydraulic fluids, neutral gases Sealing material FKM: e.g. solvents, hot water, hot air			
Response time	opening time: 7 - 20 ms closing time: 12 - 20 ms			
Electrical	see solenoid coils			

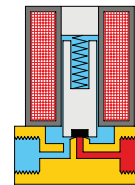
2/2-Way Solenoid Valve - Type EAV Series 200

 Product group **51**

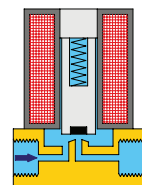
"A" normally closed NC

Brass
Illustration

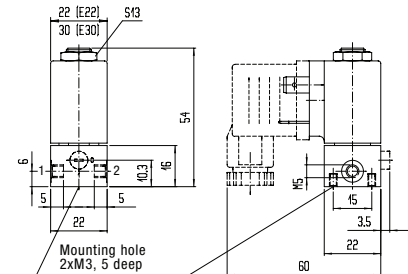
Version	DN	Kv-value water [m³/h]	Qn-value air [l/min]	G	PN	Sealing material	Type	Order number	Price
without manual override for all AC and DC coils	1.2	0.05	50	M5	40/16	NBR	EAV-211-A12-M05BK-00	605001	o. r.
	1.2	0.05	50	M5	40/16	FKM	EAV-211-A12-M05FK-00	605002	o. r.
	1.2	0.05	50	G 1/8	40/16	NBR	EAV-211-A12-1/8BK-00	605003	o. r.
	1.2	0.05	50	G 1/8	40/16	FKM	EAV-211-A12-1/8FK-00	605004	o. r.
	1.5	0.06	68	M5	32/6	NBR	EAV-211-A15-M05BK-00	605007	o. r.
	1.5	0.06	68	M5	32/6	FKM	EAV-211-A15-M05FK-00	605008	o. r.
	1.5	0.06	68	G 1/8	32/6	NBR	EAV-211-A15-1/8BK-00	605009	o. r.
	1.5	0.06	68	G 1/8	32/6	FKM	EAV-211-A15-1/8FK-00	605010	o. r.
	1.8	0.11	125	M5	32/6	NBR	EAV-211-A18-M05BK-00	605013	o. r.
	1.8	0.11	125	M5	32/6	FKM	EAV-211-A18-M05FK-00	605014	o. r.
	1.8	0.11	125	G 1/8	32/6	NBR	EAV-211-A18-1/8BK-00	605015	o. r.
	1.8	0.11	125	G 1/8	32/6	FKM	EAV-211-A18-1/8FK-00	605016	o. r.
	2	0.12	145	M5	25/4	NBR	EAV-211-A20-M05BK-00	605019	o. r.
	2	0.12	145	M5	25/4	FKM	EAV-211-A20-M05FK-00	605020	o. r.
	2	0.12	145	G 1/8	25/4	NBR	EAV-211-A20-1/8BK-00	605021	o. r.
	2	0.12	145	G 1/8	25/4	FKM	EAV-211-A20-1/8FK-00	605022	o. r.
	2	0.12	145	G 1/4	25/4	NBR	EAV-211-A20-1/4BK-00	605023	o. r.
	2	0.12	145	G 1/4	25/4	FKM	EAV-211-A20-1/4FK-00	605024	o. r.
	2.2	0.13	165	M5	16/3	NBR	EAV-211-A22-M05BK-00	605025	o. r.
	2.2	0.13	165	M5	16/3	FKM	EAV-211-A22-M05FK-00	605026	o. r.
	2.2	0.13	165	G 1/8	16/3	NBR	EAV-211-A22-1/8BK-00	605027	o. r.
	2.2	0.13	165	G 1/8	16/3	FKM	EAV-211-A22-1/8FK-00	605028	o. r.
	2.2	0.13	165	G 1/4	16/3	NBR	EAV-211-A22-1/4BK-00	605029	o. r.
	2.2	0.13	165	G 1/4	16/3	FKM	EAV-211-A22-1/4FK-00	605030	o. r.
3	0.21	210	G 1/8	10/2	NBR	EAV-211-A30-1/8BK-00	605031	o. r.	
3	0.21	210	G 1/8	10/2	FKM	EAV-211-A30-1/8FK-00	605032	o. r.	
3	0.21	210	G 1/4	10/2	NBR	EAV-211-A30-1/4BK-00	605033	o. r.	
3	0.21	210	G 1/4	10/2	FKM	EAV-211-A30-1/4FK-00	605034	o. r.	
without manual override for all DC coils	1.2	0.05	50	M5	40/12.5	NBR	EAV-213-A12-M05BK-00	605051	o. r.
	1.2	0.05	50	M5	40/12.5	FKM	EAV-213-A12-M05FK-00	605052	o. r.
	1.2	0.05	50	G 1/8	40/12.5	NBR	EAV-213-A12-1/8BK-00	605053	o. r.
	1.2	0.05	50	G 1/8	40/12.5	FKM	EAV-213-A12-1/8FK-00	605054	o. r.
	1.5	0.06	68	M5	32/6	NBR	EAV-213-A15-M05BK-00	605057	o. r.
	1.5	0.06	68	M5	32/6	FKM	EAV-213-A15-M05FK-00	605058	o. r.
	1.5	0.06	68	G 1/8	32/6	NBR	EAV-213-A15-1/8BK-00	605059	o. r.
	1.5	0.06	68	G 1/8	32/6	FKM	EAV-213-A15-1/8FK-00	605060	o. r.
	1.8	0.11	125	M5	25/5	NBR	EAV-213-A18-M05BK-00	605063	o. r.
	1.8	0.11	125	M5	25/5	FKM	EAV-213-A18-M05FK-00	605064	o. r.
	1.8	0.11	125	G 1/8	25/5	NBR	EAV-213-A18-1/8BK-00	605065	o. r.
	1.8	0.11	125	G 1/8	25/5	FKM	EAV-213-A18-1/8FK-00	605066	o. r.
	2	0.12	145	M5	16/4	NBR	EAV-213-A20-M05BK-00	605069	o. r.
	2	0.12	145	M5	16/4	FKM	EAV-213-A20-M05FK-00	605070	o. r.
	2	0.12	145	G 1/8	16/4	NBR	EAV-213-A20-1/8BK-00	605071	o. r.
	2	0.12	145	G 1/8	16/4	FKM	EAV-213-A20-1/8FK-00	605072	o. r.
	2	0.12	145	G 1/4	16/4	NBR	EAV-213-A20-1/4BK-00	605073	o. r.
	2	0.12	145	G 1/4	16/4	FKM	EAV-213-A20-1/4FK-00	605074	o. r.
	2.2	0.13	165	M5	16/3	NBR	EAV-213-A22-M05BK-00	605075	o. r.
	2.2	0.13	165	M5	16/3	FKM	EAV-213-A22-M05FK-00	605076	o. r.
	2.2	0.13	165	G 1/8	16/3	NBR	EAV-213-A22-1/8BK-00	605077	o. r.
	2.2	0.13	165	G 1/8	16/3	FKM	EAV-213-A22-1/8FK-00	605078	o. r.
	2.2	0.13	165	G 1/4	16/3	NBR	EAV-213-A22-1/4BK-00	605079	o. r.
	2.2	0.13	165	G 1/4	16/3	FKM	EAV-213-A22-1/4FK-00	605080	o. r.
3	0.21	210	G 1/8	10/2	NBR	EAV-213-A30-1/8BK-00	605081	o. r.	
3	0.21	210	G 1/8	10/2	FKM	EAV-213-A30-1/8FK-00	605082	o. r.	
3	0.21	210	G 1/4	10/2	NBR	EAV-213-A30-1/4BK-00	605083	o. r.	
3	0.21	210	G 1/4	10/2	FKM	EAV-213-A30-1/4FK-00	605084	o. r.	
with manual override for all AC and DC coils	1.5	0.06	68	M5	12.5/6	NBR	EAV-221-A15-M05BK-00	605207	o. r.
	1.5	0.06	68	M5	12.5/6	FKM	EAV-221-A15-M05FK-00	605208	o. r.
	1.5	0.06	68	G 1/8	12.5/6	NBR	EAV-221-A15-1/8BK-00	605209	o. r.
	1.5	0.06	68	G 1/8	12.5/6	FKM	EAV-221-A15-1/8FK-00	605210	o. r.
	2	0.12	145	G 1/8	12.5/4	NBR	EAV-221-A20-1/8BK-00	605221	o. r.
	2	0.12	145	G 1/8	12.5/4	FKM	EAV-221-A20-1/8FK-00	605222	o. r.
	2	0.12	145	G 1/4	12.5/4	NBR	EAV-221-A20-1/4BK-00	605223	o. r.
	2	0.12	145	G 1/4	12.5/4	FKM	EAV-221-A20-1/4FK-00	605224	o. r.
	3	0.21	210	G 1/8	10/2	NBR	EAV-221-A30-1/8BK-00	605231	o. r.
	3	0.21	210	G 1/8	10/2	FKM	EAV-221-A30-1/8FK-00	605232	o. r.
3	0.21	210	G 1/4	10/2	NBR	EAV-221-A30-1/4BK-00	605233	o. r.	
3	0.21	210	G 1/4	10/2	FKM	EAV-221-A30-1/4FK-00	605234	o. r.	



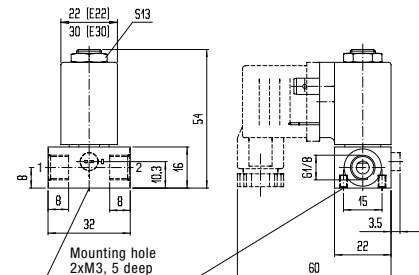
Normal position



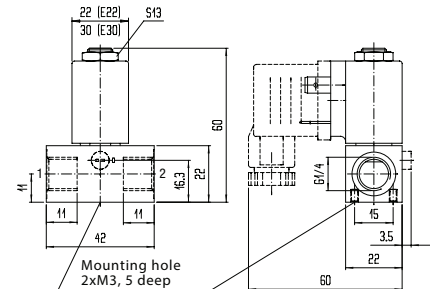
Operational position



Version with M5 Ports



Version with G 1/8 Port



Version with G 1/4 Port

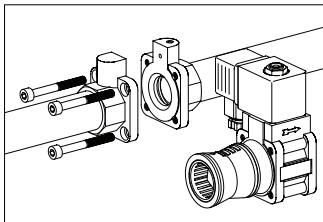
GAMMA Valves Series 100


An especially universal and robust valve series from DN 15 to DN 50 (G1/2 to G2) for the most varied applications in mechanical and apparatus construction.

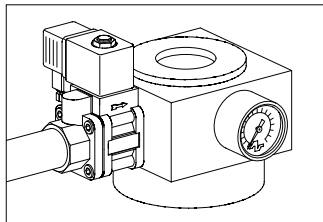
Dirt particles in the medium can lead to malfunction in the valves. It is therefore recommended to install a strainer, e.g. Type SMF-133..

The structural combination of various Types of valve, e.g. solenoid valves and pressure regulators, if required with sensors in multi function blocks, offers significant advantages:

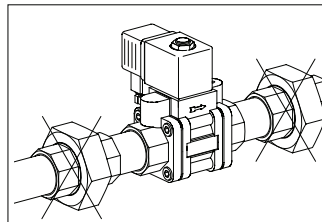
- saving of assembly time (pipework expenditure reduced by up to 85 %)
- saving of fittings
- enormous saving of construction space



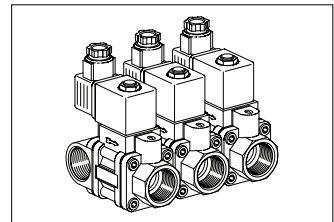
The main valve (intermediate flange valve) can be radially disassembled



Flange mount valves can be screwed onto pressure-bearing elements



Costly assembly of a detachable fitting is not required



Valve batteries up to DN 50 (G 2) with various operation Types and functional applications

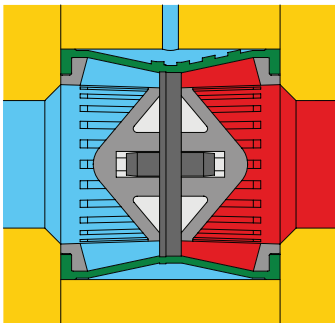
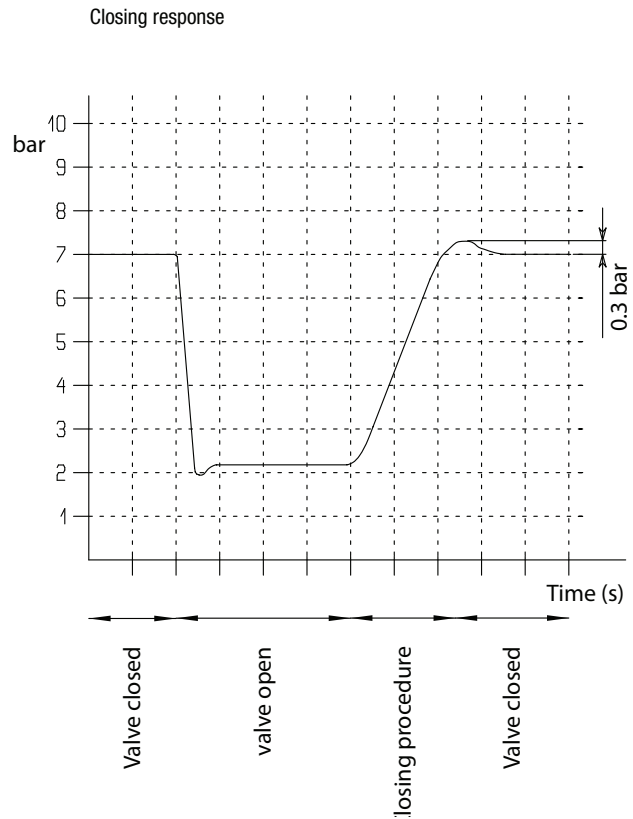
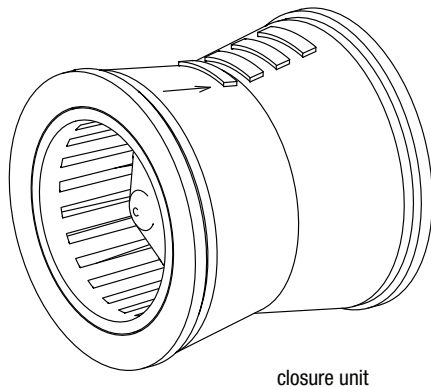
CHARACTERISTICS
GENERAL

Constructional design	low noise membrane valve with coaxial flow				
Product name	2/2-way solenoid valve servo-controlled	2/2-way solenoid valve with pressure regulator servo-controlled	2/2-way valve pressure operated by external or own medium	Hand-adjustable pressure regulator valve servo controlled	Valve batteries (all variants)
Product type	EGV	EGR	PGV	RGV	all previously named
Nominal diameter	DN 15 to DN 50				
Port size	G 1/2 to G 2				
Ambient temperature	-20 °C to +60 °C (others on request)				
Medium temperature	for NBR: -10 °C to +90 °C for FKM and EPDM: -10 °C to +130 °C (for exceptions see table)				
Medium viscosity	up to ca. 20 mm ² /s				
Valve body material	Ms				
Membrane support unit material	reinforced synthetic material (others on request)				
Other internal component material	Stainless steel and non-ferrous metal				
Material sealing material	NBR (nitrile rubber), EPDM (ethylene propylene) or FKM (fluoride rubber) (others on request)				
Mounting method	Installation in rigid pipe system or using mounting bracket (see accessories)				
Mounting position	optional, preferably upright				
PNEUMATIC - HYDRAULIC					
Nominal pressure (bar)	according to Type table. The numerical value of the nominal pressure PN signifies the permitted operating pressure OP in bar at 60 °C ambient temperature and 60 °C medium temperature. Insofar as two values are given, the first value refers to solenoid coil with highest electrical power consumption, the second value to that with lowest power consumption.				
Pressure range	0.2 bar up to permitted operating pressure OP according to table. 0 to 16 bar version is also Possible for Type EGV function "Z" and Type PGV				
Flow rate	Kv-value according to Type table (full flow with pressure difference of 0.3 bar or higher)				
Medium	gaseous or fluids Sealing material NBR: e.g. compressed air, water, hydraulic fluids, neutral gases Sealing material EPDM: e.g. hot water Sealing material FKM: e.g. solvents, hot water, hot air above 90 °C				
Response time	Opening time: 20 ms to 2 s closing time: 25 ms to 5 s, according to flow medium and DN				
Electric	see solenoid coils				

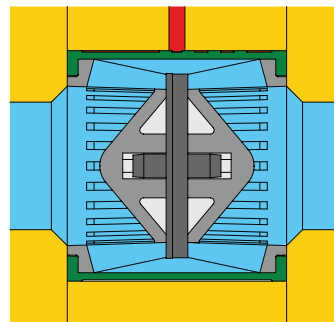


AVS GAMMA valves

Low noise automatic with membraneclosing
GAMMA the perfect valve concept from AVS-Römer



Closed



Open

The patented, coaxial constructional design enables advantageous membrane support, in both positions. The optimal heat emission of the open membrane resting on the coil reduces its thermal load. Both sets of circumstances are responsible for the extraordinarily high durability and also with pulsating compressed air. Furthermore the low masses moved enable extremely short response times, if desired.

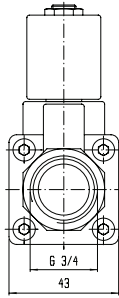
Further advantages:

- no pressure surges of fluids, minimised flow noises
- also very suitable for compressed air and other gases
- large pressure range (application from 0 bar also Possible)
- large variety of materials (plastic and elastomer components are manufactured in-house)
- the very compact closure unit with rotational symmetry enables very easy structuring of valve coil or special valve batteries



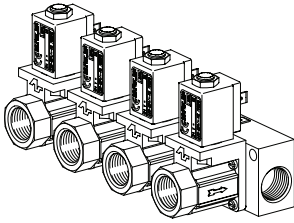
Description

Structural width



The low structural width permits small pipe spacing for single valves and high installation density for valve batteries.

Valve batteries

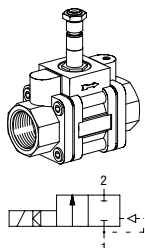


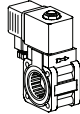

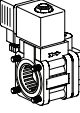

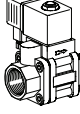


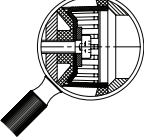
DN 12 to DN 50 (G 1/2 to G 2) single valve to 1 normal fold battery.

2/2-Way Solenoid Valve - Type EGV Series 100






Product group	53	Function "A" normally closed	low noise and impact-free closing, for neutral, gaseous or fluids
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Brass

Version	DN	Kv-value water [m³/h]	G	PN	Possible Type of power	Sealing material	Type (Partial solenoid valve without solenoid coil)	Order number	Price
Valve without solenoid coil Permitted operating pressure 0.2 bar up to valve according to table below. 	15	5.6	G 1/2	16/8	AC/DC	NBR	EGV-111-A78-1/2BN-00	613501	o. r.
	15	5.6	G 1/2	16/8	AC/DC	EPDM	EGV-111-A78-1/2PN-00	613503	o. r.
	15	5.6	G 1/2	16/8	AC/DC	FKM	EGV-111-A78-1/2FN-00	613505	o. r.
	20	7.6	G 3/4	16/8	AC/DC	NBR	EGV-111-A78-3/4BN-00	613521	o. r.
	20	7.6	G 3/4	16/8	AC/DC	EPDM	EGV-111-A78-3/4PN-00	613523	o. r.
	20	7.6	G 3/4	16/8	AC/DC	FKM	EGV-111-A78-3/4FN-00	613525	o. r.
	25	16.8	G 1	16/8	AC/DC	NBR	EGV-111-A78-1BN-00	613551	o. r.
	25	16.8	G 1	16/8	AC/DC	EPDM	EGV-111-A78-1PN-00	613553	o. r.
	25	16.8	G 1	16/8	AC/DC	FKM	EGV-111-A78-1FN-00	613555	o. r.
	32	21	G 1 1/4	16/8	AC/DC	NBR	EGV-111-A78-5/4BN-00	613571	o. r.
	32	21	G 1 1/4	16/8	AC/DC	EPDM	EGV-111-A78-5/4PN-00	613573	o. r.
	32	21	G 1 1/4	16/8	AC/DC	FKM	EGV-111-A78-5/4FN-00	613575	o. r.
	40	29.5	G 1 1/2	16/8	AC/DC	NBR	EGV-111-A78-6/4BN-00	613601	o. r.
	40	29.5	G 1 1/2	16/8	AC/DC	EPDM	EGV-111-A78-6/4PN-00	613603	o. r.
	40	29.5	G 1 1/2	16/8	AC/DC	FKM	EGV-111-A78-6/4FN-00	613605	o. r.
	50	35	G 2	16/8	AC/DC	NBR	EGV-111-A78-2BN-00	613621	o. r.
50	35	G 2	16/8	AC/DC	EPDM	EGV-111-A78-2PN-00	613623	o. r.	
50	35	G 2	16/8	AC/DC	FKM	EGV-111-A78-2FN-00	613625	o. r.	

Variations		Options	
	2/2-way intermediate flange solenoid valve Flange-side 4 through bores: Type EGV-111-AHL-...		Manual override Type EGV-112-... This limits: permitted operating pressure: 12.5 bar permitted Medium temperature: max. 60 °C
	2/2-way flange mount solenoid valve Flange-side pressure inlet Type EGV-111-AH9-...		increases resistance to corrosion and replaces stainless steel valves cost-effectively for many flow media Type EGV-111Q-...
	2/2-way flange mount Solenoid valve Thread-side pressure inlet Type EGV-111-A7L-		Membrane made of other material: CR (chloroprene) optimal for compressed air HNBR (NBR with higher nitrile content) specially for certain synthetic oils
	2/2-way solenoid valve Rapid function version with 3/2-way servo-control especially for compressed air Type EGV-161-A96-...BP-00		Non-return valve integrated outlet-side in the gate unit Type EGV-111-A78-./-T-... This only blocks up to the following pressure difference: DN 15 to DN 32: 10 bar DN 40 to DN 50: 8 bar
		EX protection	Type EGV-1004-A.-230/5normal EEX m II T5 or -024/ = -EEX m II T5 respectively with 3m cable A fuse (max. 3 x INenn) must be installed before the solenoid valve!

Permitted Operating Pressure OP

DN	Type	PN	Combinable solenoid coil			Permitted operating pressure OP [bar] at ambient temperature +60 °C																	
			Type	Nominal power P ₂₀			AC 50 Hz 			AC 60 Hz 			DC 			DC 90%U _N 			DC 100%U _N 				
				AC 50 Hz [VA]	AC 60 Hz [VA]	DC [W]	Medium temperature			Medium temperature			Medium temperature			Medium temperature			Medium temperature				
				60 °C	90 °C	130 °C	60 °C	90 °C	130 °C	60 °C	90 °C	130 °C	60 °C	90 °C	130 °C	60 °C	90 °C	130 °C	60 °C	90 °C	130 °C		
15 to 32	EGV-111-A..	16/8	E22...L.	3.5	on req.	2.5	8	on req.	on req.	7	on req.	on req.	6	5	4	4	3	2	6	5	4		
			E22...M.	5.5	5	5	16	16	16	16	16	16	16	16	16	14	12	10	8	15	13	12	
			E22...H.	-	-	8	-	-	-	-	-	-	-	-	16	16	16	16	16	16	16	16	16
			E30...P.	12	10.5	8	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
40 and 50	EGV-111-A..	16/8	E22...L.	3.5	on req.	2.5	8	on req.	on req.	7	on req.	on req.	5	4	3	3	2	2	5	4	3		
			E22...M.	5.5	5	5	16	16	16	16	16	16	16	12	10	8	8	7	6	12	10	9	
			E22...H.	-	-	8	-	-	-	-	-	-	-	16	16	16	12	10	9	16	14	10	
			E30...P.	12	10.5	8	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16