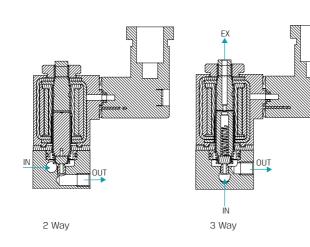
# **SOLENOID VALVES** | General Purpose

## **Direct Operated | Manifolds**

## **G65-M |** Solenoid Valves Manifold





#### Technical Data

Function	2 Way, 3 Way NC
Ports size	M5, #10UNF
Orifice size	See table
Pressure range	See table
Kv (I/min)	See table
Temperature range	Fluid: -10°C to 80°C (no freezing)  Ambient: -10°C to 50°C
Materials in contact with media	Main Valve: Aluminium Solenoid Operator: Stainless Steel AISI 300 & 400 series, Brass Seals: NBR, FPM (Viton®), EPDM
Media	Air, water, oil
Coil voltage	Voltage and power consumption - see table     All Baccara coil voltages are ± 10% of nominal
Standard protection class	IP65 with connector

#### Max. Pressure (bar) 2W, 3W NC table

Coil	Orifice (mm)						
Current/Power	0.8	1.0	1.2				
AC - 3.6VA	10	8.5	5.5				
DC - 3W	10	8.5	5.5				
Flow factor Kv(I/min)	0.4	0.5	0.65				

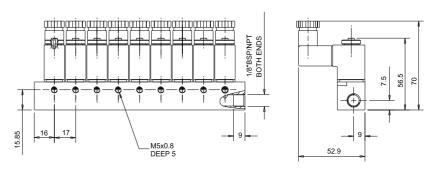
#### Voltage & Power Consumption

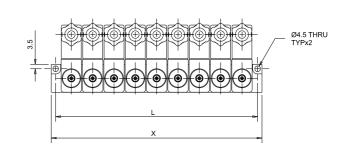
	DC (W)		
V	3.2VA	3.6VA	3
12			•
24		•	•
110		•	
230	•		

• Available options

## Direct Operated | Manifolds | G65

#### **Dimensions**





	Station	
Station	X(mm)	L(mm)
2	49	42
3	66	59
4	83	76
5	100	93
6	117	110
7	134	127
8	151	144
9	168	161
10	185	178
11	202	195
12	219	212

#### How to Order

G65-M	-	# STATIONS	BODY (1)		PORT	-	FUNCTIO	ON	ORIFICE		SEALS		-	
		Specify 02 - 12	Aluminium	1	ME	00	2W NC	,	0.8	1	NBR	N		W
		02 - 12	Alullillillilli	'	CIVI	UU	ZVV INC	'	0.8	'	INBK	IN		CC
					#10UNF	01	3W NC	3	1.0	2	FPM (Viton®)	V		12
									1.2	3	EPDM	Ε		24
														110

-	VOLTAGE		POWER		CONNECTOR		
	W/out coil	0	No coil	0	without	0	
	12	2	AC3.6VA (2) 50Hz	1	with	1	
	24	3	DC3W	3	other	9	
	110	5					

230 **7** 

#### Example: G65-M-0810133N-311

G65 direct operated manifold, 8 stations, aluminium, #10UNF, 3W NC, 1.2mm orifice, NBR, 24V AC 3.6VA 50 Hz with connector.



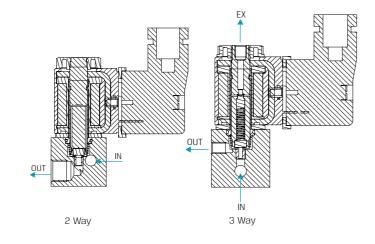
(1) For Stainless Steel tube add "s" : e.g  $$^{665-M}$-$^{X}$$   $$^{X}$$   $$^{X}$$  \$

<sup>\*</sup> To order manifolds manufactured according to your specific requirements, please contact our technical sales department.

## Direct Operated | Manifolds

## **G80-M |** Solenoid Valves Manifold





#### Technical Data

Function	2 Way, 3 Way NC
Orifice size	See table
Ports size	1/8" BSP & NPT, M5, #10UNF
Pressure range	See table
Kv (l/min)	See table
Temperature range	Fluid: -10°C to 80°C (no freezing) Ambient: -10°C to 50°C
Mounting	Coil can be mounted in 2 positions at 180° apart and the coil plug can rotate to 2 positions at 180°.
Materials in contact with media	Main Valve: Aluminium, Stainless Steel AISI 316, Brass Solenoid Operator: Stainless Steel AISI 300 & 400 series, Brass Seals: NBR, FPM (Viton®), EPDM, FFKM (Kalrez®)
Media	Air, water, oil
Coil voltage	Voltage and power consumption - see table     All Baccara coil voltages are ± 10% of nominal
Standard protection class	IP65 with connector

#### Max. Pressure (bar) 2W, 3W NC table

Coil	Orifice	(mm)
Current/Power	1.2	1.6
AC - 7.5W	12	10.5
AC - 4W	10	7
DC - 6.5W	12	10.5
DC - 3W	10	7
Flow factor Kv(I/min)	0.65	1

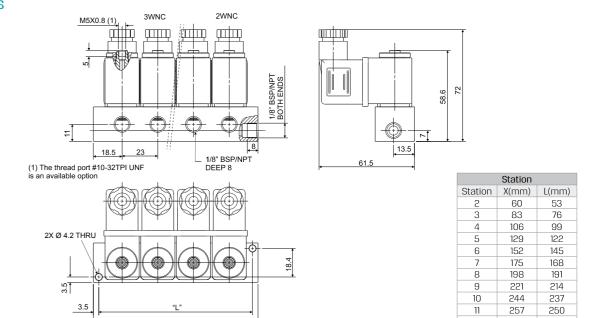
#### Voltage & Power Consumption

	AC (W)							
	50	Hz	60	Hz	DC (W)			
V	7.5	4	6	3	6.5	3		
6					•	•		
12	•	•	•	•	•	•		
24	•	•	•	•	•	•		
110	•	•	•	•				
230	•	•	•	•				

Available options

## Direct Operated | Manifolds | G80

#### **Dimensions**



#### How to Order

How to U	rder											
G80-M -	# STATIONS	BODY (1)		PORT		FUNCTIO	ON	ORIFIC	Έ	SEALS		
	Specify 00-12	Aluminium	1	M5	00	2W NC	1	1.2	2	NBR	N	
		Brass	2	#10UNF	01	2W NO	2	1.6	3	FPM (Viton®)	V	
		Stainless Steel	3	1/8" BSP	10	3WNC	3			EPDM	Ε	
				1/8" NPT	11	3WN0	4			FFKM (Kalrez®)	K	

## \* When ordering without coil, please define what

C	current and pressure rating is needed (DC, AC)								
-	VOLTAGE	POWER		CONNECTOR					
	W/out coil	0	No coil	0	without	0			
	6	1	AC7.5W 50Hz	1	with	1			
	12	2	AC6W 60Hz	2	with bi- color LED	2			
	24	3	DC6.5W	3	surge protec- tion with LED	3			
	110	5	AC4W 50Hz	4	flying leads coil	4			
	230	7	AC3W 60Hz	5	other	9			
	other	9	DC3W	7					

#### Example: G80-M-0811033N-311

G80, 8 station manifold, aluminium, 1/8" BSP, 3W NC,

1.6mm orifice, NBR, 24V AC 7.5W 50Hz with connector.

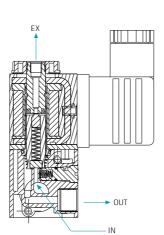
G80-M - 08 1 10 3 3 N - 3 1 1 (1) For Stainless Steel tube add "s": e.g G80-M - Xs X X X X X - X X X

\* To order valves manufactured according to your specific requirements, please contact our technical sales department.

## **G80-C |** Added-on Manifold







#### Technical Data

Function	2 Way, 3 Way NC
Orifice size	See table
Ports size	1/8" BSP & NPT
	See table
Pressure range	Valves for pressure higher than 12 bar
	cannot be supplied with manual override.
Kv (I/min)	See table
Temperature range	Fluid: -10°C to 80°C (no freezing)
remperature range	Ambient: -10°C to 50°C
	You can assemble your own manifold by
	adding segments. A set of two units can be
Assembly	connected by using two designated screws.
	For the first "stand" a different kit of screws
	is used.
	Manual override:
	Plastic
	Main Valve:
Materials in contact	Mazak
with media	Solenoid Operator:
	Brass, Stainless Steel AISI 300 & 400 series
	Seals:
	NBR, FPM (Viton®), EPDM
Media	Air, water, oil
Coil voltage	Voltage and power consumption - see table
con voltage	All Baccara coil voltages are ± 10% of nominal
Standard protection class	IP65 with connector

#### Max. Pressure (bar) 2W, 3W NC table

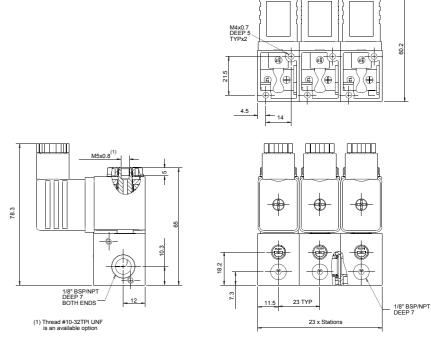
Coil	Or	ifice (m	m)
Current/Power	1.0	1.2	1.6
AC - 7.5W	15	12	10.5
AC - 4W	12	10	7
AC - 6.5W	15	12	10.5
DC - 3W	12	10	7
Flow factor Kv(I/min)	0.5	0.65	1

#### Voltage & Power Consumption

		AC (W)			DC	(14/)
	50	Hz	60	Hz	DC	(VV)
V	7.5	4	6	3	6.5	3
6					•	•
12	•	•	•	•	•	•
24	•	•	•	•	•	•
110	•	•	•	•		
230	•	•	•	•		

Available options

#### **Dimensions**



#### How to Order

\* When ordering without coil, please define what

												current an	u pi	essure ra	ung	is fieeded (DC	, AU)
G80-C -	# STATIONS	BODY (1)	PORT		FUNCTI	NC	ORIFI	CE	SEALS		MANUAL OVERRIDE	VOLTAG	E	POWER		CONNECTOR	
	Specify number 00-nn	Mazak 1	1/8" BSP	10	2W NC	1	1.0	1	NBR	N	Plastic 1	W/out coil	0	No coil	0	without	0
			1/8" NPT	11	2W NO	2	1.2	2	FPM (Viton®)	V		6	1	AC7.5W 50Hz	1	with	1
					3M NC	3	1.6	3	EPDM	Ε		12	2	AC6W 60Hz	2	with bi- color LED	2
					3W NO	4						24	3	DC6.5W	3	surge pro- tection with LED	3
												110	5	AC4W 50Hz	4	flying leads coil	4
												230	7	AC3W 60Hz	5	other	9
												other	9	DC3W	7		

#### Example: G80-C-0611032N1-311

G80, 6 stations added-on manifold, Mazak, 1/8" BSP, 3W NC, 1.2mm orifice,

NBR, with plastic manual override, 24V AC 7.5W with connector.



<sup>\*</sup> To order manifolds manufactured according to your specific requirements, please contact our technical sales department.

# **SOLENOID VALVES** | General Purpose

## Direct Operated | Manifolds



## **GEM-V/VL |** Modular Manifold Installation





Brass | 5 valves

Mazak | 6 valves

#### Technical Data

Function	2 Way, 3 Way NC, NO
Pressure range	See table     Valves for pressure higher than 25 bar cannot be supplied with manual override.
Kv (I/min)	See table
Temperature range	Fluid: -10°C to 80°C (no freezing)  Ambient: -10°C to 50°C
Mounting	Vertical, on sub-base, 2 screws M4.  Any number of valves on the same sub-base plate. Any combination of 2/2, 3 Way NC or NO valves may be grouped together.  * Standard valve orientation: Manual override and base port on the same side
Materials in contact with media	Manual override:  Plastic, Brass screw or finger knob.  N0a* - manual override is not available.  *pressure is supplied through the base  Main Valve:  Mazak, Brass  Solenoid Operator:  Stainless Steel AISI 300 & 400 series  Seals:  NBR, FPM (Viton®), EPDM
Media	Air, water, oil
Coil voltage	Voltage and power consumption - see table     All Baccara coil voltages are ± 10% of nominal
Standard / Certification	<ul> <li>UL 429</li> <li>* Available on selected models only.</li> <li>Please contact our technical sales department for details.</li> </ul>
Standard protection class	IP65 with connector  * Option : IP68 (please refer to GEM-BP Coil)

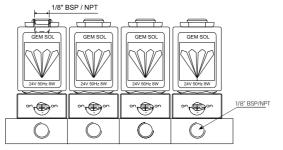
- Latch valves are available upon request.
- Pressure separation plug is available.

#### Two types of NO valves:

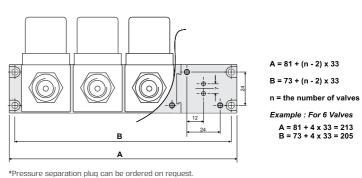
- $\bullet$  Supply pressure is through the base like NC valves. These valves can be combined in a standard manifold. They are not supplied with manual override.
- Supply pressure is through the tube. These valves cannot be combined in a standard manifold. They are supplied with manual override.

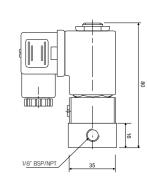
When using a manifold with more than 8 stations, it is advisable to use two air supplies, one at each end.

#### **Dimensions**

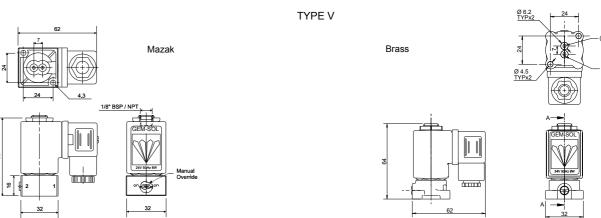


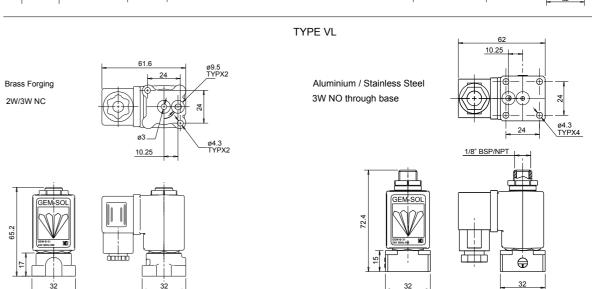
\*Standard valve orientation: Manual override and base port on the same side





Direct Operated | Manifolds | GEM-SOL

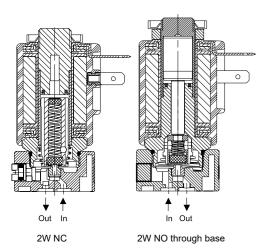




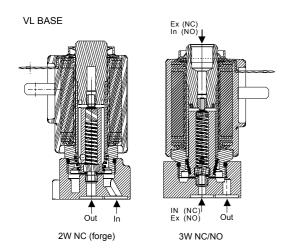
# **Direct Operated | Manifolds | GEM-SOL**

# **SOLENOID VALVES** | General Purpose **Direct Operated |** Manifolds | GEM-SOL

## Type V 2 Way, 3 Way NC, NO



## Type VL 2 Way, 3 Way NC, NO



Any number of stations, built from three basic components: left end section, right end section and middle section.

Push in and turn 90° clockwise

Material Mazak, Brass

### How to Order manifold components

GEM-V	-	POI	RT	COMPON	ENT	BODY	
		BSP	10	Left	1	Mazak	1
		NPT	11	Right	2	Brass	2
				Middle	3		

#### Example: GEM-V-1021

GEM-SOL V type manifold 1/8" BSP, right component, Mazak body.



# ex (NC) 🛊 🗼 In (NO) 3W NC/NO 3W NO through base

#### Max. Pressure (bar) 2W, 3W NC table

Coil			Orifice	(mm)		
Current/Power	0.8	1.2	1.6	2.0	2.4	3.0
ADC •	23	20	15	10	8	5.5
AC8W, DC10W	35	30	17	14	10	6
AC5.5W	23	20	15	10	8	5.5
AC2.5W, DC5.5W, DC3.5W	20	16	10	9	5	4
Flow factor Kv(I/min)	0.6	1.1	1.7	2.5	3.5	4.5

#### Max. Pressure (bar) 2W, 3W NO table

Coil			Orifice	(mm)		
Current/Power	0.8	1.2	1.6	2.0	2.4	3.0
ADC •	25	20	15	11	8	6
*AC8W, DC10W	30	22	17	12	10	7
*AC5.5W, DC5.5W	25	20	15	11	8	6
*AC2.5W, DC3.5W	20	18	12	8	6	4
Flow factor Kv(I/min)	0.6	1	1.4	2.2	3.0	3.5

\* These are not applicable for NO through base valves • ADC valves are only suitable for use with AC8W or DC10W coils.

## Voltage & Power Consumption

			AC (W)				DC (W)		
		50 Hz			60 Hz			DC (VV)	
V	8	5.5	2.5	8	5.5	2.5	10	5.5	3.5
6							•	•	•
12	•			•			•	•	•
24	•	•	•	•	•	•	•		
48	•			•			•		
110	•			•	•		•		
120	•			•					
220	•			•			•		
230	•	•							
240	•			•					

\* To order manifolds manufactured according to your specific requirements, please contact our technical sales department.

Available options

#### How to Order | GEM-V manifold | all valves having identical functions

GEM-V -	No. of VALVES	No. of STATIONS	- PORT		BODY		FUNCTI	ON	ORIFICE		SEALS		MANUAL OVERRIDI		VOLTAGE		POWER		CONNECTOR	
	specify quantity	specify quantity	1/8"BSP	10	Mazak	1	2W NC	1	0.8	1	NBR	N	None	0	W/out coil	0	No coil	0	without	0
	1	without o	1/8"NPT	11	Brass	2	2W NO	2	1.2	2	FPM (Viton®)	V	Plastic	1	6	1	AC8W 50Hz	1	with	1
							2W NO (1)	2a	1.6	3	EPDM	Е	Slot	2	12	2	AC8W 60Hz	2	with LED	2
Example : G	EM-V-6/6-1013	32V2-220					3M NC	3	2.0	4			Knob	3	24	3	DC10W	3	with bi- color LED	3
		sub-base V t	, .				3M NO (1)	4a	2.4	5			Push	4	48	4	AC5.5W 50Hz	4	flying leads coil	4
		r, 3WNC, 1.2, FP z without con		Ð),									Push lock	5	110	5	AC5.5W 60Hz	5	with 1/2" Hub	5
		z without com		_											120	6	AC2.5W 50/60Hz	6	connector with moulded cable	7
GEM-V - 6	6 - 10	1 3 2	V	2 -	2 2		0								220	7A	DC5.5W	7	other	9
	ssure through t ying Latch type	oase coil, please refe	r to GEM-A	3P va	alve - How	ı to	Order tab	ole.							230	7	DC3.5W	8		
															240	8				
How to	Order   C	GEM-V in	dividu	al	valve	S	with	inc	depen	de	ent fu	nc	tions		Latch/ other (2)	9				
GFM-V =	No. of	No. of	- PORT		BODY		FUNCTIO	אר	ORIFICE		SFALS		MANUAL		VOLTAGE		POWER		CONNECTOR	

I IOVV	·	oraci je	ALIVI V J II	iic	iividddi	varves	vvici i ii ic	срени	ziit itaiit	CIOIIO		otner (2)			
GEM-V	-	No. of VALVES	No. of STATIONS	-	PORT	BODY	FUNCTION	ORIFICE	SEALS	MANUAL OVERRIDE	-	VOLTAGE	POWER	CONNECTOR	
		specify quantity specify	specify quantity specify		As above table										
		quantity	quantity												

Example : GEM-V-3/6-10142N0-221 : Example: GEM-V-1/6-10112N0-221:

2/6 stations with 1/8"BSP Mazak, 3WNC, 12, NBR, no M/0,12V AC 8W 60Hz with connector 3/6 stations with 1/8"BSP Mazak, 3WNO, 12, NBR, no M/0,12V AC 8W 60Hz with connector 1/6 stations with 1/8"BSP Mazak, 2WNC, 12, NBR, no M/0,12V AC 8W 60Hz with connector

GEM-SOL direct operated sub-base V type of which:

#### How to Order | GEM-V body

GEM-V-BODY -	PORT	Г	BODY		FUNCTIO	ON	ORIFICE		SEALS		MANUAL OVERRIDE	-	VOLTAGE	Ē	POWER	!	CONNECTOR	
	1/8"BSP	10	Mazak	1	2W NC	1	0.8	1	NBR	N	None	0	W/out coi	0 ا	No coil	0	without	0
	1/8"NPT	11	Brass	2	2W NO	2	1.2	2	FPM (Viton®)	٧	Plastic	1	6	1	AC8W 50Hz	1	with	1
					2W NO (1)	2a	1.6	3	EPDM	Ε	Slot	2	12	2	AC8W 60Hz	2	with LED	2
					3M NC	3	2.0	4			Knob	3	24	3	DC10W	3	with bi- color LED	3
					3W NO (1)	4a	2.4	5			Push	4	48	4	AC5.5W 50Hz	4	flying leads coil	4
											Push lock	5	110	5	AC5.5W 60Hz	5	with 1/2" Hub	5
Example : GEM-\ GEM-SOL direct				n 1/	Q"RQD wi	ith							120	6	AC2.5W 50/60Hz	6	connector with moulded cable	7
Mazak body, 3V 8W 60Hz withou	vnc, 1.2, 1	FPM	(Viton®)				/C						220	7A	DC5.5W	7	other	9
GEM-V-BODY - 10	1	3	2	v	2 -	2	2 0						230	7	DC3.5W	8		
													240	8				
(1) Supply pressure (2) For specifying				efer	to GEM-A	3P v	alve - How	to,	Order tabl	e.			Latch/ other (2)	9				

#### How to Order | GEM-VL

GEM-VL	-	PORT		BODY		FUNCTIO	N	ORIFICE		SEALS		MANUAL OVERRIDE	_	VOLTAGE		POWER		CONNECTOR	
		1/8"BSP	10	Mazak	1	2W NC	1	0.8	1	NBR	N	None	0	W/out coi	0	No coil	0	without	
		1/8"NPT	11	Brass	2	2W NO	2	1.2	2	FPM (Viton®)	٧	Plastic	1	6	1	AC8W 50Hz	1	with	
						2W NO (1)	2a	1.6	3	EPDM	Е	Slot	2	12	2	AC8W 60Hz	2	with LED	
						3W NC	3	2.0	4			Knob	3	24	3	DC10W	3	with bi- color LED	
						3W NO (1)	4a	2.4	5			Push	4	48	4	AC5.5W 50Hz	4	flying leads coil	
xample : GEN GEM-SOL dire					VΩ			3.0	6			Push lock	5	110	5	AC5.5W 60Hz	5	with 1/2" Hub	
/8"BSP with I	ora	ss body,	21	/NC, 0.8,	FPN	-	),							120	6	AC2.5W 50/60Hz	6	connector with moulded cable	
10 M/0, 12V A GEM-VL - 10		2 1	WIL	n conne	CLO		2	1						220	7A	DC5.5W	7	other	
1) Supply pres			has		_		_							230	7	DC3.5W	8		
2) For specifyir					efer	to GEM-A	3P v	alve - Hov	v to	Order tab	ile.			240	8				
*Note: Manifold	s ar	re not ava	ilab	le for VL v	alve	!S								Latch/ other (2)	9				

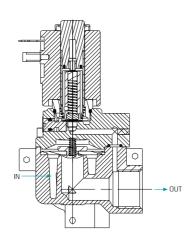
## **SOLENOID VALVES** | General Purpose

## Pilot Operated | Manifolds

## **GEM-SM |** Manifold 1/4", 1/2" 2 Way NC, NO







2 Station Manifold | Stainless Steel

4 Station Manifold | Brass

#### Technical Data

Function	2 Way NC, NO				
Ports size	1/4", 1/2" BSP & NPT				
Pressure range	See table *Minimum pressure differential of 0.3 or 0.5 is required				
Kv (I/min)	See table				
Temperature range	Fluid: -10°C to 80°C (no freezing) Ambient: -10°C to 50°C				
Materials in contact with media	Manual override:  NC/NO - Brass screw  NOa* - manual override is not available  *pressure is supplied through the base  Main Valve:  Brass  Stainless Steel AISI 316  Solenoid Operator:  Stainless Steel AISI 300 & 400 series  Seals:  NBR, FPM (Viton®), EPDM				
Assembly	Stations attached by 3 screws     End stations are either with ports or plugged				
Coil voltage	Voltage and power consumption - see table     All Baccara coil voltages are ± 10% of nominal				
Standard protection class	IP65 with connector  * Option : IP68 (please refer to GEM-BP Coil)				

- When using a manifold with more than 8 stations, it is advisable to use two air supplies, one at each end
- It is possible to combine functions on one manifold
- Slow closing system to prevent water hammer effect
- Pressure separation plug between stations is available.

#### Pressure (bar) & Flow table

Size	Orifice (mm)	Pressure (bar)	Kv(l/min)
1/4"	8	0.5 to 20	12
1/2"	12	0.5 (0.20	35

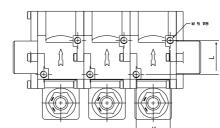
#### Voltage & Power Consumption

		DC (W)									
		50 Hz			60 Hz		DC (W)				
V	8	5.5	2.5	8	5.5	2.5	10	5.5	3.5		
6							•				
12	•			•			•				
24	•			•			•				
48	•			•			•				
110	•			•			•				
120	•			•							
220	•			•			•				
230	•										
240	•			•			•				

Available options

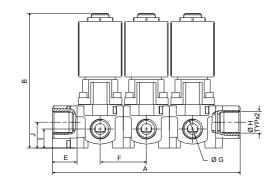
## Pilot Operated | Manifolds | GEM-SOL | 1/4", 1/2" 2 Way NC, NO

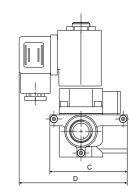
#### **Dimensions**



Size	А	В	С	D	Е	F	G	Н	-1	J	K	L
1/4"	36+34xN*	99	57	80	18	34	1/4" BSP/NPT	3/8" BSP/NPT	14	19	25	25
1/2"	40+40xN*	112.8	67	83.9	20	40	1/2" BSP/NPT	1/2" BSP/NPT	21	26	32	32

\*N - Number of stations





#### How to Order

IOVV LO	Oi	uci											
GEM-SM	-	No. of STATIONS	BODY		PORT		FUNCTION		SEALS		MANUAL OVERRIDE		-
		specify	Brass	2	1/4" BSP (1)	20	2W NC	1	NBR	N	None	0	
		quantity	Stainless Steel	3	1/4" NPT (1)	21	2W NO	2	FPM (Viton®)	V	Slot	2	
					1/2" BSP	40	2W NO <sup>(2)</sup> w/out tube	2a	EPDM	E	Knob	3	
					1/2" NPT	41							

AL DE	-	VOLTAGE		POWER		CONNECTOR				
0		W/out coil	0	No coil	0	without	0			
2		6	1	AC8W 50Hz	1	with	1			
3		12	2	AC8W 60Hz	2	with LED	2			
		24	3	DC10W	3	with bi- color LED	3			
		48	4			flying leads coil	4			
		110	5			with 1/2" Hub	5			
		120	6			surge protec- tion with LED	6			
		220	7A			connector with moulded cable	7			
		230	7			other	9			
		240	8							
		Latch/ other (3)	9							

Example: GEM-SM-022202V2-321

GEM-SOL pilot operated manifold, 2 stations, brass, 1/4"BSP, 2W NO,

FPM (Viton®), slot manual override, 24V AC 8W 60Hz with connector.



- (1) Available only in brass
- (2) Manual override is not available
- (3) For specifying Latch type coil, please refer to GEM-A3P valve How to Order table.
- \* Note: When ordering without coil, please define what current and pressure rating is needed (DC, AC or ADC), otherwise an ADC valve will be supplied.

<sup>\*</sup> To order valves manufactured according to your specific requirements, please contact our technical sales department.