

HIGHFLOW MINIATURE VALVE MODULE

HFV-3X-55



S SPECTRONIK

INTRODUCTION



HFV-3X-55 is a high performance, super lightweight module comprising 3 miniature solenoid valves in parallel and mounted on an anodized Aluminum manifold.

- High flowrate: 55slpm at 1psid
- Lightweight and compact: 55g
- High durability: >10 million cycles
- Extreme low power consumption*: 1.1W
- Fast response time: 10ms

Specially designed for Hydrogen fuel cell stack's supply and/or purge valve, multiple modules can be combined depending on the fuel cell's power and Hydrogen consumption needs.

* Module requires Spike & Hold voltage circuit to operate (available at Spectronik as a separate add-on).

HIGHFLOW MINIATURE VALVE SPECIFICATION



HFV-3X-55

MECHANICAL SPECIFICATIONS

Flowrate (H ₂)	55 SLPM nominal at 1psiD 75 SLPM maximum at 2psiD
Mass (without port fitting)	55g
Dimension (max)	(L) 33 x (H) 50 x (W) 29 mm
Operating Pressure	0 to 15 psiG
Pressure Differential	2 psiD maximum
Proof Pressure	45 psiG
Response	10 ms at 21°C
Operating Ambient Temperature	4°C to 49°C
Storage Ambient Temperature	-40°C to 79°C
Durability	> 10 million cycles
Wetted Materials	PBT, PPA, 430 SS, 316 SS, FKM, Epoxy Anodized Aluminum MIL-A-8625
Inlet Port Thread	G1/8
Outlet Port Thread	G1/8
Mounting Feature	2 x Ø 2.7 mm holes

HIGHFLOW MINIATURE VALVE SPECIFICATION



HFV-3X-55

ELECTRICAL SPECIFICATIONS

Spike-&Hold Voltage*

Power Consumption

Spike at 12 ±5% VDC for 10 to 30 ms
 Hold at 3.5 ±5% VDC continuous
 2.5 W energizing spike
 1.1 W nominal holding voltage at 21°C

INCLUDE PORT FITTINGS

- Push-in OD8, Straight
- Push-in OD6, Straight
- Push-in OD8, Elbow
- Push-in OD6, Elbow

PRODUCT CODE

- HFV-3X-55-A1
- HFV-3X-55-B1
- HFV-3X-55-A2
- HFV-3X-55-B2

MASS

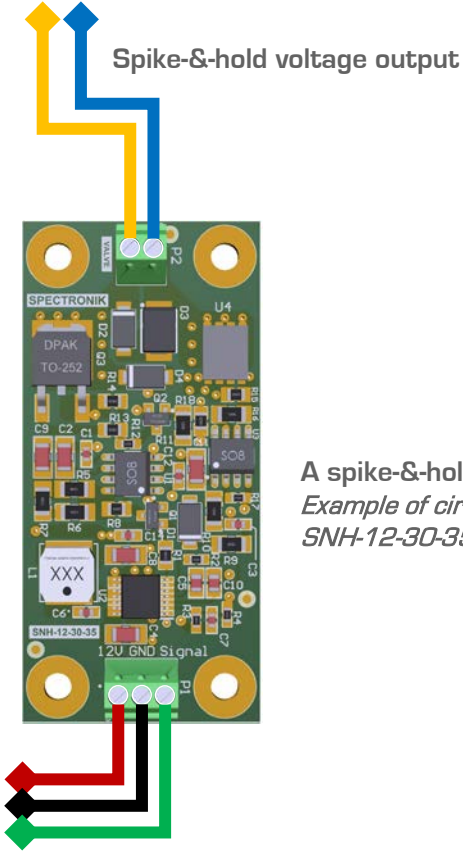
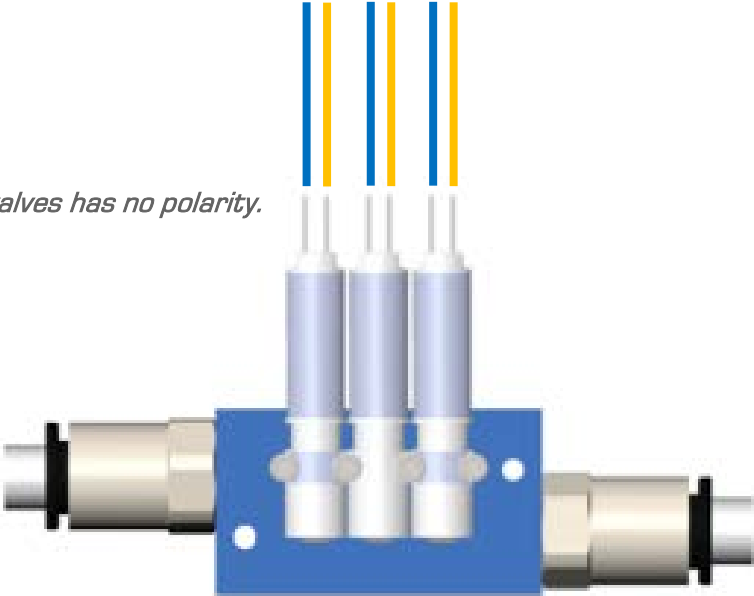
- 11 g x 2
- 6.7 g x 2
- 18 g x 2
- 11 g x 2

*Electric circuit for Spike-&Hold available separately.
 Refer to Spike-&Hold Board SNH-12-30-35.

WIRING DIAGRAM

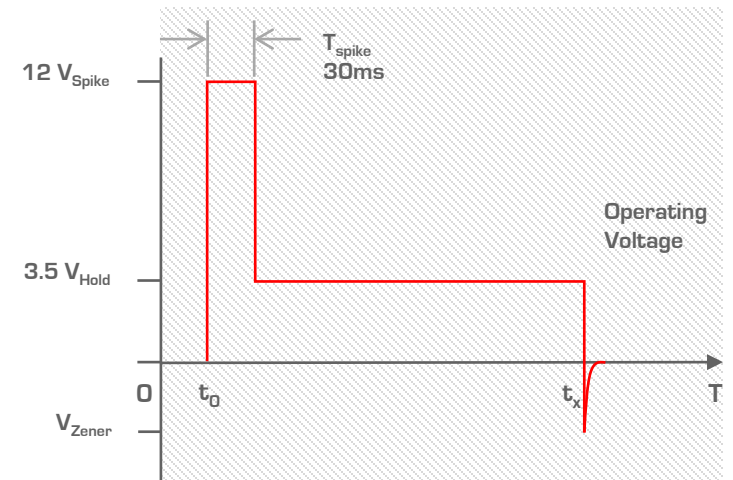
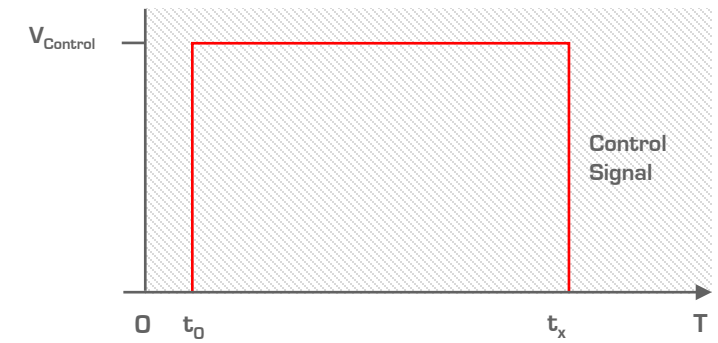
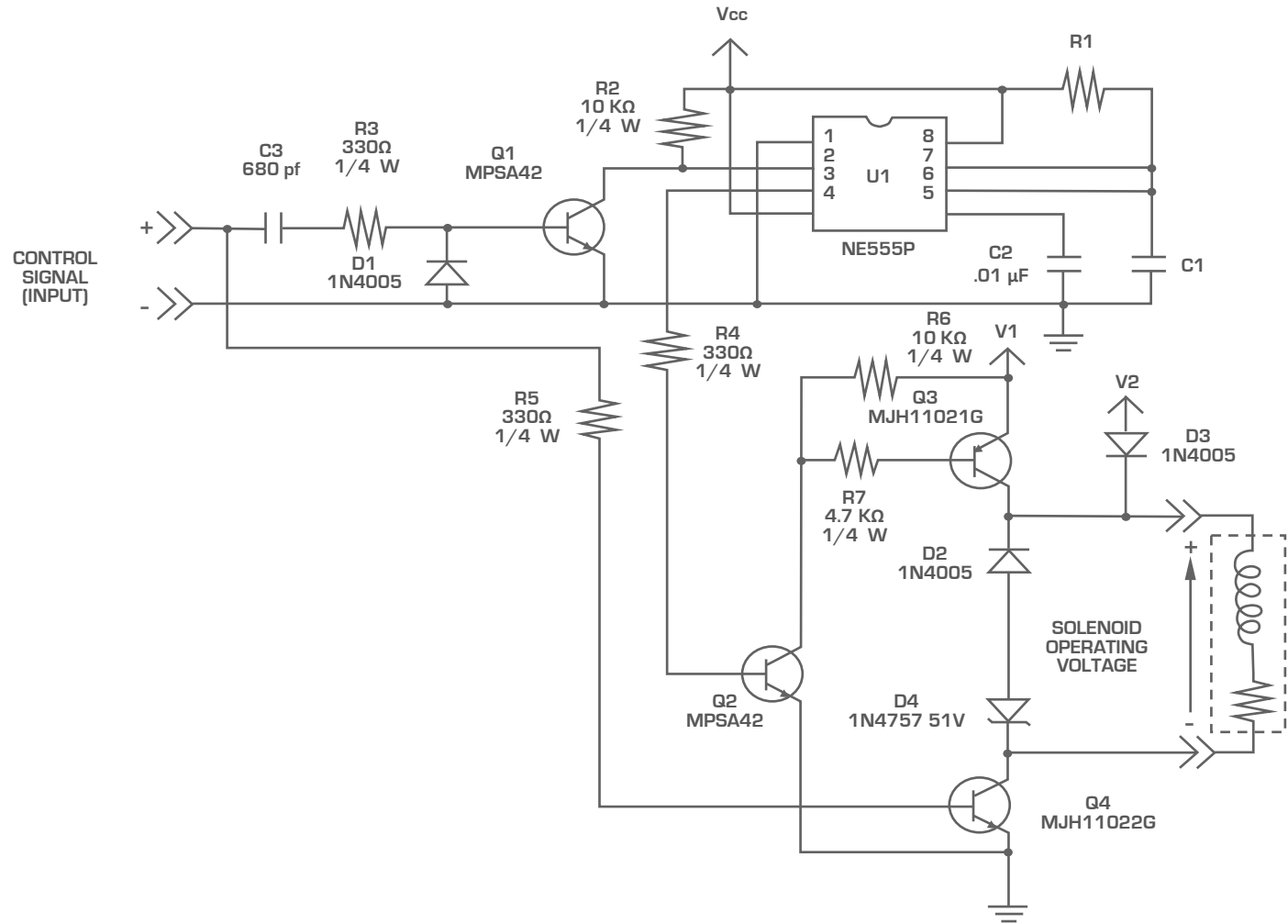
Spike-&Hold controlled voltage to be delivered parallelly to each of the valves.

Solenoid valves has no polarity.

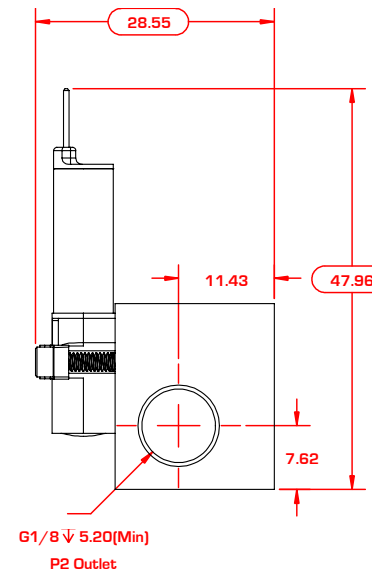
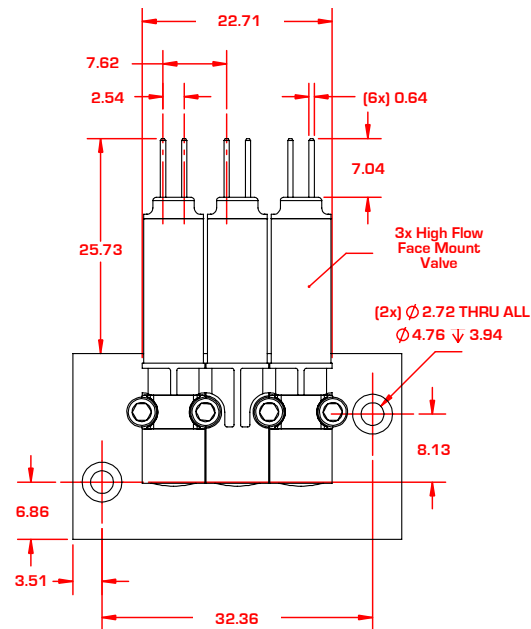
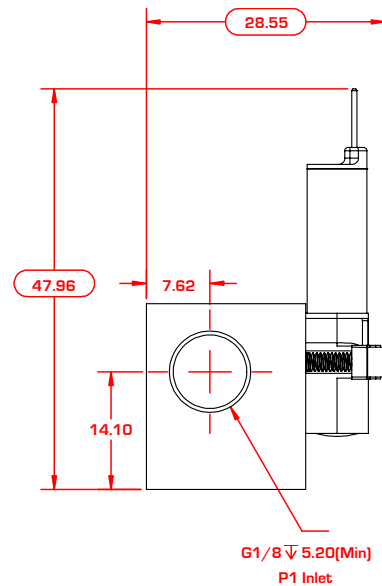
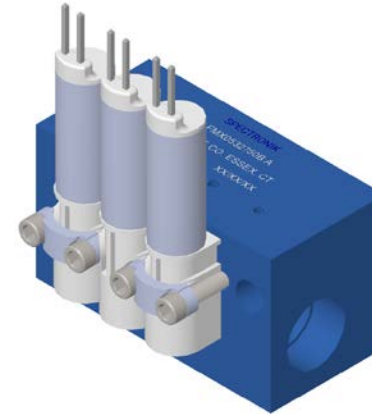
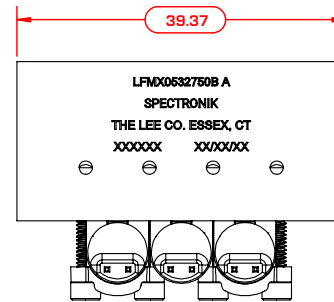


A spike-&hold voltage generator.
*Example of circuit drive board
SNH-12-30-35*

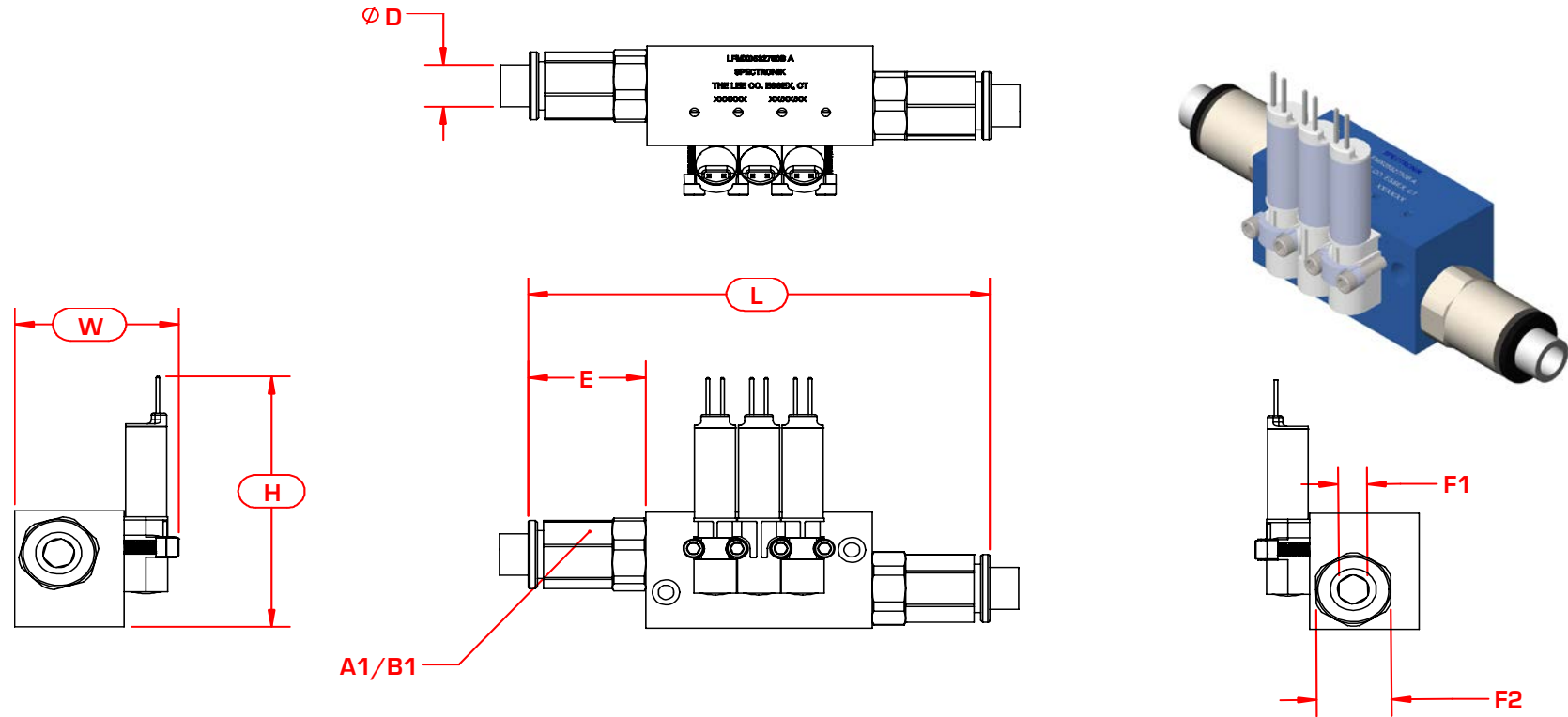
RECOMMENDED SPIKE-&-HOLD CIRCUIT



MECHANICAL DRAWINGS

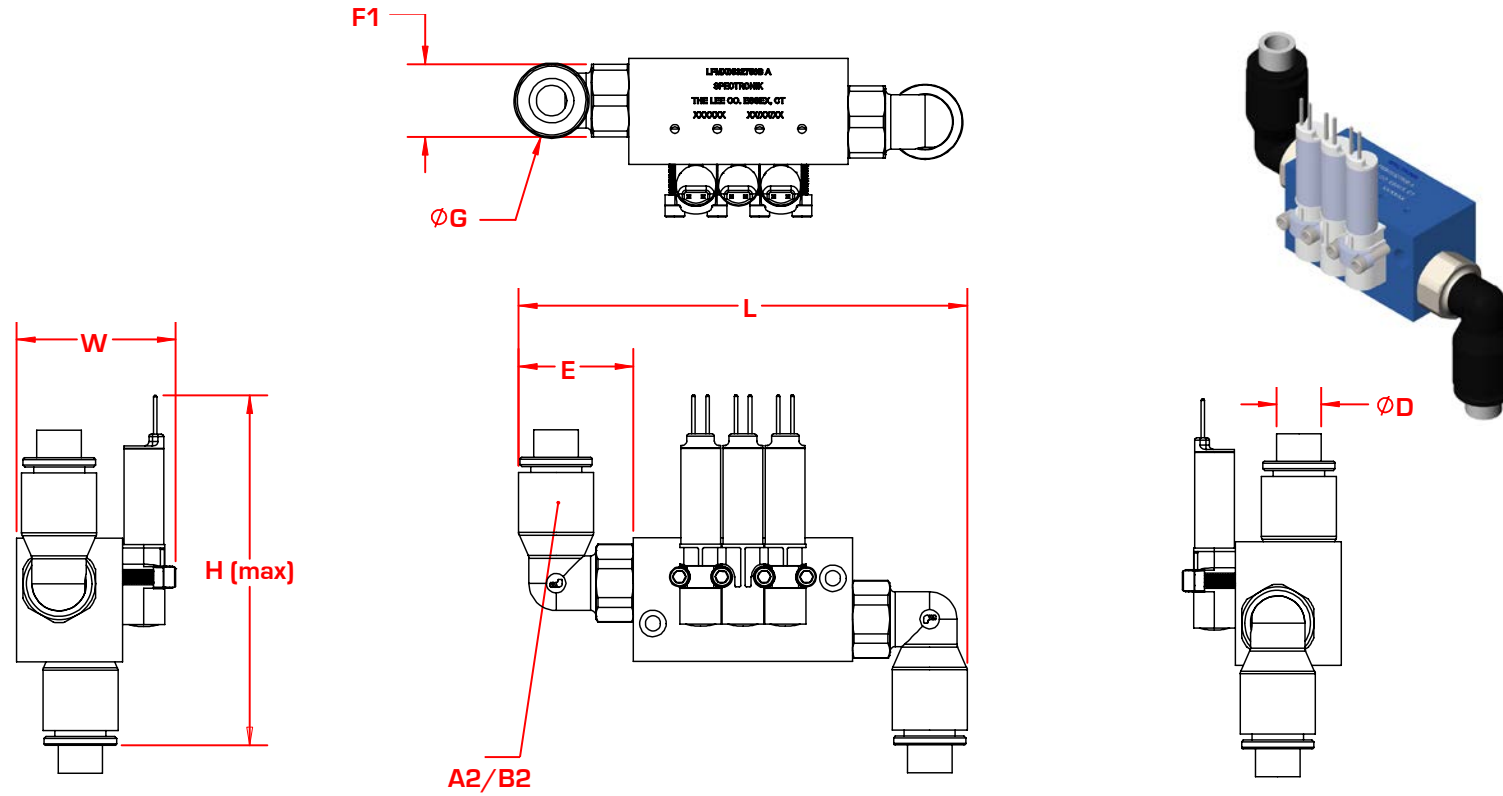


MECHANICAL DRAWINGS



Product Code	Port Fitting	Length, L	Width, W	Height, H	Weight, G	$\varnothing D$	E	F1	F2
HFV-3X-55-A1	Push-in OD8, Straight	80.37	28.55	47.96	11	8	20.5	13	5
HFV-3X-55-B1	Push-in OD6, Straight	65.37	28.55	47.96	6.7	6	13	13	4

MECHANICAL DRAWINGS



Product Code	Port Fitting	Length, L	Width, W	Height, H	Weight, G	ØD	E	F1	F2
HFV-3X-55-A2	Push-in OD8, Elbow	80.67	28.55	62.94	18	8	20.65	13	13.5
HFV-3X-55-B2	Push-in OD6, Elbow	69.27	28.55	56.89	11	6	14.95	13	10.5

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