

Solenoid Valves

WATTMIZER



 **Solenoid**
SOLUTIONS, INC

Miniature Wattmizer Solenoid Valves (.65 to 9 Watts)

Standard Specifications

Brass Body with stainless steel internal parts – compatible with common media including air, water and inert gases. Stainless steel body optional.

Maximum Operating Pressure Differential: up to 1200 psi (85 bar)

Orifice Diameters: Body – .025" to 1/8" (.635 to 3.18)
Stop – .025" to 5/64" (.635 to 1.98)

Response time: 6 to 10 milliseconds

Power Consumption: .65 to 9 watt continuous duty

Vacuum: 5 microns

Port Size: #10-32 UNF, 1/8" NPT, SAE 45• x 1/8" Flare

Housing: Strap housing (standard), grommet housing optional

Seal Material: Buna N standard, others optional

Leakage: Bubble tight (1×10^{-5} cc/sec.)

Coil Type: Continuous Rating
 .65 watt through 9 watt – Class "F" (155°C) standard
 .65 watt through 9 watt – Class "B" (130°C) optional

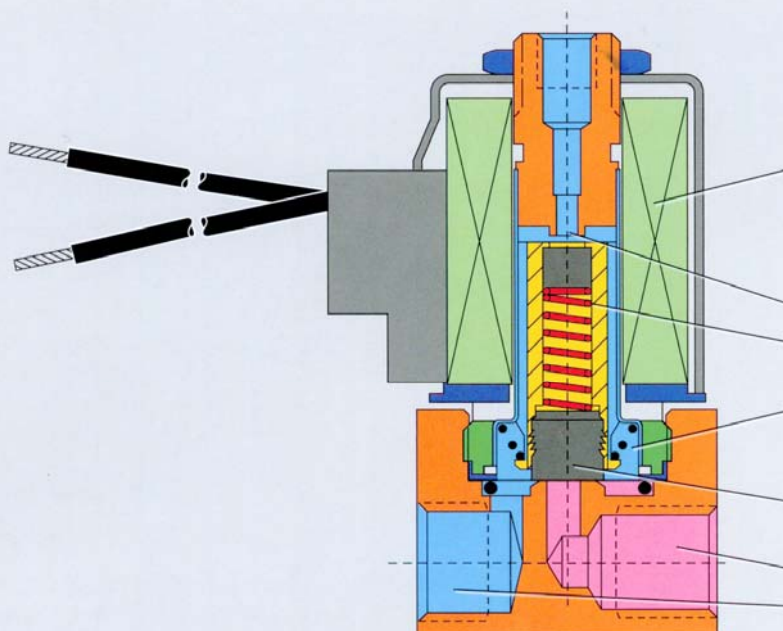
Standard Voltages: 24V/60 Hz, 120V/60 Hz, 240V/60 Hz, 12, 24 VDC. Other voltages and wattages available upon request

Media Temperature Limitations:
 Minimum – -40°F (-40°C); Maximum – +180°F (+82°C)

Weight: 2-3/4 – 3-1/4 ounces

Leadwire: 20 AWG, 18 (457) inches long standard

Agency Approvals – UL recognition, CUL recognition



General Information

Conserves Energy – Low wattage coil results in less current drain. Available for both AC and DC service.

Compact Size – Fits in tight compartment areas.

Coil Construction – Molded is standard for all voltages (Nema 4/4x). A full wave rectifier is standard on AC voltages for 3-way valves.

Stop Orifice

Compensated Plunger – Spring loaded top seal for greater cycle life.

Plunger Return Spring – Stainless steel, provides positive plunger return regardless of mounting position.

Body Orifice Seat is machined as part of body, guaranteeing leakproof internal structure.

Orifice Port – (under seat)

Cavity Port – (over seat)

Valve Model Number Matrix

2 WAYS	W1 FAMILY	3 FUNCTION	6 COIL TYPE	1 PORT SIZE	N PORT TYPE	B BODY MATERIAL	A SEAL MATERIALS	4 ORIFICE SIZE	D WATTAGE	5 VOLTAGE	U OPTIONS
2 2-Way	W1 Wattmizer	3 2-Way Normally Closed	Molded Class "F" W with 18" leads	1 1/8"	N NPT Female	B Brass	A Buna	0 .025 (.65)	A 0.65	1 120/60	B Mounting Brackets
3 3-Way		3 3-Way Normally Closed Line Connect	6 with 1/4" Spades	5 #10-32 Manifold Mount*	D Defined Elsewhere	R Stainless Steel	E EPDM	1 1/32" (.80)	B 1.5	2 24/60	P Exhaust Port Adapter
		4 Normally Open	Non-Molded Class "B" 0 with 18" Leads	7 #10-32*		O Without Body	V Viton	2 3/64" (1.2)	C 3.0	3 240/60 6 & 9 watt only	U UL Approval
		5 Directional Control	Molded Class "B" 1 with 18" Leads	9 5/16"-24 Manifold Mount			N Neoprene	3 .055 (1.4)	D 6.0	4 6 VDC	C CSA Approval
		6 Normally Closed Free Venting		Q Defined Elsewhere				4 1/16" (1.6)	E 9.0	5 12 VDC	L CUL Approval
		7 Universal						5 5/64" (2.0)		6 24 VDC	S UL/CSA Approval
								6 3/32" (2.4)			G CSA Approval Gas Valves Natural Gas & Propane
								7 7/64" (2.8)			
								8 1/8" (3.2)			

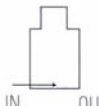
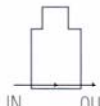
*Note: #5 port size (#10-32 manifold mount) and #7 port size (#10-32) are limited to #5 (5/64") orifice.
#5 port size (#10-32 manifold mount) is limited to 250 psig maximum pressure

Chart Key

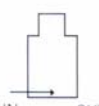
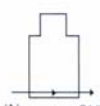


- Consult Factory
- "W" option only for AC operation, rectifier in leads.

Maximum Operating Pressure Differential (PSI)

2-Way AC Pressure Ratings

De-energized	Energized	Orif. No.	Orifice Diameter		Cv Factor		Nominal Wattage				
			Body	Stop	Body	Stop	.65 Watts (A)*	1.5 Watts (B)†	3.0 Watts (C)	6.0 Watts (D)‡	9.0 Watts (E)♦
		0	.025 (.65)		.015 (.011)		450 (31.6)	750 (51.7)	1200 (82.8)	1200 (82.8)	1200 (82.8)
		1	1/32 (.80)		.020 (.015)		350 (24.1)	625 (43.1)	900 (62.0)	1000 (69.0)	1200 (82.8)
		2	3/64 (1.2)		.030 (.023)		225 (15.5)	475 (32.8)	725 (50.0)	800 (55.2)	900 (62.0)
		3	.055 (1.4)		.050 (.038)		110 (7.6)	275 (18.9)	500 (34.5)	650 (44.8)	725 (50.0)
		4	1/16 (1.6)		.080 (.062)		75 (5.2)	200 (13.8)	325 (2.44)	500 (34.5)	550 (37.9)
		5	5/64 (2.0)		.120 (.092)			110 (7.6)	200 (13.8)	350 (24.1)	400 (27.6)
		6	3/32 (2.4)		.170 (.131)				125 (8.6)	225 (15.5)	250 (17.2)
		7	7/64 (2.8)		.250 (.192)				75 (5.2)	125 (8.6)	175 (12.1)
		8	1/8 (3.2)		.280 (.215)				35 (2.4)	75 (5.2)	100 (6.9)

2-Way DC Pressure Ratings

De-energized	Energized	Orif. No.	Body	Stop	Cv Factor	Nominal Wattage				
						.65 Watts (A)*	1.5 Watts (B)†	3.0 Watts (C)	6.0 Watts (D)‡	9.0 Watts (E)♦
		0	.025 (.65)		.015 (.011)	150 (10.3)	350 (24.1)	750 (51.7)	1000 (69.0)	1200 (82.8)
		1	1/32 (.80)		.020 (.015)	110 (7.6)	200 (13.8)	500 (34.5)	900 (62.0)	1000 (69.0)
		2	3/64 (1.2)		.030 (.023)	40 (2.8)	125 (8.6)	250 (17.2)	500 (34.5)	575 (39.7)
		3	.055 (1.4)		.050 (.038)	15 (1.0)	50 (3.4)	125 (8.6)	255 (17.6)	300 (20.7)
		4	1/16 (1.6)		.080 (.062)	10* (.7)	35 (2.4)	90 (6.2)	175 (12.1)	225 (15.5)
		5	5/64 (2.0)		.120 (.092)		15 (1.0)	45 (3.1)	100 (6.9)	125 (8.6)
		6	3/32 (2.4)		.170 (.131)			30 (2.1)	60 (4.1)	100 (6.9)
		7	7/64 (2.8)		.250 (.192)			20 (1.4)	40 (2.8)	60 (4.1)
		8	1/8 (3.2)		.280 (.215)			10 (.7)♦	35 (2.4)	50 (3.5)
		0	.025 (.65)		.015 (.011)	100 (6.9)	300 (20.7)	625 (43.1)	850 (58.6)	1000 (69.0)
		1	1/32 (.80)		.020 (.015)	75 (5.2)	175 (12.1)	425 (29.3)	750 (51.7)	850 (58.6)
		2	3/64 (1.2)		.030 (.023)	30 (2.1)	100 (6.9)	200 (13.8)	425 (29.3)	475 (32.8)
		3	.055 (1.4)		.050 (.038)		40 (2.8)	100 (6.9)	190 (13.1)	250 (17.2)
		4	1/16 (1.6)		.080 (.062)		30 (2.1)	75 (5.2)	150 (10.3)	190 (13.1)
		5	5/64 (2.0)		.120 (.092)		10 (.7)♦	35 (2.4)	85 (5.9)	100 (6.9)

Maximum Operating Pressure Differential (PSI)

3-Way AC & DC Pressure Ratings

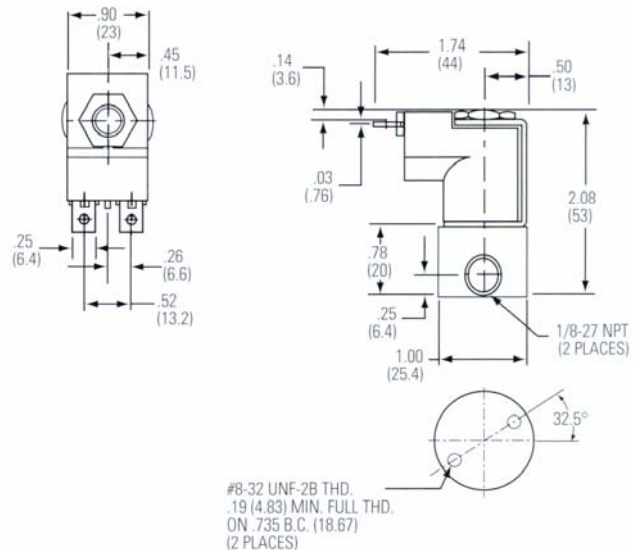
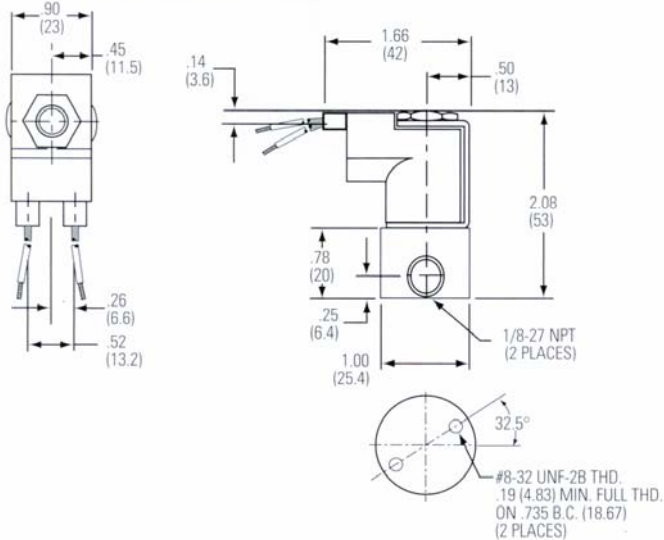
De-energized	Energized	Orif. No.	Orifice Diameter		Cv Factor		Nominal Wattage				
			Body	Stop	Body	Stop	.65 Watts (A)*	1.5 Watts (B)†	3.0 Watts (C)	6.0 Watts (D)‡	9.0 Watts (E)‡
3-Way Normally Closed Free Vent and Line Connection 		0	.025 (.65)	.025 (.65)	.015 (.011)	.015 (.011)	100 (6.9)	180 (12.4)	350 (24.1)	450 (31.6)	550 (37.9)
		1	1/32 (.80)	1/32 (.80)	.020 (.015)	.020 (.015)	65 (4.5)	115 (7.9)	250 (17.2)	300 (20.7)	400 (27.6)
		2	3/64 (1.2)	3/64 (1.2)	.030 (.023)	.030 (.023)	10 (.7)	70 (4.8)	175 (12.1)	250 (17.2)	300 (20.7)
		3	.055 (1.4)	.055 (1.4)	.050 (.038)	.050 (.038)		20 (1.4)	100 (6.9)	160 (11.0)	190 (13.1)
		4	1/16 (1.6)	1/16 (1.6)	.080 (.062)	.080 (.062)		10 (.7)♦	75 (5.2)	125 (8.6)	175 (12.1)
		5	5/64 (2.0)	5/64 (2.0)	.120 (.092)	.120 (.092)			30 (2.1)	65 (4.5)	90 (6.2)
		6	3/32 (2.4)	5/64 (2.0)	.170 (.131)	.120 (.092)			15 (1.0)	40 (2.8)	60 (4.1)
		8	1/8 (3.2)	5/64 (2.0)	.280 (.215)	.120 (.092)				15 (1.0)	25 (1.7)
		3-Way Normally Open 		0	.025 (.65)	.025 (.65)	.015 (.011)	.015 (.011)	100 (6.9)	175 (12.1)	200 (13.8)
1	1/32 (.80)			1/32 (.80)	.020 (.015)	.020 (.015)	50 (3.4)	100 (6.9)	150 (10.3)	200 (13.8)	250 (17.2)
2	3/64 (1.2)			3/64 (1.2)	.030 (.023)	.030 (.023)	15 (1.0)	60 (4.1)	125 (8.6)	175 (12.1)	200 (13.8)
3	.055 (1.4)			.055 (1.4)	.050 (.038)	.050 (.038)			55 (3.8)	125 (8.6)	150 (10.3)
4	1/16 (1.6)			1/16 (1.6)	.080 (.062)	.080 (.062)			20 (1.4)	90 (6.2)	100 (6.9)
5	5/64 (2.0)			5/64 (2.0)	.120 (.092)	.120 (.092)				45 (3.1)	50 (3.4)
6	3/32 (2.4)			5/64 (2.0)	.170 (.131)	.120 (.092)				20 (1.4)	40 (2.8)
8	1/8 (3.2)			5/64 (2.0)	.280 (.215)	.120 (.092)					15 (1.0)
3-Way Directional Control 				0	.025 (.65)	.025 (.65)	.015 (.011)	.015 (.011)	75 (5.2)	150 (10.3)	175 (12.1)
		1	1/32 (.80)	1/32 (.80)	.020 (.015)	.020 (.015)	40 (2.8)	90 (6.2)	125 (8.6)	200 (13.8)	250 (17.2)
		2	3/64 (1.2)	3/64 (1.2)	.030 (.023)	.030 (.023)	15 (1.0)	55 (3.8)	100 (6.9)	175 (12.1)	200 (13.8)
		3	.055 (1.4)	.055 (1.4)	.050 (.038)	.050 (.038)			45 (3.1)	125 (8.6)	150 (10.3)
		4	1/16 (1.6)	1/16 (1.6)	.080 (.062)	.080 (.062)			15 (1.0)	90 (6.2)	100 (6.9)
		5	5/64 (2.0)	5/64 (2.0)	.120 (.092)	.120 (.092)				45 (3.1)	50 (3.4)
		6	3/32 (2.4)	5/64 (2.0)	.170 (.131)	.120 (.092)				20 (1.4)	40 (2.8)
		8	1/8 (3.2)	5/64 (2.0)	.280 (.215)	.120 (.092)					15 (1.0)
		3-Way Multi-Purpose 		0	.025 (.65)	.025 (.65)	.015 (.011)	.015 (.011)	65 (4.5)	125 (8.6)	150 (10.3)
1	1/32 (.80)			1/32 (.80)	.020 (.015)	.020 (.015)	30 (2.1)	75 (5.2)	100 (6.9)	175 (12.1)	200 (13.8)
2	3/64 (1.2)			3/64 (1.2)	.030 (.023)	.030 (.023)	10 (.7)	45 (3.1)	80 (5.5)	150 (10.3)	175 (12.1)
3	.055 (1.4)			.055 (1.4)	.050 (.038)	.050 (.038)			35 (2.4)	80 (5.5)	100 (6.9)
4	1/16 (1.6)			1/16 (1.6)	.080 (.062)	.080 (.062)			10 (.7)♦	65 (4.5)	75 (5.2)
5	5/64 (2.0)			5/64 (2.0)	.120 (.092)	.120 (.092)				25 (1.7)	35 (2.4)
6	3/32 (2.4)			5/64 (2.0)	.170 (.131)	.120 (.092)				15 (1.0)	25 (1.7)
8	1/8 (3.2)			5/64 (2.0)	.280 (.215)	.120 (.092)					10 (.7)♦

Notes:

- * Maximum available voltage: 80 volts AC or DC.
- † Maximum available voltage: 120 volts AC or DC.
- ‡ Maximum available duty rating for Class B 266° F (130° C) DC coils.
- ‡ Maximum continuous duty rating for Class B 266° F (130° C) full wave rectified AC coils and Class F 311° F (155° C) DC coils.
- ♦ Do not use for vacuum applications in excess of rated pressure.

Note: 240/60 VAC coils available in 6 watt configurations only.

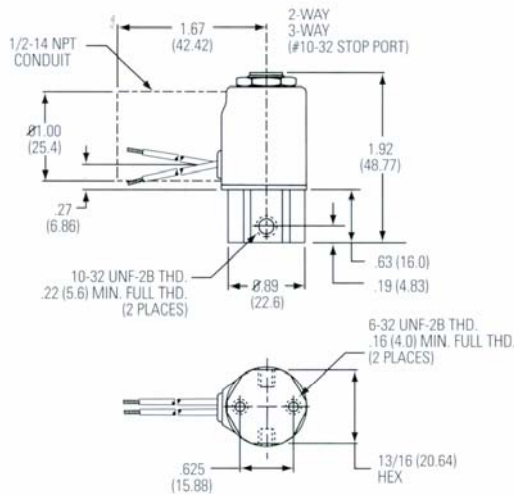
Values in parenthesis are metric. Example: inch (millimeter) – psi (bar)



Dimensions

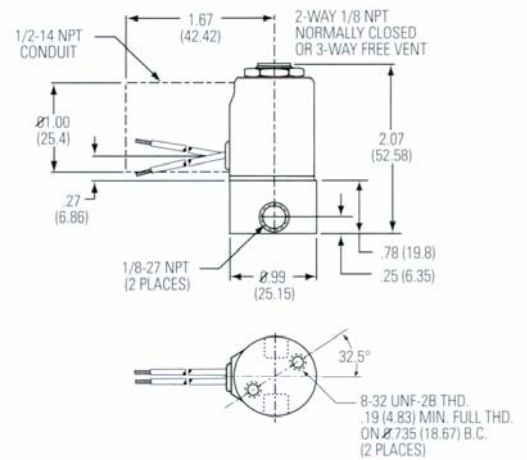
2-WAY NORMALLY CLOSED & 3-WAY

10-32 UNF Ports
Hex Body
Available through #5 orifice



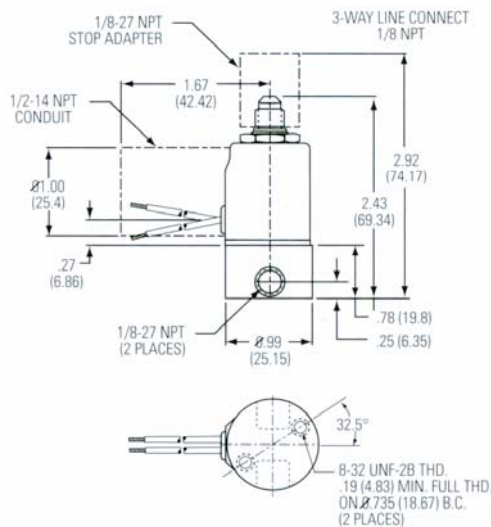
2-WAY NORMALLY CLOSED & 3-WAY FREE VENT**

1/8" NPT Ports
Round

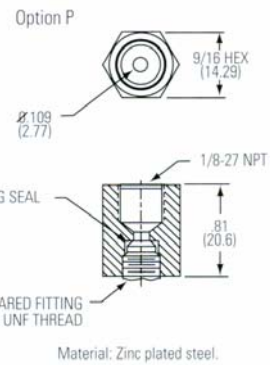


3-WAY*

1/8" NPT Ports
Round Body



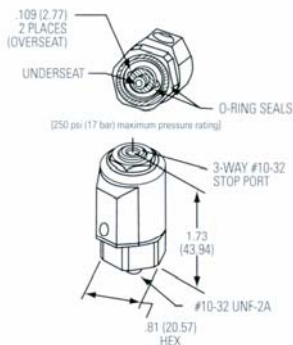
STOP ADAPTOR* (Plated Carbon Steel Only)



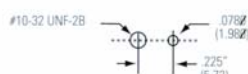
* Stop Adaptor supplied as an option. Standard line connect is SAE 45° X 1/8" flare tube fitting.

** 3-way free vent is supplied with #10-32UNF-2B exhaust port.

#5 MANIFOLD MOUNT

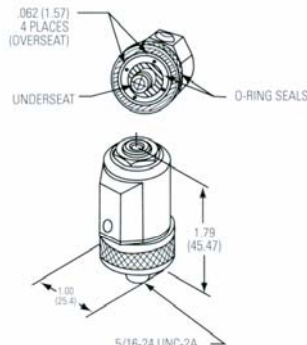


All configurations

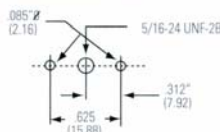


#5 mounting configuration

#9 MANIFOLD MOUNT

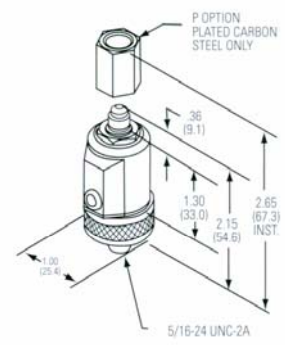


2-way normally closed

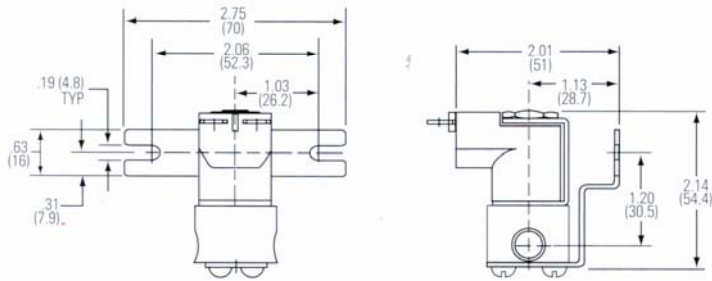


#9 mounting configuration

#9 MANIFOLD MOUNT



2-way normally open or 3-way line connect



Mounting Bracket Option

Typical Inrush and Holding Current

Voltage	Inrush Holding Current				
	.65 Watt	1.5 Watt	3 Watt	6 Watt	9 Watt
24/60	.090 .070	.190 .140	.390 .280	.650 .490	.760 .570
120/60	N/A	.045 .025	.070 .050	.130 .090	.150 .110
240/60	N/A	N/A	N/A	.060 .040	.080 .060
6 VDC	.108 .108	.250 .250	.500 .500	1.000 1.000	1.500 1.500
12 VDC	.054 .054	.125 .125	.250 .250	.500 .500	.750 .750
24 VDC	.027 .027	.063 .063	.125 .125	.250 .250	.375 .375

We manufacture a full line of Solenoids for any of your most demanding applications

**Wattmizer
Manifold**



**"8"
Series**



**"2"
Series**



Typical Applications

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- Welding Equipment
- Dental Equipment
- Sterilizers
- Flushing Systems
- Automotive Suspension Systems
- Truck Fan Clutch Control
- Emissions Monitoring and Control
- Misting Systems
- Dental/Vision Chairs
- Medical Tables/Beds
- Liquid Recycling Systems
- HVAC
- Packaging Equipment
- Colorant Mixing
- Metropolitan Transit
- Blow Molding
- Industrial Washing
- Heat Exchangers

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