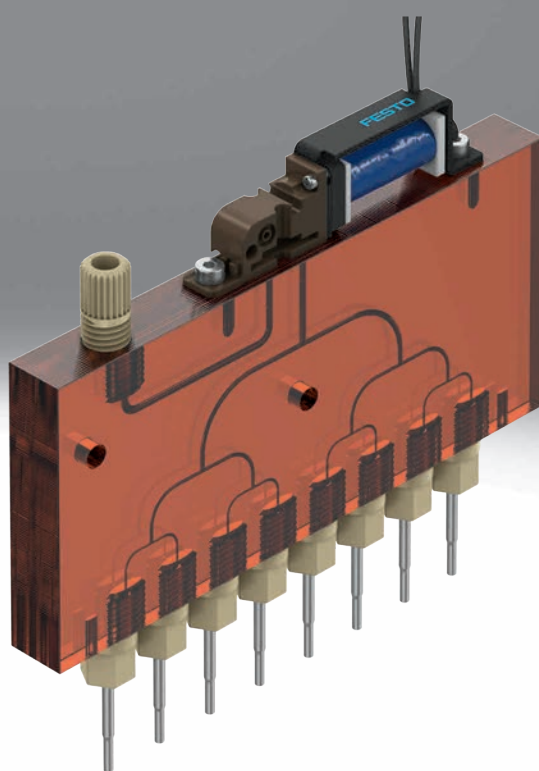


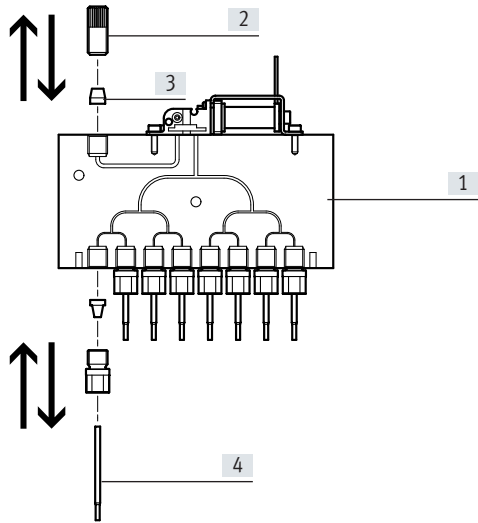
Dispense head VT01

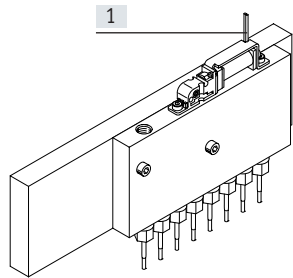
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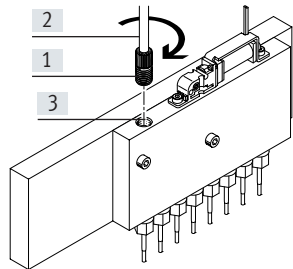


Key features

Description			
Thanks to a grid dimension of 9 mm and a valve with 8 outputs, the VTOI can be easily connected in series, precisely matched to the microwell plate. A 96-channel dispense head can now be realised with only 12 valves.	With just a few other components, you can have a complete dispensing system with a pressure-over-liquid setup.	As only high-performance materials such as PEI (ULTEM), PPS, FKM, ETFE and high-alloy stainless steel come into contact with the media, it is also possible to dispense and aspirate aggressive media.	Benefits: • Extremely precise • 9 mm grid dimension ideal for microwell plates • Simple design with side-by-side mounting for increased throughput • Complete system using just a few components • 1 valve for 8 channels

Design of VTOI		
	[1] Dispense head VTOI [2] Plastic tubing [3] Clamping component [4] Dosing needle VAVN	Typical areas of application: • Filling microwell plates • Dispensing gaseous and liquid media • Dispensing and aspirating gaseous and liquid media

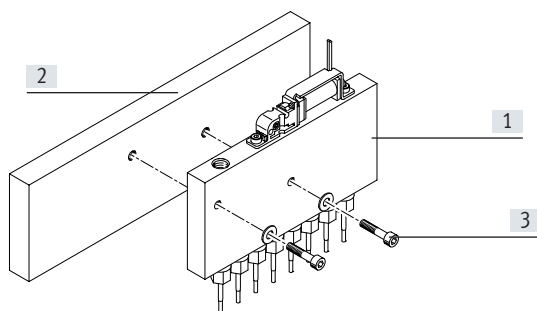
Electrical installation		
	[1] Electrical connection	Connect wire ends [1]. Polarity as desired.

Fluid installation		
	[1] Clamping component [2] Tubing [3] Port	Mount the clamping component [1] on the tubing [2]. Then tighten the clamping component [1] in the port [3].

Key features

Description

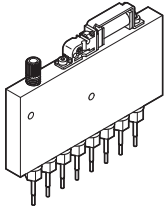
Mounting



- [1] Dispense head VT01
- [2] Mounting surface
- [3] Screws

Position dispense head [1] on the mounting surface [2] and fasten using screws [3].

Product range overview

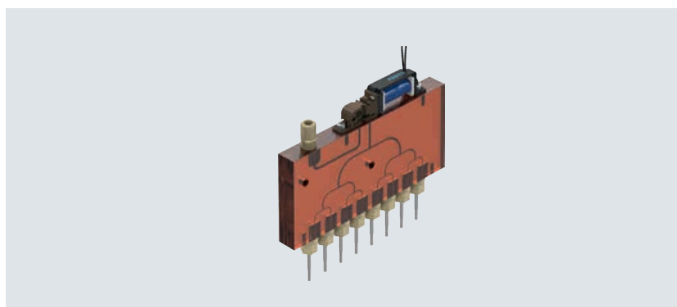
Function	Description	Nominal width of dosing needle	Operating voltage
Dispense head		2/2-way valve, normally closed, single solenoid	
		Cable with plug, plug pattern L9, 2-pin	0.3 mm 24 V DC
		2x individual wire, open end, 2-wire	0.3 mm 24 V DC

Type codes

001	Series	
VTOI	Distributor	
002	Dosing function	
	Dispensing	
A	Dispensing and aspirating	
003	Valve positions	
	1 valve position	
004	Distributor	
V8	8 outputs per valve position	
005	Output connection	
30D3	With metering nozzle, length 30 mm, tapered, nominal width 0.3 mm	
006	Input connection	
U14	Thread 1/4-28 UNF	
007	Nominal width	
08	0.8 mm	
008	Diaphragm and sealing material	
V	FPM	
009	Valve control	
L9	Connection pattern L9	
S015	Individual connection, electric, with flying leads 0.15 m	
010	Nominal operating voltage	
1	24 V DC	

Data sheet

 Voltage
 24 V DC



General technical data

Type	VTOI-A-V8	VTOI-V8
Valve function	2/2-way valve, closed, single solenoid	
Reset method	Mechanical spring	
Nominal width [mm]	0.8	
Nominal width of dosing needle [mm]	0.3	
Internal volume [μl]	167	
Min. dosing volume [μl]	1	
Typical dosing precision	≤ 5% tip-to-tip CV, ≤ 3% intra-run CV	
Operating pressure [bar]	−0.2 ... 0.65	0 ... 1
Grid dimension [mm]	9	
Fluid connection	Female thread 1/4-28 UNF-2B	
Note on fluid connection	Fitting for tubing with 3 mm outside diameter enclosed	
Actuation type	Electrical	
Type of control	Direct	
Sealing principle	Soft	
Type of mounting	Via through-hole for M3 screw	
Mounting position	Vertical	
Product weight [g]	55	
Suitability for vacuum	Yes	No
Electrical connection	Cable with plug, plug pattern L9, 2-pin	2x individual wire, open end, 2-wire
Cable length [m]	0.15	
Wire ends	–	Unsheathed
Nominal conductor cross section	AWG28	–

Electrical data

	VTOI-A-V8	VTOI-V8
Nominal operating voltage [V DC]	24	
Permissible voltage fluctuations [%]	± 10	
Max. electrical power consumption [W]	2	1.8
Duty cycle ED [%]	100	
Degree of protection	IP30	

Operating and environmental conditions

Operating medium	Gaseous media Liquid media
Note on the operating/pilot medium	Observe resistance of materials in contact with the medium
Corrosion resistance class CRC ¹⁾	0

1) Corrosion resistance class CRC 0 to Festo standard FN 940070

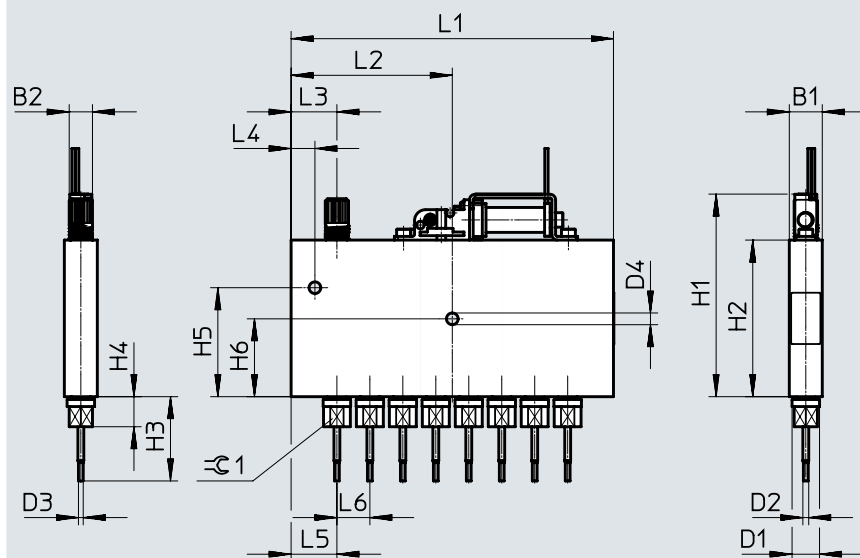
No corrosion stress. Applies to small, visually unimportant standard parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

Materials

Dosing needle material	High-alloy stainless steel
Material number for dosing needle	1.4404
Note on materials	RoHS-compliant Contains paint-wetting impairment substances
Materials in contact with the media	ETFE, FPM, PEI, PPS, high-alloy stainless steel

Data sheet

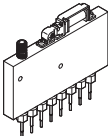
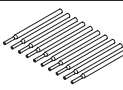
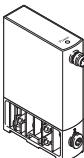
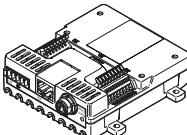
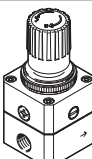
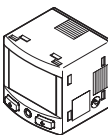
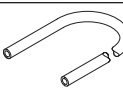
Dimensions

Download CAD data → www.festo.com

Type	B1	B2	D1 Ø	D2 Ø	D3 Ø	D4 Ø	H1	H2	H3	H4	H5	H6
VTOI	9	6.4	7.5	1.6	1.3	3.2	55.3	42.8	23	8.2	29.8	21.2

Type	L1	L2	L3	L4	L5	L6
VTOI	88	44	12.5	6.5	12.5	9

Accessories

Ordering data		Description	Part no.	Type	
Dispense head					
	2/2-way valve, normally closed	Cable with plug, plug pattern L9, 2-pin	8114038	VT0I-A-V8-30D3-U14-08-V-L9-1	
		2x individual wire, open end, 2-wire	8114037	VT0I-V8-30D3-U14-08-V-S015-1	
Ordering data					
	Nominal width	Length	Dosing needle version	Part no.	Type
Dosing needle set (precision needle sets with even smaller manufacturing tolerances than the dosing needles fitted as standard)					
	0.3 mm	30 mm	With chamfer, with taper	8104295	VAVN-N-A1.6-03-30-F-V-V1-P10
		30 mm	With taper	8104294	VAVN-N-A1.6-03-30-V-V1-P10
		60 mm	With chamfer, with taper	8104298	VAVN-N-A1.6-03-60-F-V-V1-P10
		60 mm	With taper	8104297	VAVN-N-A1.6-03-60-V-V1-P10
	0.6 mm	30 mm	-	8104290	VAVN-N-A1.6-06-30-V1-P10
		30 mm	With taper	8104296	VAVN-N-A1.6-06-30-V-V1-P10
		60 mm	-	8104292	VAVN-N-A1.6-06-60-V1-P10
		60 mm	With taper	8104299	VAVN-N-A1.6-06-60-V-V1-P10
	1.2 mm	30 mm	-	8104291	VAVN-N-A1.6-12-30-V1-P10
		60 mm	-	8104293	VAVN-N-A1.6-12-60-V1-P10
Proportional pressure regulator					
	Current type, 4 ... 20 mA	Pressure regulation range 0.005 ... 1	8046304	VEAB-L-26-D7-Q4-A4-1R1	
		Pressure regulation range 0.001 ... 0.2	8046302	VEAB-L-26-D12-Q4-A4-1R1	
	Voltage type, 0 ... 10 V	Pressure regulation range 0.005 ... 1	8046303	VEAB-L-26-D7-Q4-V1-1R1	
		Pressure regulation range 0.001 ... 0.2	8046301	VEAB-L-26-D12-Q4-V1-1R1	
Valve control module					
	For up to 8 solenoid valves		8088772	VAEM-V-S8EPRS2	
			8088772	VAEM-V-S8EPRS2	
Precision pressure regulator					
	For regulating the operating pressure	Pressure regulation range 0.05 ... 0.7	159500	LRP-1/4-0.7	
Pressure sensor					
	For monitoring compressed air and non-corrosive gases		8035542	SPAN-B2R-Q4-PNLK-PNVBA-L1	
Plastic tubing					
	• Colour: blue • Material: TPE-U (PU) • Ambient temperature: -35 ... 60°C		197382	PUN-H-3X0.5-BL	
	• Colour: neutral • Material: TPE-U (PU) • Ambient temperature: -35 ... 60°C		197375	PUN-H-3X0.5-NT	
	• Colour: neutral • Material: PFA • Ambient temperature: -20 ... 150°C		8061167	PFAN-3X0.5-NT	

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