

## MFE Multi-Function vacuum ejectors

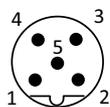


Complete operating instructions on  
[fipa.com](http://fipa.com)

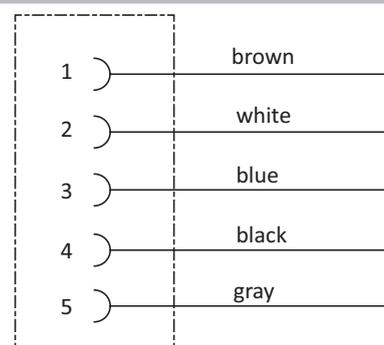
### ELECTRIC CONNECTION

#### Model D M12 male connector

Cable 20.508 or 20.509: Wire colors



Pin 1 - Supply voltage	+24 VDC
Pin 2 - Input signal „vacuum on“	PNP input
Pin 3 - Ground	0 V (GND)
Pin 4 - Output signal „vacuum level ok“ (part present)	PNP output
Pin 5 - Blow-off on	PNP input



#### Model D with Adapter 20.554: Pin assignment

Signal 4



1 - +24 VDC
3 - 0V (GND)
4 - Vacuum Start (Input)

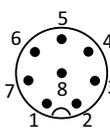
Signal 4



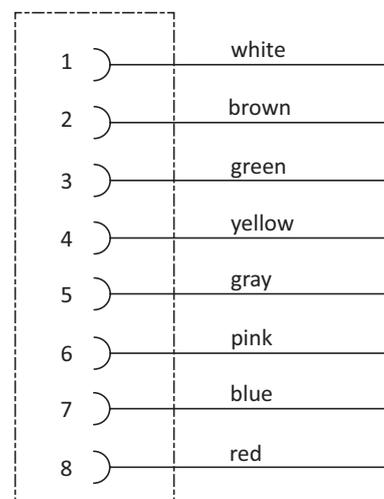
1 - +24 VDC
3 - 0V (GND)
4 - Vacuum/blow-off OK (Output) (part present)

#### Model S M12 male connector

Cable 20.558: Wire colors



Pin 1 - Output signal „vacuum level ok“ (part present)	PNP output
Pin 2 - Supply voltage	+24 VDC
Pin 3 - Output signal predictive maintenance	PNP output
Pin 4 - Input signal „vacuum on“	PNP input
Pin 5 -	
Pin 6 - Input signal „blow-off on“ (when using external blow-off)	PNP input
Pin 7 - Ground	0 V (GND)
Pin 8 -	



## MANUAL OPERATION OF THE EJECTOR

During testing and start up

To test the ejector function, you can activate both blow-off and vacuum generation by using the ejector push buttons, including testing of current configuration.

- > This is achieved by pressing and holding the **M↔** button during power-up, and then release the button (only the power supply +24VDC/GND needed).
- > With this power-up method the electrical inputs in the M12 connector become disabled and temporary replaced by the arrow buttons ▲ and ▼.
- > The Arrow button ▲ corresponds to the input signal "Vacuum on" and ▼ current consumption to the input signal "Blow-off on".

To switch back to normal operation just disconnect the power supply and power-up again.

Hold the **M↔** button during ejector power-up



In manual operation mode the arrow button ▲ corresponds to "Vacuum on" input signal

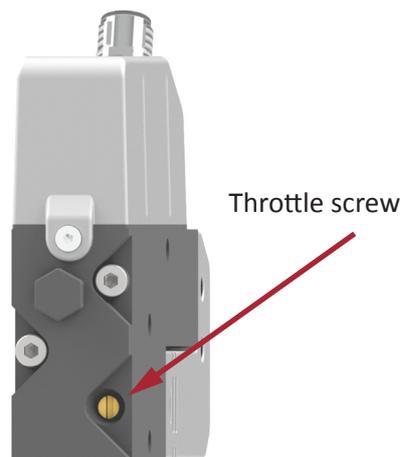
Manual operation is obtained by pressing and holding the **M↔** button during ejector power-up (power only + 24VDC / GND needed).

In manual operation mode the arrow button ▼ corresponds to "Blow-off on" input signal

**Startup**

As a recommendation, adjust the Blow-off to a minimum with the built-in throttle screw to avoid damage to the handled objects or surroundings before the application are up and running.

It's recommended to adjust the Blow-off to a minimum to minimize air consumption.

**TECHNICAL DATA**

**Operating the ejector outside of the specified values below may result in a damaged system and connected components.**

**Electrical Parameters**

Parameter	Symbol	Limit values			Comment
		Min.	Typ	Max.	
Supply voltage [VDC]	$V_s$	19,2	24	26,4	Reverse polarity prot. <sup>1)</sup>
Rated current from VS [mA]	$I_s$	--	--	100	VS = 24V <sup>2)</sup>
Voltage output signals [VDC]	$V_{Out}$	$V_s - 2$	--	$V_s$	
Current output signals [mA]	$I_{Out}$	--	--	100	Short circuit prot. <sup>3)</sup>
Voltage input signals [VDC]	$V_{In}$	15	--	$V_s$	Relative to $V_s$ GND
Current input signals [mA]	$I_{In}$	--	5	--	$V_s = 24V$

<sup>1)</sup> Power supply must comply with EN60204

<sup>2)</sup> Current consumption without external load

<sup>3)</sup> Constant maximum external load on all output simultaneously in combination with high environment temperature might damage the ejector.

**Mechanical Data**

Parameter	Limit values			Comment
	Min.	Typ	Max.	
Storage temperature [°C]	-10	--	+60	
Operating temperature [°C]	0	--	+50	
Operating pressure [bar]	4	--	7	
Recommended pressure [bar]	--	5	--	
Protection class	--	--	IP65	with M12 male connector
Humidity [% r.h.]	10	--	90	free from condensation
Operating medium	According to ISO 8573-1:2010 [3:4:1]			

**Important!**

**Make sure all components in the vacuum system are without electricity, compressed air and vacuum before service/repair is done. Disconnect electricity/compressed air/vacuum supply and blow compressed air into the holding valves so that no vacuum remains. Ensure that all parts are removed from the suction cups. Now that the system is safe service/repair may be done.**

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