



## Fusion4 MiniPak

Zero in on accuracy. The Fusion4 MiniPak combines the most advanced hardware with the most intuitive, efficient and accurate controller on the market for precise single stream additive injection. Benefit from intelligent features like modular I/O for scalable functionality, the Diagnostics Dashboard for rapid fault finding, a Calibration Wizard for automated W&M calibration records, and multiple language support. The optional local access device, meanwhile, adds even more enhanced security and functionality.

**Global Experience. Locally Applied.**



Performance  
Enhancing  
Additives

Dyes and  
Markers

Lubricity  
Enhancers

NoX  
Reduction  
Additives

The Fusion4 MiniPak meets the most rigorous demands for precise additive injection.

Building on decades of experience by pioneers in the field, it's a hazardous area solution for a wide range of applications:

### A Better Solution

- **Multiple language support:** English (US), English (UK), Chinese, Japanese, French, Spanish, Portuguese, Italian, Dutch, German and Polish.
- **Rapid start-up:** With the Calibration Wizard and 45-second configuration
- **Zero-downtime:** Firmware upgrades live in the field with the LAD
- **Configurable, expandable I/O:** For flexible operations and easy start-up
- **Huge transaction archives:** Up to 10,000 transaction records
- **Advanced alarm handling:** Monitor nearly twice as many injection control parameters than any other device
- **Real-time diagnostics:** From the diagnostics dashboard

### Trust Us

- Over 60 years experience in terminal operations
- Inventor of the smart additive injection controller
- Solutions for every application
- Local support with global expertise
- A single source provider with wide portfolio

### Precision by Design

Fusion4 MiniPak combines the industry standard MonoBlock metering and control manifold with our Single Stream Controller (SSC). This is designed exclusively to manage chemical injection, and continuously monitors the correct additive volume, ensuring the additive ratio is correct at every point in the transaction. Every injection adds the precise amount needed to maintain the ratio, providing unmatched accuracy, reducing giveaways and saving you money.

### A Standard Platform for More Efficient Operations

Fusion4 MiniPak is the first additive injection system with identical controller hardware and firmware used to implement blending control. A common platform for both means more efficient maintenance, a lighter inventory for spares and quicker training for personnel.

### Simple Configuration and Updates

Configure it from new in less than 45 seconds with the smart, handheld Local Access Device (LAD) for a quicker, more efficient start-up, and use the LAD again to update firmware live in the field, boosting productivity. There's no need to power down, open, and exchange EPROMs in the SSC.

### Flexible I/O and Interfacing

Assign functions to any input or output with configurable I/O. Flexible interfacing is possible via the LAD and Fusion4 Portal software package. It also supports standard communication protocols such as modbus

### Smart Calibration and Diagnostics

The Fusion4 MiniPak also includes a Calibration Wizard to automatically capture every calibration transaction (including time stamps, calibration volumes, k-factor corrections and even meter serial numbers), for greater efficiency. The Diagnostics Dashboard for complete hardware monitoring from a single screen, helps boost reliability and reduces maintenance.

### Easy Maintenance

The LAD facilitates two way data communications between the Fusion4 SSC and the LAD, allowing rapid, secure transfer of transaction data, configuration files and calibration records. Simple to configure and maintain, Fusion4 MiniPak also comes with a handheld infra-red controller for adjusting parameters, resetting alarms and calibration. A Calibration Kit complete with 500ml calibration jar is also available, incorporating a quick release connector, adjustable back-pressure valve, gauge, and isolation valve, for clean, accurate calibration.

### Powerful Logging

The SSC can store 10,000 transaction logs, 128 alarm logs and 100 calibration logs. Advanced alarm handling, meanwhile, monitors nearly twice as many injection control parameters than any other device, while its 3.5" QVGA full colour screen clearly annunciates and differentiates all alarm conditions.

Anti Static  
Additives

Cold Flow  
Enhancers

Anti-foaming  
Agents

Anti Icing  
Additive

Detergent  
Additives

Lead  
Replacement

# Upgrade Your Injection Control

## Options to Suit Your Operation

Suitable for wherever there is a pressurized additive supply with a minimum 3 bar differential between the additive supply pressure and main product flow pressure (with typical additive supply pressure in applications of 10 Bar), Fusion4 MiniPak comes with a range of options.

- Standard flow and low flow injectors: Standard is suitable for all applications between 100 and 3000 ppm (parts per million), with a typical shot size of between 15cc and 200cc, based on typical loading flow rates of 2400 L/min. The low flow injector accommodates applications between 20 and 600 ppm, with a typical shot size of between 3cc and 40cc.
- Inlet and outlet isolation ball valves are available pre-installed on either side of the MonoBlock. 'Quick release' flushing connections fitted between the isolation ball valves and the block, and allowing the decontamination of the MonoBlock prior to maintenance, are also available.
- Ryton (polymer) gears fitted as standard, with stainless steel available where Ryton is chemically incompatible.
- Mounting on an SS back-plate as standard.
- Field entry plugs: Exd blanking can be supplied with sufficient plugs to secure all unused cable entries following installation. All unused bottom entries are blanked as standard.
- Enclosure venting with an optional Breather Drain for use where an installation is subject to fluctuations in temperature that can lead to condensation and moisture build-up. Preventing moisture build-up within the enclosure whilst ensuring the integrity and Ex approval of the installation is maintained the Breather Drain will also maintain the IP66 rating of the enclosure.



## Keeping You in Control

The Fusion4 handheld controller can be used for a variety of tasks such as adjustment of parameters, resetting alarms and calibration of the injector. Our new LAD increases functionality and simplifies the SCC interface, allowing easy adjustment and two-way data communications between the SSC and the LAD for rapid transfer of transaction data, configuration files and calibration records, as well as firmware upgrading in the field. A removable SD card makes safe area transfer of data easy.

## Technical Specifications

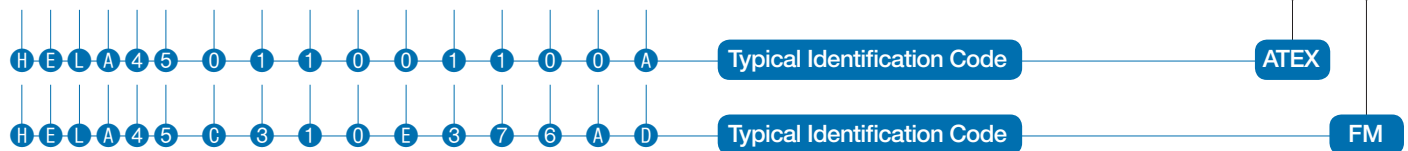
Approvals	MSC	Sensor	Solenoid
ATEX	II 2 G Ex d [ia] IIB T6 Gb	II 2 G Ex d IIC T6 Gb	II 2 G Ex m II T3/T5 Gb
IECEX	Ex d [ia] IIB T6	Ex d IIC T6 Gb	Ex m IIC T3/T5 Gb
FM	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T3A/B
CSA/CUL	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T6	Class1 Div1 Group C&D T3A/B
Flow	ATEX/IECEX	FM/CSA	
Nominal K-Factor	Standard Flow 750 p/L	Extended Flow 5000 p/USgal	
Meter Accuracy	0.50%	0.50%	
Meter Repeatability	0.25%	0.25%	
Max Flow Rate	11 L/min	2.5 USgal/min	
Min Flow Rate	0.1 L/min	0.1 USgal/min	
Max Pressure	1.6 MPa	400 psi	
Max Viscosity	300 cst.	300 cst.	
Environmental			
Operating Temperature	-20 °C to +65 °C (SSC -40 °C to +65 °C)	-4 °F to +149 °F (SSC -40 °F to +149 °F)	
Storage Temperature	-40 °C to +85 °C	-40 °F to +185 °F	
Protection Class	IP66	IP66	
Humidity	% - 95% Non-Condensing	5% - 95% Non-Condensing	
Materials			
Back-plate	304 Stainless Steel	304 Stainless Steel	
Enclosure	Aluminium, Chromatized (class 3)	Aluminum, Chromatized (class 3)	
Manifold	303 Stainless Steel	303 Stainless Steel	
Meter Gears	538 Ryton (SS optional)	538 Ryton (SS optional)	
Solenoid Seals	Isolast Plus®	Chemraz®	
Connections			
Cable Entries	4 x M20 & 4 x M25	4 x 1" NPT	
Manifold Connections	3/8" NPT	3/8" NPT	
Electrical			
Voltage	88 to 264 Vac	88 to 264 Vac	
Flow Meter Inputs	1 x 5 kHz dual input, 1 x 5kHz single input	1 x 5 kHz dual input, 1 x 5kHz single input	
DC Inputs	2 x configurable	2 x configurable	
AC Inputs	2 x configurable	2 x configurable	
DC Outputs	2 x configurable	2 x configurable	
AC Outputs	3 x configurable	3 x configurable	
Communications	1 x 2 wire or 4 wire RS485	1 x 2 wire or 4 wire RS485	
Option Card Upgrade			
RTD Input	1 x PT100 type, 3 or 4 wire		
DC Inputs	2x configurable		
AC Inputs	4x configurable		
Analogue Input	1 x 4-20mA configurable passive or active		
Analogue Output	1 x 4-20mA configurable passive or active		
AC Outputs	2x configurable		
Communications	1 x 2 wire RS485		
Interface			
Protocols	Modbus RTU, FlexConn, FMC Smith, Brooks Petrocount		
Display	3.5" QVGA color TFT LCD screen		
Languages	English (US), English (UK), French, German, Spanish, Dutch, Chinese, Japanese, Polish, Italian, Portuguese		
Handheld Devices	Fusion4 LAD (Local Access Device), Fusion4 IR Controller (Infrared)		
Weight			
Unit weight	35 lb / 16 kg (approx)		
Options		Product Number	
Fusion4 LAD FM (Local Access Device)		323-1392002	
Fusion4 LAD CSA (Local Access Device)		323-1392003	
Fusion4 LAD ATEX & IECEX (Local Access Device)		323-1392004	
Fusion4 IR Controller (UL)		10-31052	
Fusion4 IR Controller (ATEX)		10-31052-F4	
Fusion4 IR Controller (IECEX)		10-31052-F4X	

## Identification Code

CV 1-6 Product Family		ATEX	FM
H E L A 4 0	Fusion4 MiniPak ATEX	✓	
H E L A 4 5	Fusion4 MiniPak FM		✓
<b>CV 7 I/O Expansion</b>			
0	Not Requested	•	•
C	Can-Option Board	•	•
<b>CV 8 Glanding/Conduit</b>			
1	Standard Ex Glands	•	
2	Hawke Ex Glands	•	
3	UL/FM Conduit		•
<b>CV 9 Number of Injectors</b>			
1	One	•	•
<b>CV 10 Standard Flow &amp; Gear Material</b>			
0	No Standard Flow Injector Selected	•	•
A	Standard Flow - Ryton Gears (760 p/L)	•	
B	Standard Flow - Stainless Steel Gears (760 p/L)	•	
<b>CV 11 Low/Extended Flow &amp; Gear Material</b>			
0	No Low Flow Injector Selected	b	
C	Low Flow - Ryton Gears (1460 p/L)	c	
D	Low Flow - Stainless Steel Gears (1460 p/L)	c	
E	Extended Flow - Ryton Gears (5000 p/USgal)		•
F	Extended Flow - Stainless Steel (5000 p/USgal)		•
<b>CV 12 Solenoid - Seat Material</b>			
1	Isolast (ATEX standard)	•	
2	PTFE	•	•
3	Chemraz (FM standard)		•
<b>CV 13 Control Solenoid - Voltage and Temperature Class</b>			
1	230 VAC 50Hz - T3 - Exm - Standard	•	
3	230 VAC 50Hz - T6 - Exd	•	
4	110 VAC 50Hz - T3 - Exm	•	
5	110 VAC 50Hz - T5 - Exm	•	
6	110 VAC 50Hz - T6 - Exd	•	
7	120 VAC 50/60Hz - UL/FM		•
8	240 VAC 50/60Hz - UL/FM		•
<b>CV 14 Blocking Solenoid, Isolation &amp; Flushing Options</b>			
0	Not Requested	•	•
1	Isolation valve Inlet & Outlet	•	•
2	Isolation valve Inlet & Outlet + Flushing Points 1/4" QRC	•	
3	Blocking Solenoid (No Isolation Valves)	•	
4	Blocking Solenoid + Isolation valve Inlet & Outlet	•	
5	Blocking Solenoid + Isolation valve Inlet & Outlet + Flushing Points 1/4" QRC	•	
6	Thermal relief Assembly		•
7	Thermal relief Assembly + Isolation Valves - Inlet & Outlet		•
8	Thermal relief Assembly + Blocking Solenoid		•

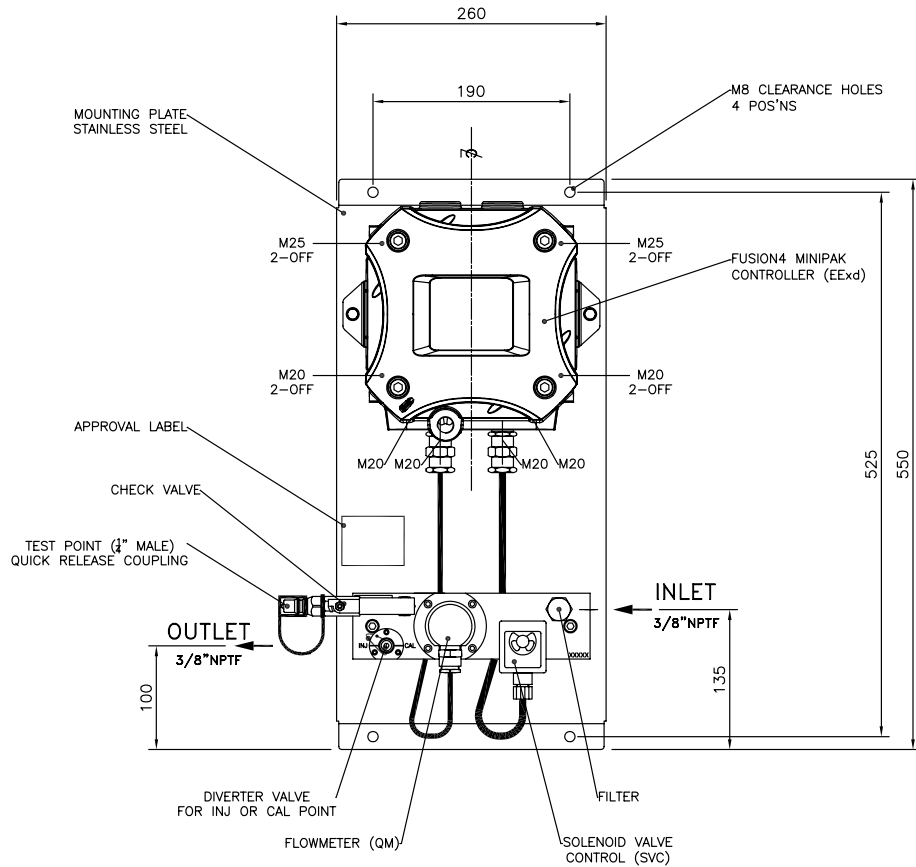
## Identification Code *(continued)*

													ATEX	FM
<b>CV 15 Field Entry Plugs</b>														
① Not Requested													•	•
① 4 x M20 Exd Blanking plugs													•	
② 4 x M25 Exd Blanking plugs													•	
③ 4 x M20 & 4 x M25 Exd Blanking plugs (full)													•	
④ Breather only no plugs													•	•
⑤ 4 x M20 Exd Blanking plugs + Breather													•	
⑥ 4 x M25 Exd Blanking plugs + Breather													•	
⑦ 4 x M20 & 4 x M25 Exd Blanking plugs (full) + Breather													•	
A 2 x 1" NPT Exd Blanking Plugs														•
B 4 x 1" NPT Exd Blanking Plugs (full)														•
C 2 x 1" NPT Exd Blanking Plugs + Breather														•
D 4 x 1" NPT Exd Blanking Plugs + Breather (full)														•
<b>CV 16 Ex Approvals</b>														
A ATEX													•	
B IECEX													•	
C CCOE (India)													•	
D FM														•
E CSA														•

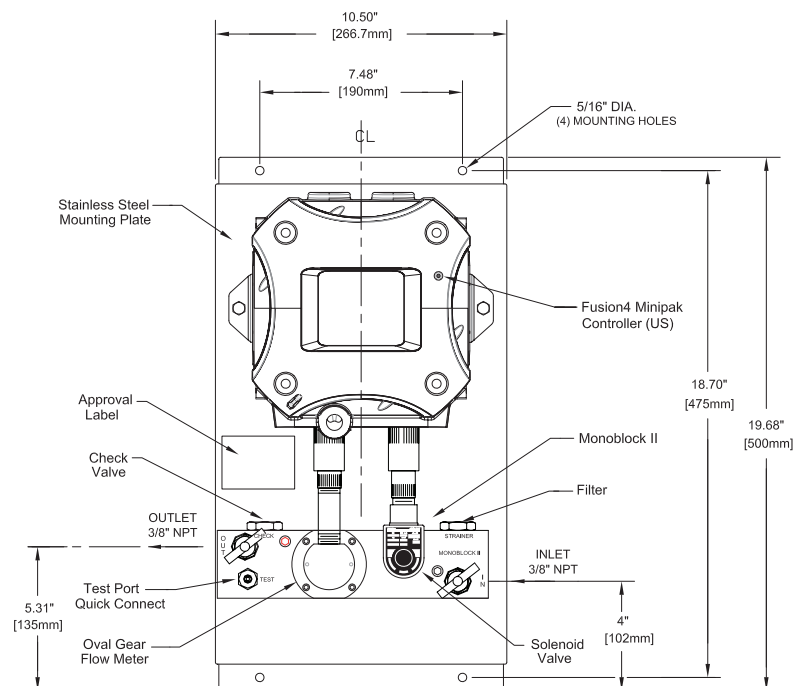


## Dimensional Drawing

### Fusion4: ATEX Compliant



### Fusion4: FM Compliant



### **For More Information**

To learn more about Honeywell Enraf's Fusion4 MiniPak solutions, visit [www.honeywellenraf.com](http://www.honeywellenraf.com) or contact your Honeywell Enraf account manager.

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