GUIDANT

Fusion4 MiniPak

Meeting the most rigorous demands for precise additive injection

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.

A Better Solution

Multiple Language Support

English (US), English (UK), Mandarin, 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

Benefit from intelligent features like modular input/output (I/O) for scalable functionality, the Diagnostics Dashboard for rapid fault finding, the Calibration Wizard for automated weights and measures (W&M) calibration records, and multiple language support. The optional local access device (LAD) adds even more enhanced security and functionality.

Fusion4 single-stream controller additive (SSC-A)

Building on Decades of Experience

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.

Precision by Design

The Fusion4 MiniPak combines the industry standard Mono-Block additive metering and control manifold with the Fusion4 Single-Stream Controller (SSC). This is designed to manage additive injection by continuously monitoring 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 over-delivery, and saving you money.

Simple Configuration and Updates

Configure the MiniPak from new in less than 45 seconds with the smart, handheld LAD for a fast, efficient start-up and later to update firmware live in the field, boosting productivity. You won't need to power down, open, and exchange EPROMs in the SSC.

Flexible I/O and Interfacing

You can assign functions to any input or output with the configurable I/O. Flexible interfacing is possible using the LAD and Fusion4 Portal software package. It also supports standard communication protocols, such as Modbus.

Smart Calibration and Diagnostics

The Fusion4 MiniPak includes the Calibration Wizard, which automatically captures every calibration transaction (including time stamps, calibration volumes, k-factor corrections, and even meter serial numbers) for greater efficiency and security. The Diagnostics Dashboard provides complete hardware monitoring from a single screen, boosting reliability and reducing maintenance time.

Easy Maintenance

The LAD facilitates two-way data communications between the Fusion4 SSC and the LAD, enabling the rapid, secure transfer of transactional data, configuration files, and calibration records. A Calibration Kit—complete with a 500-milliliter (ml) 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 monitors nearly twice as many injection control parameters than any other device, while its 3.5-inch quarter video graphics array (QVGA) full color screen clearly displays all alarm conditions.

Upgrade Your Injection Control

Apply the MiniPak wherever you have 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.

Options to Suit Your Operation

Standard- and Low-Flow Injectors

Standard flow is suitable for all applications between 100 and 3,000 parts per million (ppm) with a typical shot size of between 15 and 200 cubic centimeters (cc), based on typical loading flow rates of 2,400 liters per minute (l/min). The low-flow injector accommodates applications between 20 and 600 ppm, with a typical shot size of between 3 and 40 cc.

Inlet and Outlet Isolation Ball Valves

Inlet and outlet isolation ball valves are available pre-installed on either side of the Mono-Block. Quick release flushing connections fitted between the isolation ball valves and the block and allowing decontamination of the Mono-Block prior to maintenance are also available.

Stainless Steel Gears Available

Ryton (polymer) gears fitted as standard, with stainless steel available where Ryton is chemically incompatible.

Mounting on Stainless Steel Back Plate

Mounting on a stainless steel back plate as standard.

Field Entry Plugs

Ex d blanking plugs can be supplied with sufficient plugs to secure all unused cable entries following installation.

Optional Breather Drain

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 while 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.

The LAD increases functionality and simplifies the SSC interface, enabling easy adjustment and two-way data communications between the SSC and the LAD for rapid transfer of transactional data, configuration files, and calibration records, as well as firmware upgrading in the field. A removable Secure Digital (SD) card makes safe area transfer of data easy.

Trust Us

- Over 90 years of experience in terminal operations
- A pioneer in smart additive injection
- Solutions for every application
- Local support with global expertise
- Single-source provider with wide product portfolio
- Global product
- Improved safety, reliability, and protection against system failure
- Seamless interface with TAS systems/PLC/DCS, or stand-alone operation
- Proactive control algorithm improves on-spec delivery of additive products
- Performance-enhancing additives
- Dyes and markers
- Lubricity enhancers
- NOx-reduction additives
- Antistatic additives
- Cold-flow enhancers
- Antifoaming agents
- Anti-icing additives
- Detergent additives
- Lead replacement

Technical Specifications

EX CERTIFICATIONS	SSC	MONOBLOCK SENSOR	SOLENOID
Zone Protection Markings	Ex d [ia] IIB T6 Gb	Ex db IIC T6 Gb	Varies with Solenoid Manufacturer (any Zone 1 method of protection)
ATEX	KEMA 10ATEX0095X	UL 25 ATEX 3482X	Manufacturer Dependent
IECEx	IECEx KEM 10.0044X	IECEx UL 25.0089X	Manufacturer Dependent
UL Brazil	UL-BR 25.1435X	UL-BR 26.0378X	Manufacturer Dependent
PESO	P663203/3	P66385/1	Manufacturer Dependent
North American Markings	Class 1, Division 1, Groups C and D T6; Additional for Canada: Zone 1 Ex d [ia] IIB	Class I, Division 1, Groups C and D T6	Class I, Division 1, Groups C and D Note: T code dependent or manufactures rating
FM	FM17US0199	N/A	Manufacturer Dependent
CSA	File Number 305885	N/A	Manufacturer Dependent
UL/CUL	N/A	UL File E182719	Manufacturer Dependent

	METRIC ENTRANCE	NPT ENTRANCE
Flow		
Nominal K-Factor	Standard flow: 760 pulses per liter (p/L) Low flow: 1,460 p/L	Extended flow: 5,000 pulses per gallon (PPG)
Meter Accuracy	0.50%	0.50%
Meter Repeatability	0.25%	0.25%
Max Flow Rate (Max flow rate at viscosity 50 cSt and max flow rate will reduce in higher viscosity)	9.5 liters per minute (l/min) 1.0 liters per minute (l/min)	2.5 US gallons per minute (USGPM)
Min Flow Rate	0.38 l/min 0.1 /min	0.1 USGPM
Max Pressure	235 pound-force per square inch (psi) (16 bar)	400 psi
Max Viscosity	300 centistoke (cSt)	300 cSt
Environmental		
Operating Temperature	-20 to 65 °C (SSC -40 to 65 °C)	-4 to 149 °F (SSC -40 to 149 °F)
Storage Temperature	-40 to 85 °C	-40 to 85 °C
Protection Class	IP66	IP66
Humidity	5 to 95% non-condensing	5 to 95% non-condensing
Materials		
Backplate	304 stainless steel	304 stainless steel
Enclosure	Aluminum, chromatized (class 3)	Aluminum, chromatized (class 3)
Manifold	303 stainless steel	303 stainless steel
Meter Gears	538 Ryton (stainless steel optional)	538 Ryton (stainless steel optional)
Solenoid Seals	Isolast Plus	Chemraz
Connections		
Cable Entries	Four M40 Four M25	Four 1 inch National Pipe Thread (NPT)
Manifold Connections	⅜ inch NPT	⅜ inch NPT

Electrical	
Voltage	88 to 264 VAC
Flow Meter Inputs	• One 5 kilohertz (kHz) dual input • One 5 kHz single input
DC Inputs	Two configurable
AC Inputs	Two configurable
DC Outputs	Two configurable
AC Outputs	Three configurable
Communications	One 2-wire or 4-wire RS 485
Option Card Upgrade	
RTD Input	One PT100 type, 3- or 4-wire
DC Inputs	Two configurable
Analogue Input	One 4-20 mA configurable passive or active
Analogue Output	One 4-20 mA configurable passive or active
AC Outputs	Two configurable
Communications	One 2-wire RS 485
Interface	
Protocols	Modbus remote terminal unit (RTU), FlexConn, Smith Meter, Brooks Petrocount
Display	3.5-inch QVGA color thin-film transistor (TFT) liquid-crystal display (LCD) screen
Languages	English (US and UK), French, German, Spanish, Dutch, Mandarin, Japanese, Polish, Italian, and Portuguese
Weight	
Unit Weight	Approximately 35 pounds (lb)/16 kilograms (kg)

Optional LAD

Options	Product Number
Fusion4 LAD FM	323-1392002
Fusion4 LAD UL Brazil P/N	323-1392005
Fusion4 LAD ATEX and IECEx and PESO	323-1392004

Modeling Codes for Fusion4 MiniPak Metric Enclosure

Characterization Value (CV)		
CV 1 through 6	**Product Family**	**Availability**
HELA40	Fusion4 MiniPak ATEX	↓
CV 7	**I/O Enclosure**	
0	Not requested	·
C	Can-option board	·
CV 8	**Glanding/Conduit**	
1	Standard Ex glands	·
2	Hawke Ex glands	·
CV 9	**Number of Injectors**	
1	One	·
CV 10	**Standard Flow and Gear Material**	
0	No standard flow injector selected	·
A	Standard flow - Ryton gears (760 p/L)	·
B	Standard flow - stainless steel gears (760 p/L)	·
CV 11	**Low/Extended Flow and Gear Material**	
0	No low flow injector selected	b
C	Low flow - Ryton gears (1,460 p/L)	c
D	Low flow - stainless steel gears (1,460 p/L)	c
CV 12	**Solenoid - Seat Material**	
1	Isolast (ATEX standard)	·
2	PTFE	·
CV 13	**Control Solenoid - Voltage and Temperature Class**	
1	1,230 VAC 50 Hz - T3 - Ex m - standard	·
2	230 VAC 50 Hz - T5 - Ex m	·
3	230 VAC 50 Hz - T6 - Ex d - ATEX	·
4	110 VAC 50 Hz - T3 - Ex m	·
5	110 VAC 50 Hz - T5 - Ex m	·
6	110 VAC 50 Hz - T6 - Ex d - ATEX	·
A	110 VAC 50 Hz - T4 - Ex d - IECEx	·
CV 14	**Blocking Solenoid, Isolation and Flushing Options**	
0	Not requested	·
1	Isolation valve inlet and outlet	·
2	Isolation valve inlet and outlet + flushing points 1/4" QRC	·
4	Blocking solenoid + isolation valve inlet and outlet	·
5	Blocking solenoid + isolation valve inlet and outlet + flushing points 1/4" QRC	·
CV 15	**Field Entry Plugs**	
0	Not requested	·
1	Four M20 Ex d blanking plugs	·
2	Four M25 Ex d blanking plugs	·
3	Four M20 and four M25 Ex d blanking plugs (full)	·
4	Breather only (no plugs)	·
5	Four M20 Ex d blanking plugs + breather	·
6	Four M25 Ex d blanking plugs + breather	·
7	Four M20 and four M25 Ex d blanking plugs (full) + breather	·
CV 16	**Ex Approvals**	
A	ATEX	d
B	IECEx	e
C	CCOE (India)	d

Typical Model Code

CV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Value	H	E	L	A	4	0	0	1	1	0	0	1	1	0	0	A

Modeling Codes for Fusion4 MiniPak FM Enclosure

Characterization Value (CV)		
CV 1 through 6	**Product Family**	**Availability**
HELA45	Fusion4 MiniPak FM	↓
CV 7	**I/O Enclosure**	
0	Not requested	·
C	Can-option board	·
CV 8	**Glanding/Conduit**	
3	UL/FM conduit	·
CV 9	**Number of Injectors**	
1	One	·
CV 10	**Standard Flow and Gear Material**	
0	No standard flow injector selected	·
CV 11	**Low/Extended Flow and Gear Material**	
E	Extended flow - Ryton gears (5,000 p/USgal)	·
F	Extended flow - stainless steel (5,000 p/USgal)	·
CV 12	**Solenoid - Seat Material**	
2	PTFE	·
3	Chemraz (FM standard)	·
CV 13	**Control Solenoid - Voltage and Temperature Class**	
7	120 VAC 50/60 Hz - UL/FM	·
8	240 VAC 50/60 Hz - UL/FM	·
CV 14	**Blocking Solenoid, Isolation and Flushing Options**	
0	Not requested	·
1	Isolation valve inlet and outlet	·
6	Thermal relief assembly	·
7	Thermal relief assembly + isolation valves - inlet and outlet	·
CV 15	**Field Entry Plugs**	
0	Not requested	·
4	Breather only (no plugs)	·
A	Two 1" NPT Ex d blanking plugs	·
B	Four 1" NPT Ex d blanking plugs	·
C	Two 1" NPT Ex d blanking plugs + breather	·
D	Four 1" NPT Ex d blanking plugs + breather (full)	·
CV 16	**Ex Approvals**	
D	FM	·
E	CSA	·

Typical Model Code

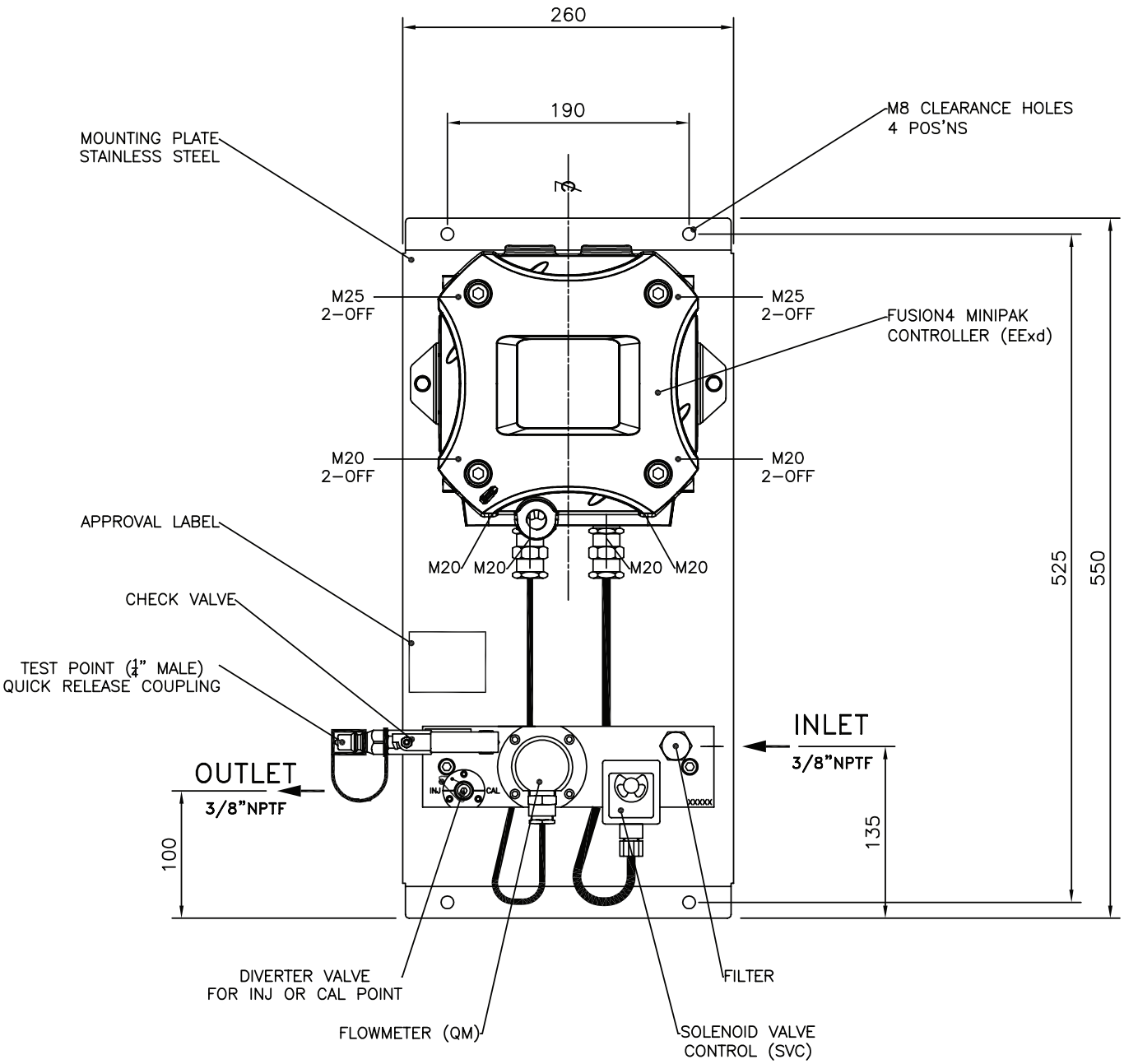
CV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Value	H	E	L	A	4	5	C	3	1	0	E	3	7	6	A	D

Restrictions

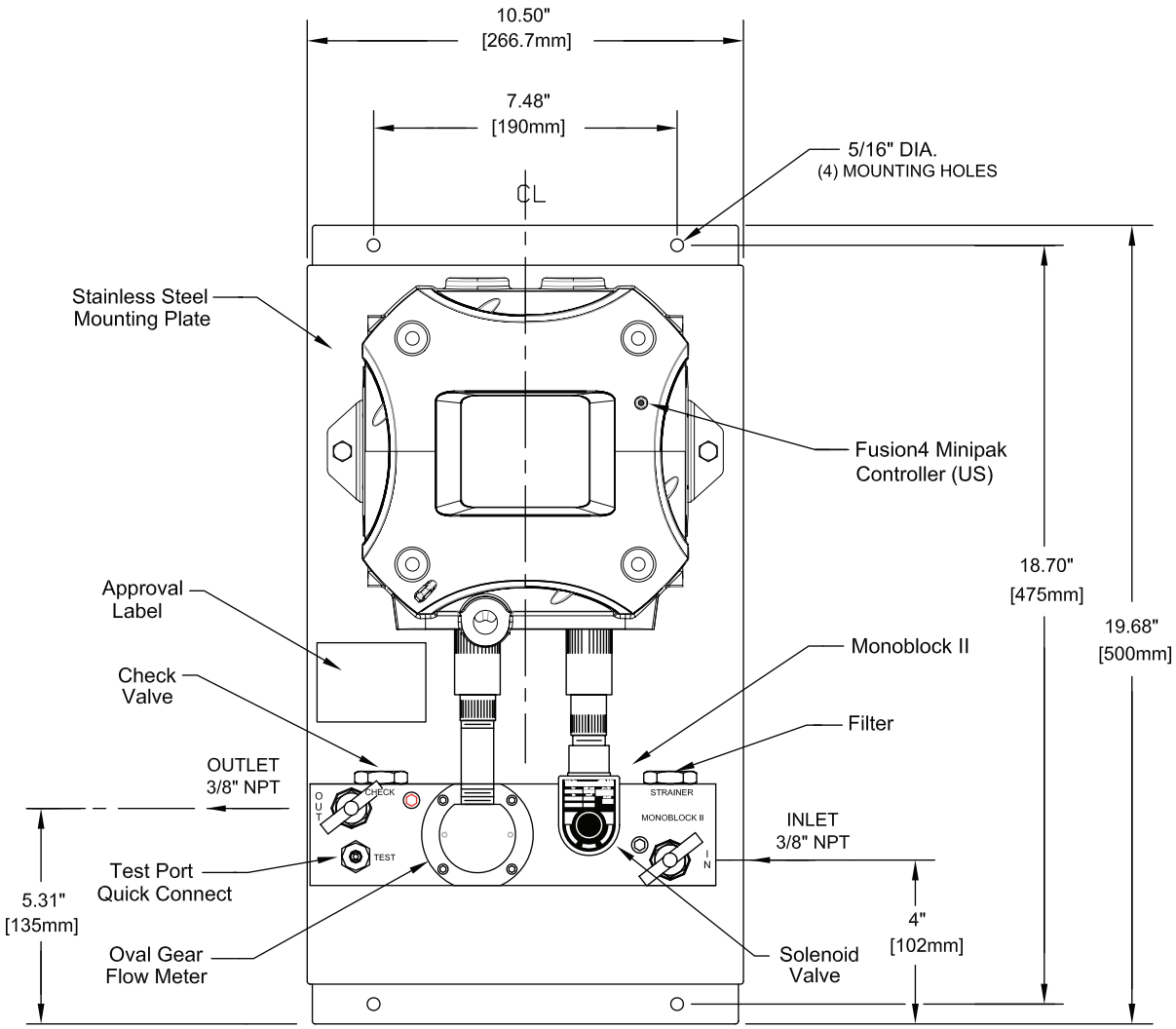
Restriction Letter	Only Available with Selection		Not Available with Selection	
	CV	Selection	CV	Selection
b	10	A, B		
c			10	A, B
d	13	1, 2, 3, 4, 5, 6		
e	13	A, B, 1, 2, 4, 5		

Dimensions

Fusion4 MiniPak ATEX Compliant



Fusion4 MiniPak FM Compliant



About Guidant

As the undisputed leader in liquid and gas custody transfer solutions with the largest global install base, Guidant's legacy is built on more than 90 years of expertise, accuracy, reliability, and best-in-class technologies. We are a private company focused on the measurement solutions business, serving emerging and established energy markets across the globe.

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