

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmaprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

FSV430abcdefgh – Vortex Flow Transmitter – Integral Sensor – Dual Seal

XP-IS/ I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
DIP / II, III / 1 / EFG / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67,

a = Explosion Protection Certification; F1 or F9.

b = System Design; C1, or C2.

c = Process Connection Type / Meter Size / Connection Size: W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1, or F300R0.

d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.

e = Temperature Range of Measuring Medium; A1, B1, or C1.

f = Housing Material / Cable Glands; B1, or T1.

g = Output Signal; H1, H5 or M4.

h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2 NG*, NS* and/or NL*.

* = Any single character – Not relevant to safety.

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSV430abcdefgh – Vortex Flow Transmitter – Remote Sensor – Dual Seal

XP-IS/ I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
DIP / II, III / 1 / EFG / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67,

a = Explosion Protection Certification; F1 or F9

b = System Design; R1, or R2.

c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1, or F300R0.

d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, or A9, J0, J1, J2, J3,

To verify the availability of the Approved product, please refer to www.approvalguide.com

J4.

e = Temperature Range of Measuring Medium; A1, B1, or C1.

f = Housing Material / Cable Glands; B1, or T1.

g = Output Signal; H1, H5 or M4.

h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SC*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS* and/or NL*.

* = Any single character – Not relevant to safety.

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSS430abcdefgh – Swirl Flow Transmitter – Integral Sensor – Dual Seal

XP-IS / I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67

I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67

DIP / II, III / 1 / EFG / T6 Ta = -40°C to +75°C; IP66, IP67, Type 4X

a = Explosion Protection Certification; F1 or F9.

b = System Design; C1, or C2.

c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0, or F400R0.

d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, J4.

e = Temperature Range of Measuring Medium; A1, B1, or C1.

f = Housing Material / Cable Glands; B1, or T1.

g = Output Signal; H1, H5 or M4.

h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS* and/or NL*.

* = Any single character – Not relevant to safety.

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSV450abcdefgh – Intelligent Vortex Flow Transmitter – Integral Sensor – Dual Seal

XP-IS / I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67

I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67

DIP / II, III / 1 / EFG / T6 Ta = -40°C to +75°C; Type 4X IP66, IP67

a = Explosion Protection Certification; F1 or F9.

b = System Design; C1, or C2.

c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1, or F300R0.

d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.

e = Temperature Range of Measuring Medium; A1, B1, or C1.

f = Housing Material / Cable Glands; B1 or T1.

g = Output Signal; H1, H5 or M4.

h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR S1, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS*, and/or NL*.

* = Any single character – Not relevant to safety.

To verify the availability of the Approved product, please refer to www.approvalguide.com

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSS430abcdefgh – Intelligent Swirl Flow Transmitter – Remote Sensor- Dual Seal

XP-IS / I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 DIP / II, III / 1/EFG / T6 Ta = -40°C to +75°C; IP66, IP67, Type 4X

- a = Explosion Protection Certification; F1 or F9.
 b = System Design; R1, or R2.
 c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0, or F400R0.
 d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.
 e = Temperature Range of Measuring Medium; A1, B1, or C1.
 f = Housing Material / Cable Glands; B1, or T1.
 g = Output Signal; H1, H5 or M4.
 h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, S1, SC*, SM1, SM2, SM3, SM4, SM5, SM6. SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS* and/or NL*.
 * = Any single character – Not relevant to safety.

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSS450abcdefgh – Intelligent Swirl Flow Transmitter – Remote Sensor- Dual Seal

XP-IS / I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 DIP / II, III / 1 /EFG / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67

- a = Explosion Protection Certification; F1 or F9.
 b = System Design; R1, or R2.
 c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0, or F400R0.
 d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.
 e = Temperature Range of Measuring Medium; A1, B1, or C1.
 f = Housing Material / Cable Glands; B1 or T1.
 g = Output Signal; H1, H5 or M4.
 h = Additional Options; (Any of the following) B1, C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR S1, SC*, SM1, SM2, SM3, SM4, SM5, SM6. SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2 and/or NL*.
 * = Any single character – Not relevant to safety

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSS450abcdefgh – Intelligent Swirl Flow Transmitter – Integral Sensor – Dual Seal

XP-IS/ I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
 DIP / II, III / 1 /EFG / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67,

To verify the availability of the Approved product, please refer to www.approvalguide.com

a = Explosion Protection Certification; F1 or F9.
b = System Design; C1, or C2.
c = Process Connection Type / Meter Size / Connection Size; F015R0, F020R0, F025R0, F032R0, F040R0, F050R0, F080R0, F100R0, F150R0, F200R0, F300R0, or F400R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.
e = Temperature Range of Measuring Medium; A1, B1, or C1.
f = Housing Material / Cable Glands; B1 or T1.
g = Output Signal; H1, H5 or M4.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR, S1, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS*, and/or NL*.
* = Any single character – Not relevant to safety

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

FSV450abcdefgh – Intelligent Vortex Flow Transmitter – Remote Sensor – Dual Seal

XP-IS / I / 1 / BCD / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
I / 1 / AEx d ia IIC / T6 Ta = -40°C to +75°C; Type 4X, IP66, IP67
DIP / II, III / 1 / EFG / T6 Ta = -40°C to +75°C; IP66, IP67, Type 4X

a = Explosion Protection Certification; F1 or F9.
b = System Design; R1, or R2.
c = Process Connection Type / Meter Size / Connection Size; W025R0, W040R0, W050R0, W080R0, W100R0, W150R0, F015R0, F015R2, F015R4, F025R0, F025R2, F025R3, F040R0, F040R1, F040R3, F050R0, F050R2, F050R3, F080R0, F080R1, F080R3, F100R0, F100R2, F100R4, F150R0, F150R2, F150R3, F200R0, F200R1, F200R2, F250R0, F250R1, or F300R0.
d = Pressure Rating; D1, D2, D3, D4, D5, D6, D7, E1, E2, E3, A1, A3, A6, A7, A8, A9, J0, J1, J2, J3, or J4.
e = Temperature Range of Measuring Medium; A1, B1, or C1.
f = Housing Material / Cable Glands; B1 or T1.
g = Output Signal; H1, H5 or M4.
h = Additional Options; (Any of the following) C*, CG*, EG*, G1, G2, G4, L1, L2, M*, N*, P*, R5, RR, S1, SC*, SM1, SM2, SM3, SM4, SM5, SM6, SM7, SP0, SP1, SP2, SP3, TC1, TCC, TCS, TCZ, TA4, TA5, U1, U2, NG*, NS*, and/or NL*.
* = Any single character – Not relevant to safety.

Special Conditions of Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

Equipment Ratings:

Explosionproof with intrinsically safe sensor for Class I, Division 1, Groups B, C and D; for dust ignitionproof Class II and III, Division 1, Groups E, F and G hazardous (classified) locations; flameproof and intrinsic safe outputs for Class I, Zone 1, Ex d ia IIC T6 Gb, Ta = -40°C to +75°C; indoor and outdoor Type 4X, IP66, IP67; for use in the United States.

Suitable for indoor and outdoor locations IP66/67 and Type 4X.

To verify the availability of the Approved product, please refer to www.approvalguide.com

Dual Seal in accordance with ANSI/ISA 12.27.01

FM Approved for:

ABB Engineering (Shanghai) Ltd
Shanghai, China

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3615	2006
Class 3610	2010
Class 3616	2011
Class 3810	2005
ANSI/NEMA 250	2008
ANSI/ISA 12.27.01	2003
ANSI/IEC 60529	2004
ANSI/ISA 60079-0	2013
ANSI/ISA 60079-1	2013
ISA 60079-11	2014
ANSI/ISA 60079-31	2013

Original Project ID: 3048489

Approval Granted: March 4, 2014

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3055129	October 6, 2015		
3054654	April 5, 2016		

FM Approvals LLC


J. E. Marquedant
Group Manager, Electrical

5 April 2016
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com