



The manufacturer  
may use the mark:



Revision 2.0 March 25, 2025  
Surveillance Audit Due  
December 01, 2027



# Certificate / Certificat Zertifikat / 合格証

MIC 2105141 C003

*exida* hereby confirms that the:

## Floating Ball Valve

**Microfinish Valves Private Limited  
Karnataka - India**

Has been assessed per the relevant requirements of:

**IEC 61508 : 2010 Parts 1-2**

and meets requirements providing a level of integrity to:

**Systematic Capability: SC 3 (SIL 3 Capable)**

**Random Capability: Type A, Route 2<sub>H</sub> Device**

**PFH/PFD<sub>avg</sub> and Architecture Constraints  
must be verified for each application**

### Safety Function:

The Ball Valve will move to the designed safe position per the actuator design within the specified safety time.

### Application Restrictions:

The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.



Evaluating Assessor

Certifying Assessor

MIC 2105141 C003

**Systematic Capability: SC 3 (SIL 3 Capable)****Random Capability: Type A, Route 2<sub>H</sub> Device****PFH/PFD<sub>avg</sub> and Architecture Constraints  
must be verified for each application****Systematic Capability:**

The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

**Random Capability:**

The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets *exida* criteria for Route 2<sub>H</sub>.

**Versions:**

Valve Type	End Connection	Bore Sizes	Pressure Class
FBV Series 84	Flanged / Welded	15 - 300 mm	150#
FBV Series 85		15 - 300 mm	300#
FBV Series 87		15 - 150 mm	600#
FBV Series 89		15 - 65 mm	900#
FBV Series 90	Flanged / Socket / Welded	15 - 50 mm	1500#
FBV Series 91		15 - 50 mm	2500#
FBV Series 80BK	Screwed	15 - 50 mm	300#
FBV Series 81	Screwed / Socket / Welded	8 - 50 mm	600# & 800#
		50 - 150 mm	300#

**IEC 61508 Failure Rates in FIT\***

Static Application – Clean Service	$\lambda_{SD}$	$\lambda_{SU}$	$\lambda_{DD}$	$\lambda_{DU}$
Full Stroke	0	0	0	425
Tight Shut-Off	0	0	0	1161
Open on Trip	0	121	0	304

\* FIT = 1 failure / 10<sup>9</sup> hours

**SIL Verification:**

The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD<sub>avg</sub> considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

**Assessment Report:** MIC 21/05-141 R006 V2R1 (or later)

**Safety Manual:** 3DD042 REV 01 (or later)

**Floating Ball Valve -  
Series 84, 85, 87, 89,  
90, 91, 80BK and 81**



80 N Main St  
Sellersville, PA 18960