



**ISOENCertifications s.r.l.**

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**CUSTOMER**

# GHIBSON ITALIA S.R.L.

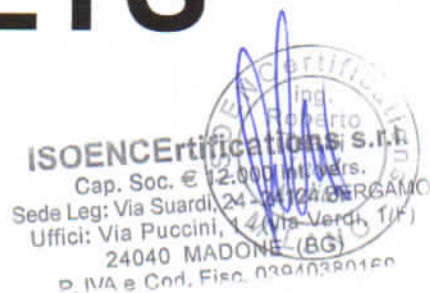


<b>Legal site and Manufacturing Site:</b>	Via Abitazione, 9/3 – 40053 Valsamoggia loc. Monteveglio (BO)
<b>Manufacturing Site:</b>	Via Cassola, 6/9 – 40053 Valsamoggia loc. Monteveglio (BO)
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# FINAL RESULTS

**BUTTERFLY VALVES**

**Types  
TT**



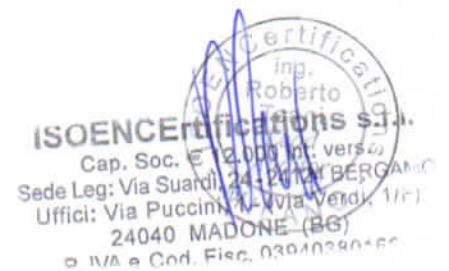
**PFD – SINGLE ELEMENT – LOW DEMAND**

Considering the calculations done, for conservative reason the worst values are considered as reference. So, final results are:

**TT**

		Test Interval frequency (months)				
		6	12	24	36	48
Partial Stroke frequency (months)	1	3,3287E-04	5,1444E-04	8,7758E-04	1,2407E-03	1,6038E-03
	2	4,8418E-04	6,6575E-04	1,0289E-03	1,3920E-03	1,7552E-03
	3	6,3549E-04	8,1706E-04	1,1802E-03	1,5433E-03	1,9065E-03
	6		1,2710E-03	1,6341E-03	1,9972E-03	2,3604E-03
	9				2,4512E-03	
	12			2,5420E-03	2,9051E-03	3,2682E-03

		Test Interval frequency (months)				
		6	12	24	36	48
NO Partial Stroke Test		1,0894E-03	2,1788E-03	4,3576E-03	6,5364E-03	8,7153E-03



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	TT
$\lambda_{DD}$	4,1454E-07
$\lambda_{DU}$	8,2908E-08
$\lambda_S$	3,9796E-07
$\lambda_{TOT}$	8,9540E-07
MRT	24
SFF	>90%

According to Beta calculation sheet the value of  $\beta$  is 0,05.

  
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## ISOENCertifications

According to the results and the assumptions (Type A, Low Demand Mode, HTF = 0, Systematic Capability = 3, etc.), as per these values, the product object of this study can be used up to SIL level as a "single device" according to the following tables:

### TT

		Test Interval frequency (months)				
		6	12	24	36	48
Partial Stroke frequency (months)	1	SIL3	SIL3	SIL3	SIL2	SIL2
	2	SIL3	SIL3	SIL2	SIL2	SIL2
	3	SIL3	SIL3	SIL2	SIL2	SIL2
	6		SIL2	SIL2	SIL2	SIL2
	9				SIL2	
	12			SIL2	SIL2	SIL2

		Test Interval frequency (months)				
		6	12	24	36	48
NO Partial Stroke Test		SIL2	SIL2	SIL2	SIL2	SIL2

  
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### PFH – SINGLE ELEMENT – HIGH DEMAND

Considering the calculations done, for conservative reason the worst values are considered as reference. So, final results are:

	<i>TT</i>
<i>PFH</i>	8,8167E-08
<i>SFF</i>	>90%

According to the results and the assumptions (Type A, High Demand Mode, HTF = 0, Systematic Capability = 3, etc.), as per these values, the product object of this study can be used up to SIL level as a "single device" according to the following table:

	<i>TT</i>
<i>SIL</i>	SIL3

  
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