

APPENDIX I

Gantt Chart

Gantt chart for Semester 1

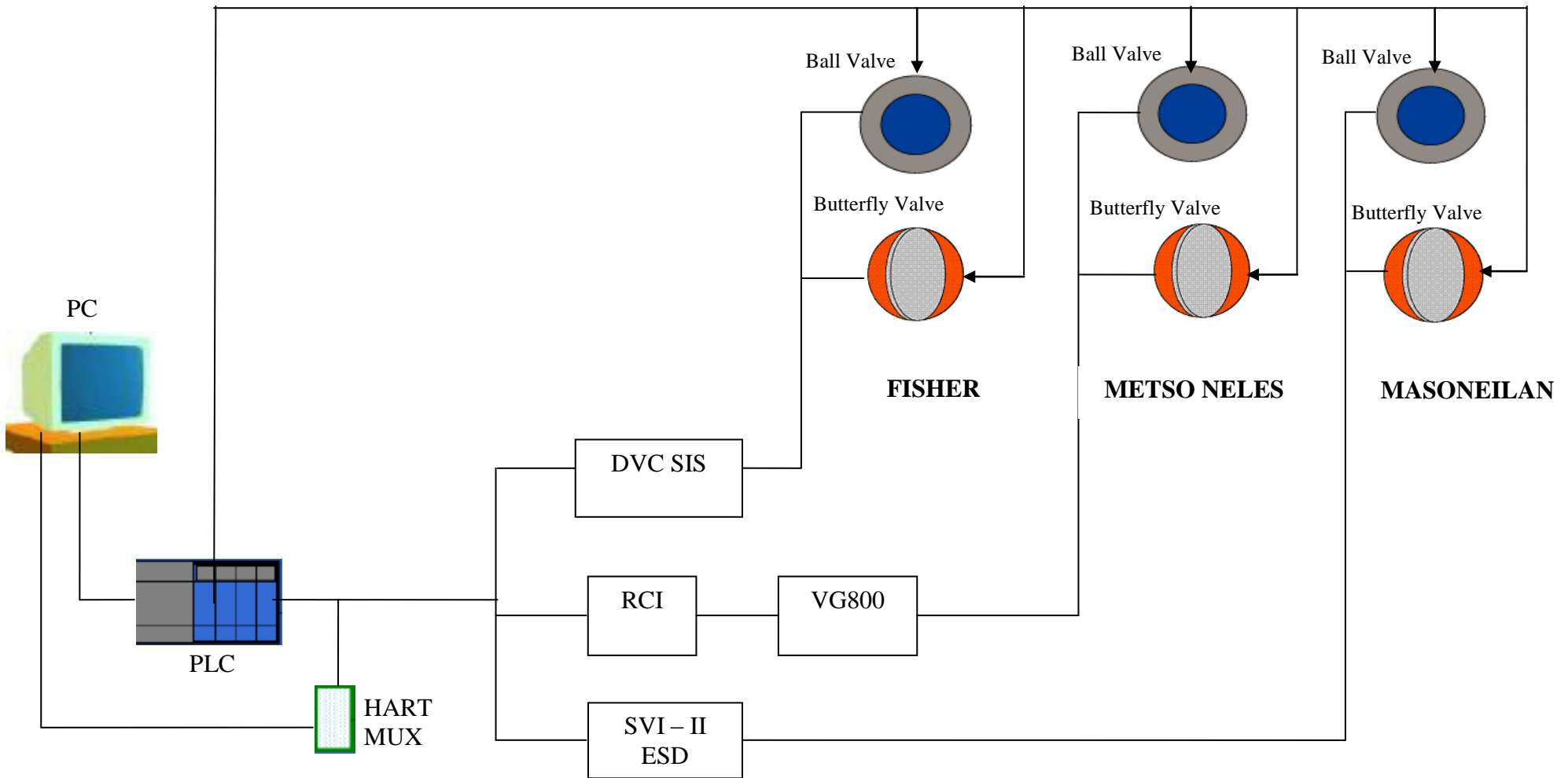
No	Activities / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Selection of Project Topic														
2	Data Gathering on Topic														
3	Submission of Preliminary Report														
4	Testing procedures and requirement identification														
5	Conduct testing (FST and PST)														
6	Submission of Progress Report														
7	Seminar														
8	Results Gathering														
9	Submission of Interim Report														
10	Oral Presentation														

Gantt chart for Semester 2

No	Activities / Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Planning for Semester 2 – any Improvement or additional testing														
2	Continue testing (FST and PST)														
6	Results Gathering & Discussion														
7	Submission of Progress Report 2														
8	Seminar														
9	Conclusion and Recommendation														
10	Poster Exhibition														
11	Submission of Dissertation (Draft)														
12	Oral Presentation														
13	Submission of Dissertation (softbound)														

APPENDIX II

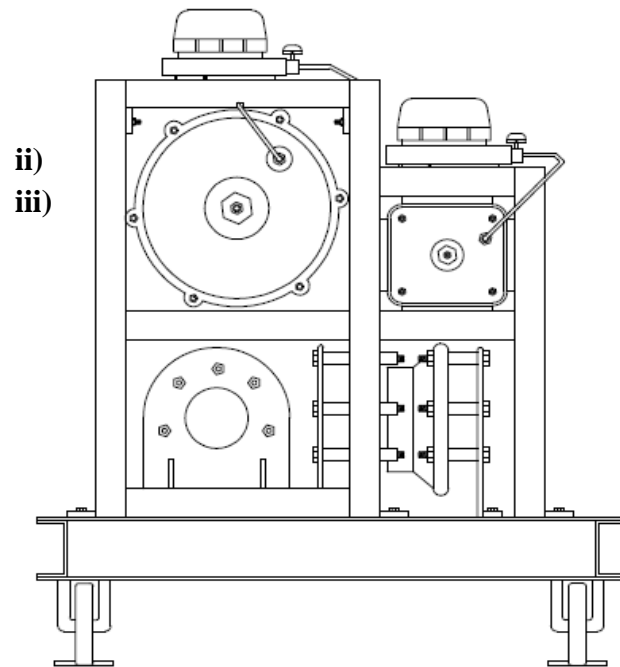
Project Layout



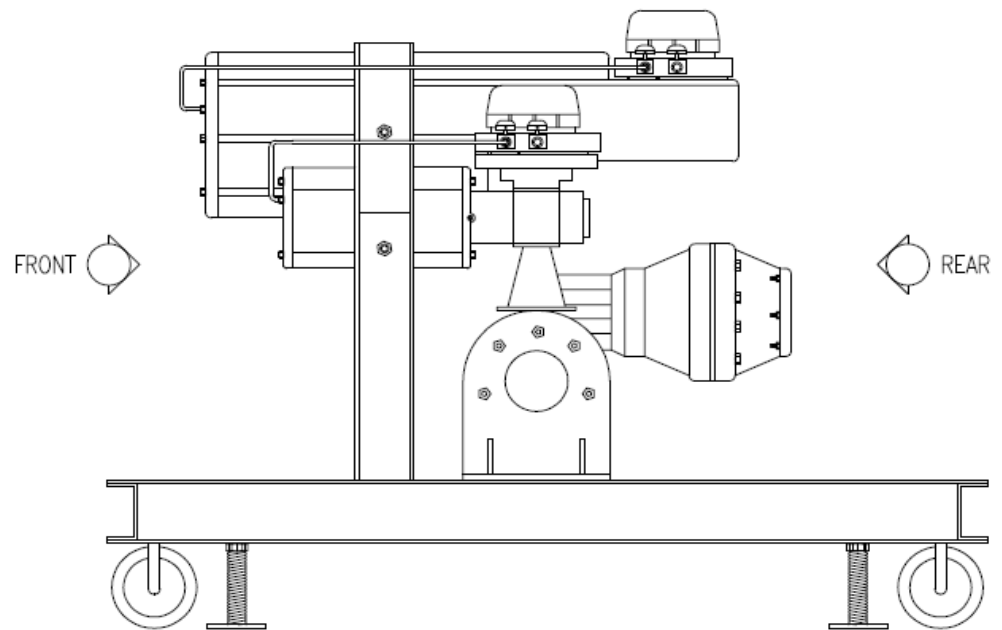
APPENDIX III

Loop Drawing

i) External Skid Trolley Layout – Metso Neles ESD Valve

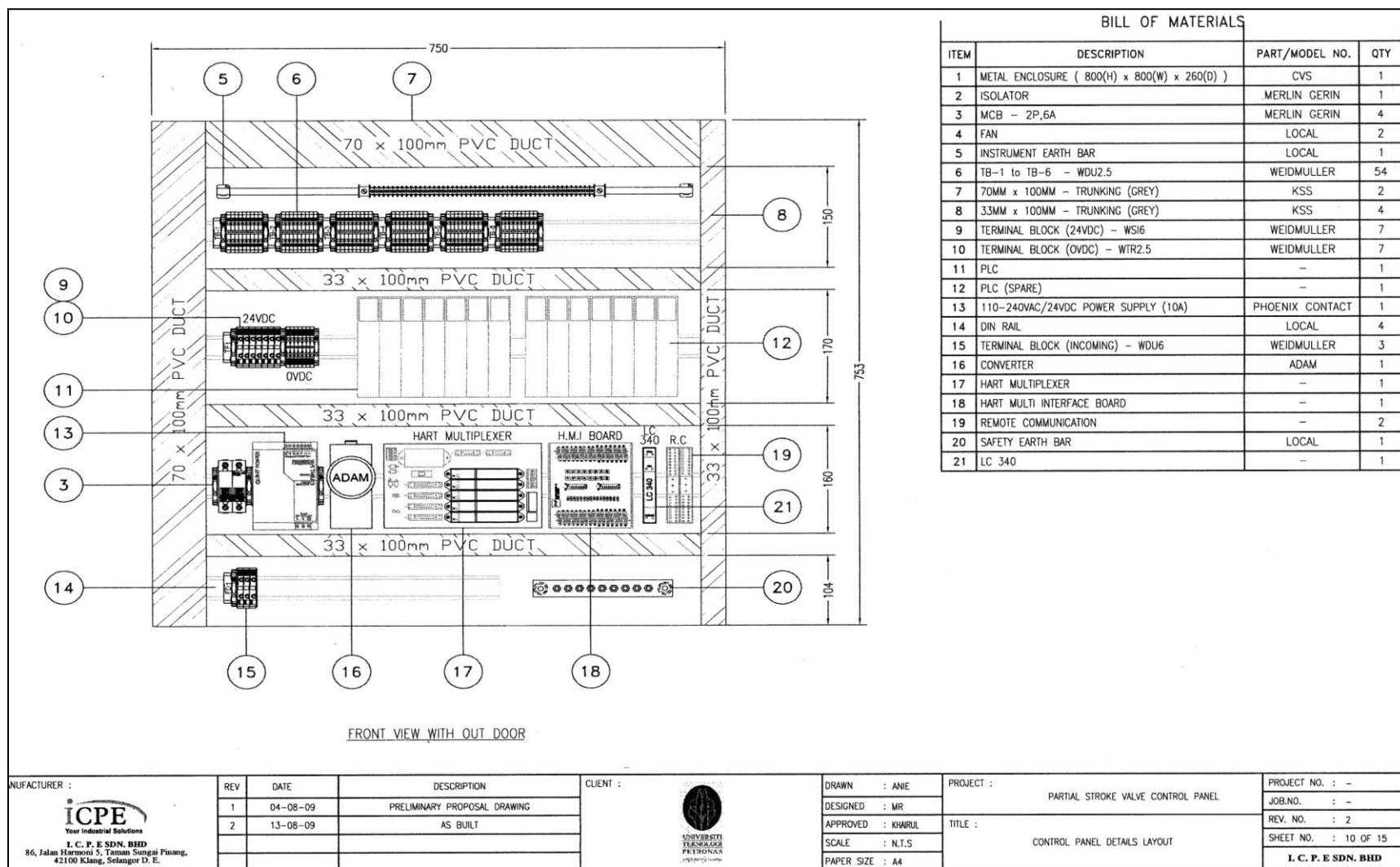


FRONT VIEW

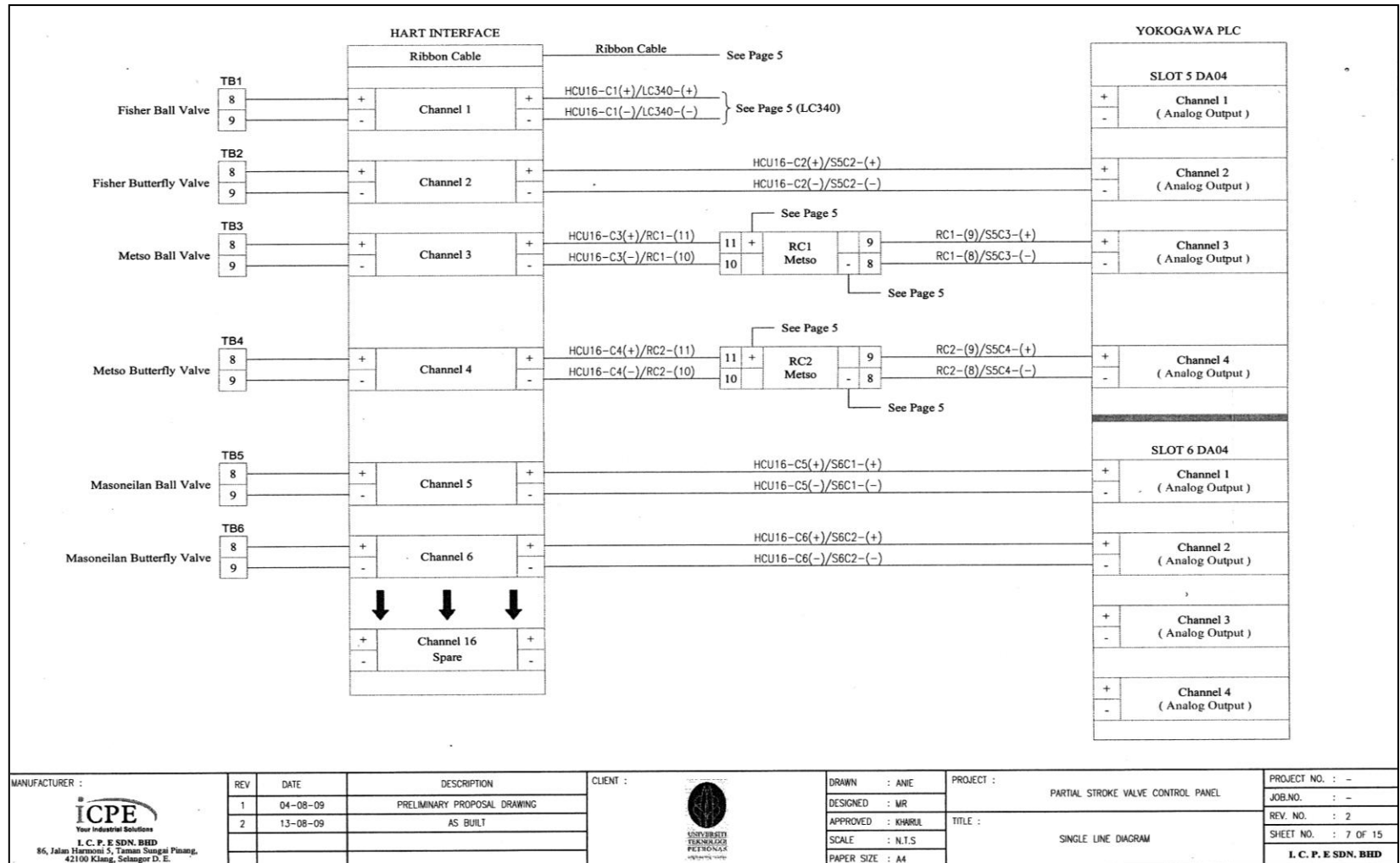


SIDE VIEW

ii) Partial Stroke Valve Control Panel Layout



iii) Single Line Diagram

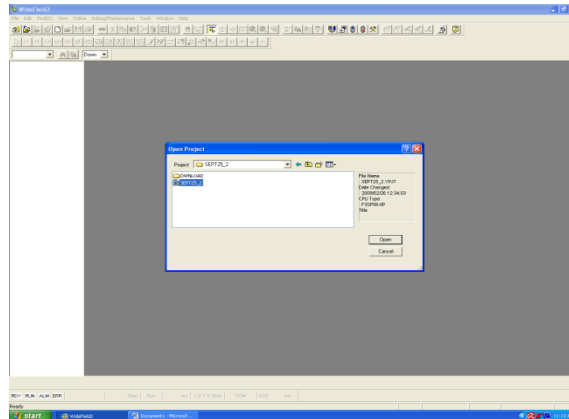


APPENDIX IV

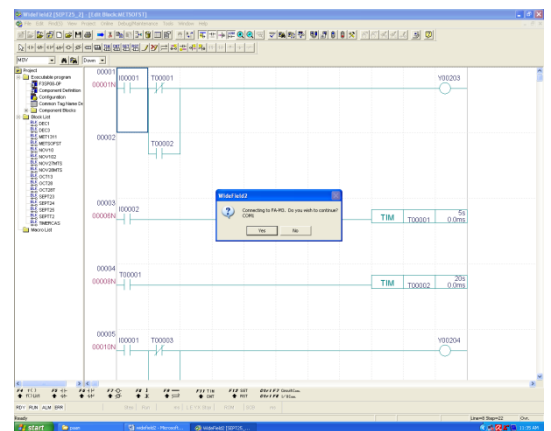
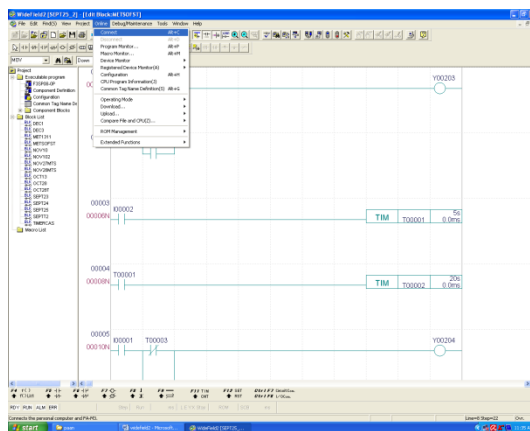
Testing Procedures for Full Stroke Testing (Widefield2 Software)

Widefield2 software is used for Full Stroke Testing. PLC is used to force the valve to fully open or close.

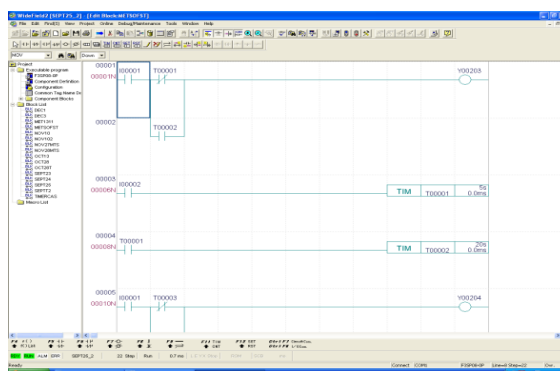
- 1) Open widefield2 software. Open project > SEPT25_2



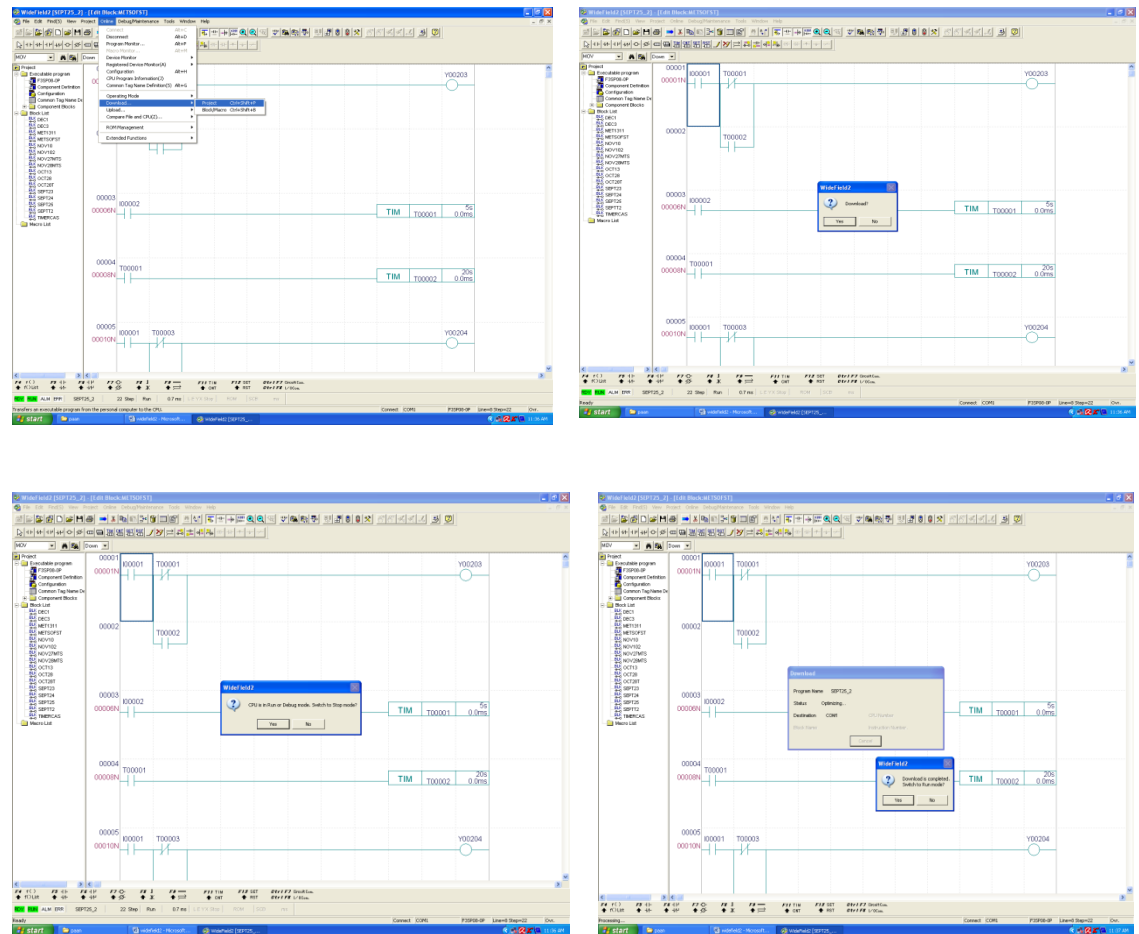
- 2) METSOFT > online > connect



The PLC is on ready and run

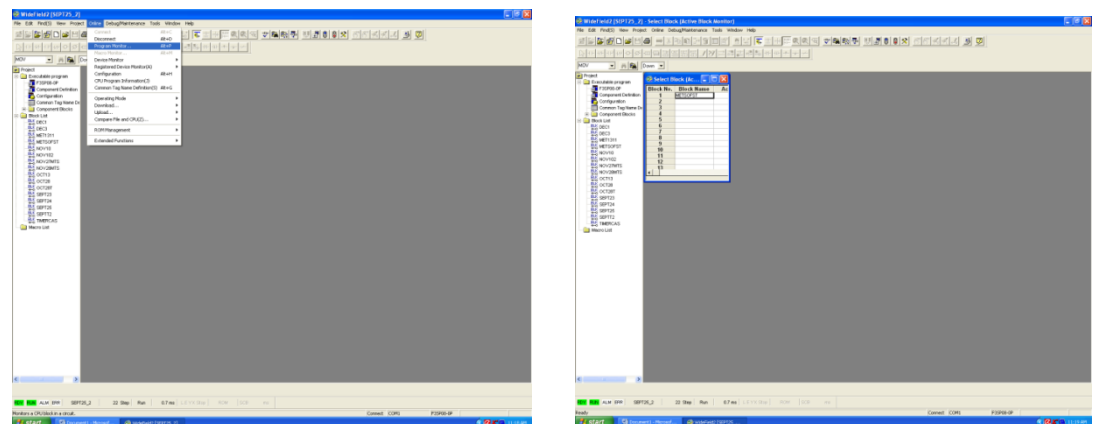


3) Download project

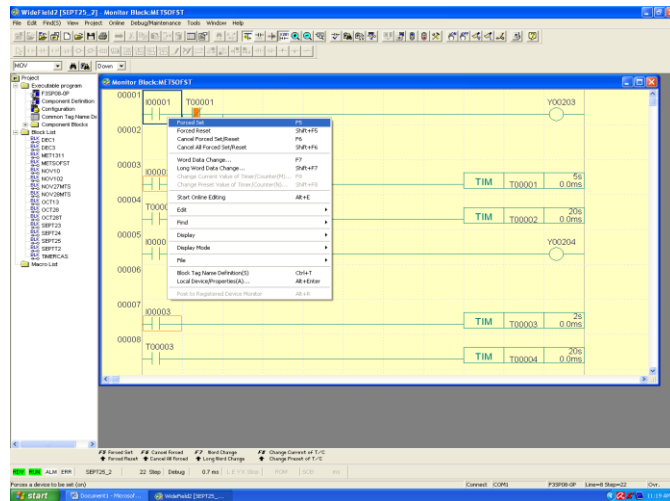


Download is completed and switch to run mode back

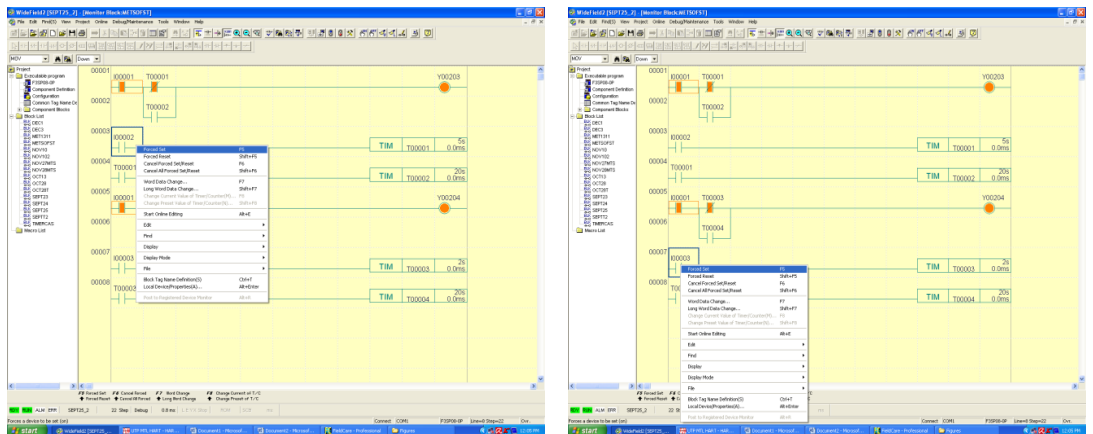
4) Program Monitor > to monitor the PLC



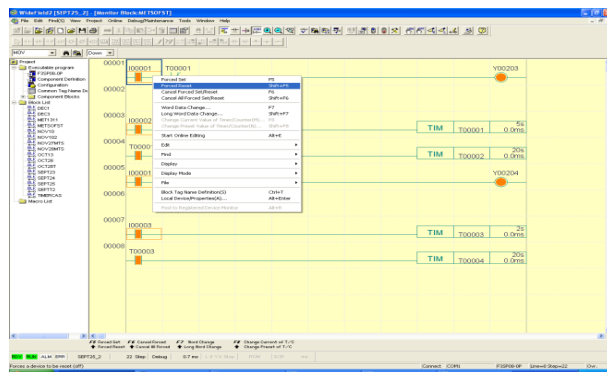
- 5) Forced set the I0001 to fully open the valve. Valve initially in closed position, have to fully open it in order to do the Partial Stroke Testing.



- 6) On the third stroke, PST is conducted at the same time with FST Ball Valve (I0002), Butterfly Valve (I0003)



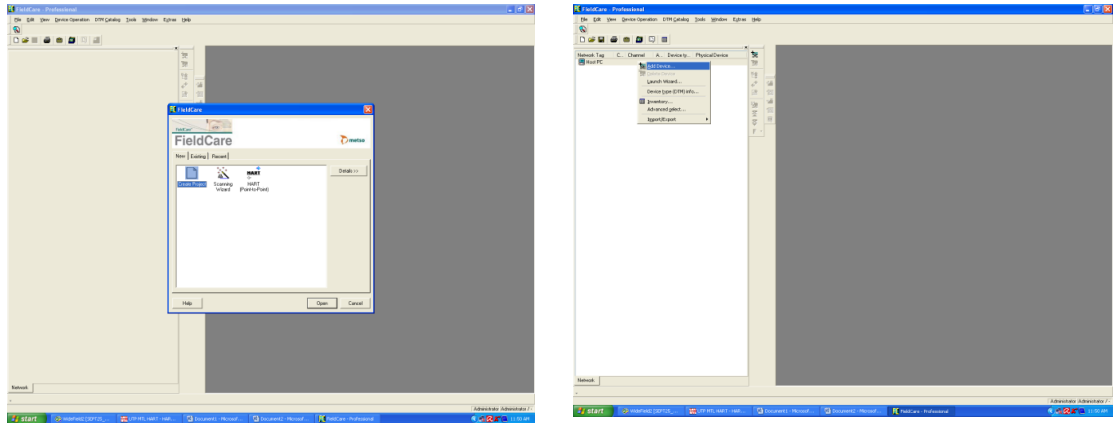
- 7) After testing is done, 'Force Reset' both valves to move the valves to close position.



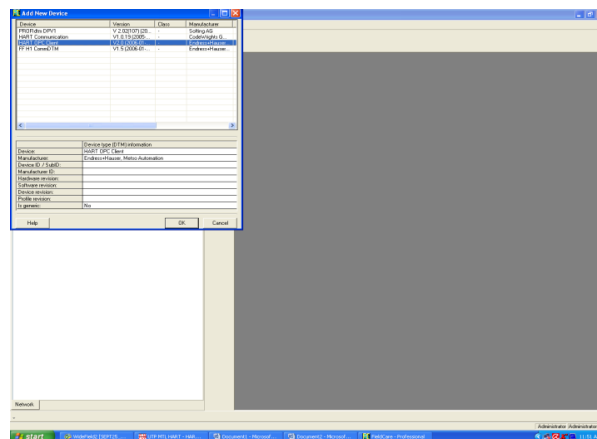
APPENDIX V

Testing Procedures for Partial Stroke Testing (FieldCare Software)

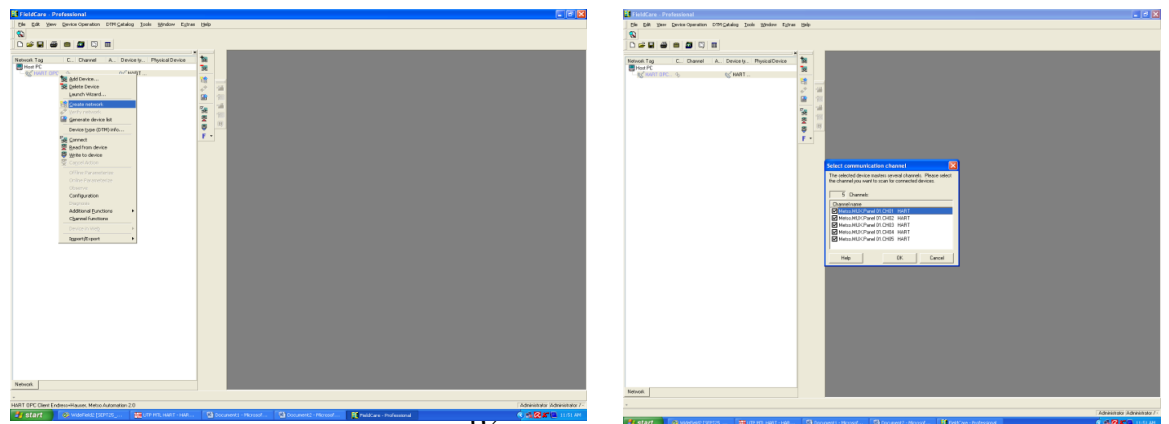
1) Open FieldCare Software > create project



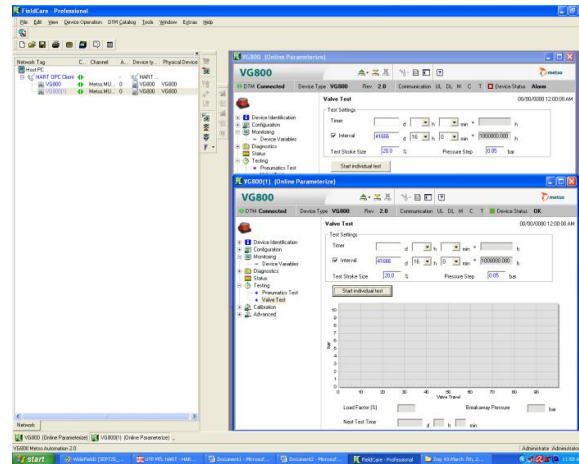
2) Add new device > HART OPC Client



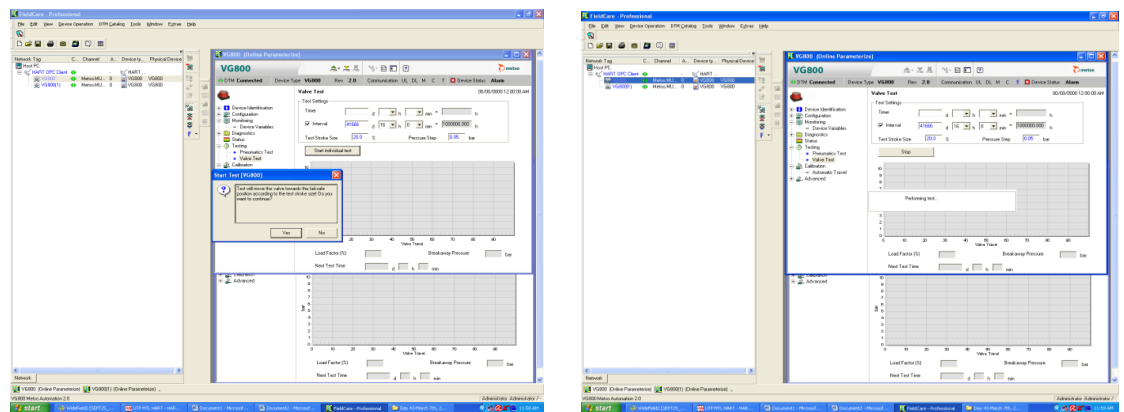
3) Create network



4) Connect both valves: VG800 – Ball Valve, VG800(1) – Butterfly Valve



5) Start individual test to start the Pneumatic Tests followed by PST

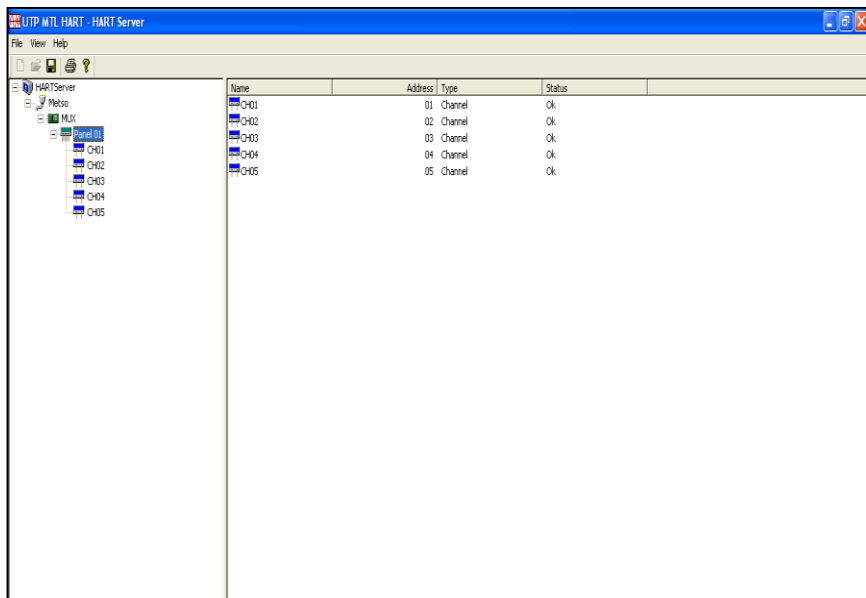
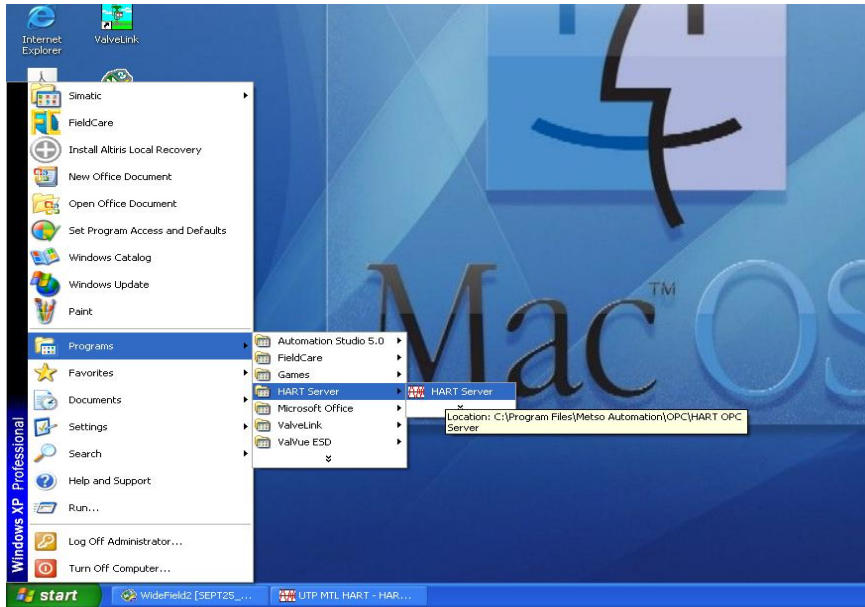


6) After sixth stroke is done, disconnect both valves at the FieldCare Software

APPENDIX VI

HART Server

- 1) Open the Hart Server: Window >Programs>Hart Server



APPENDIX VII

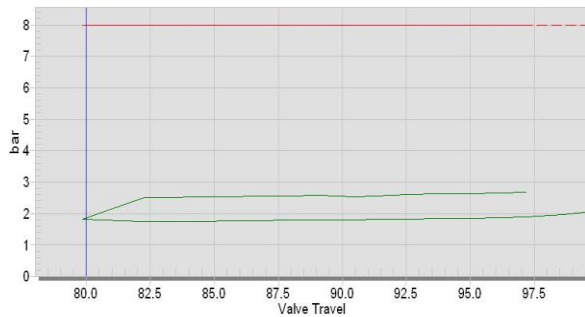
Test Result for Ball Valve

Sample 1 : Day 1

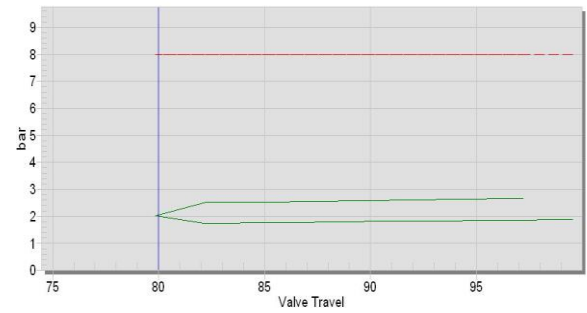
Test Date : December 22nd , 2008

Time : 10.20am – 11.35 am

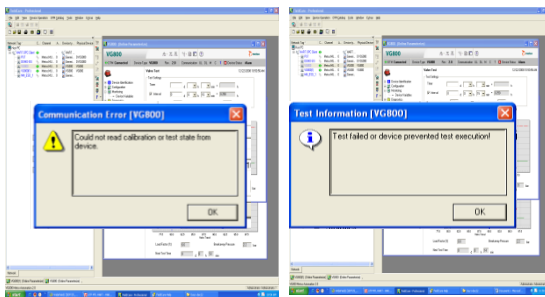
First Stroke:



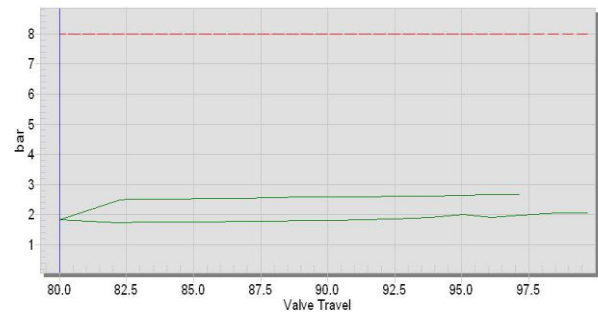
Second Stroke:



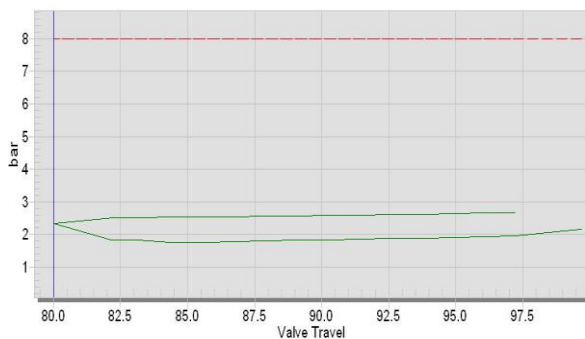
Third Stroke – PST + FST:



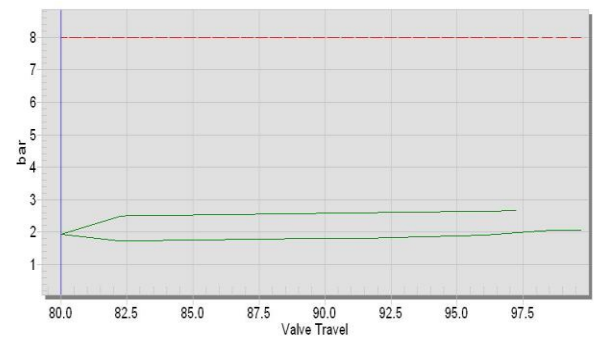
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

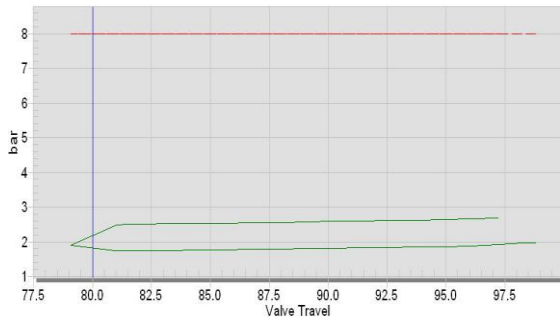


Sample 2 : Day 10

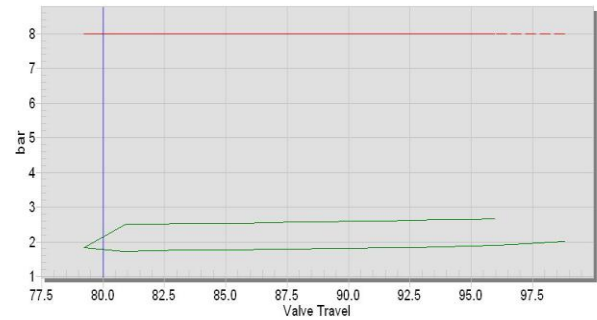
Test Date : January 14th , 2009

Time : 8:50 am – 10:05 am

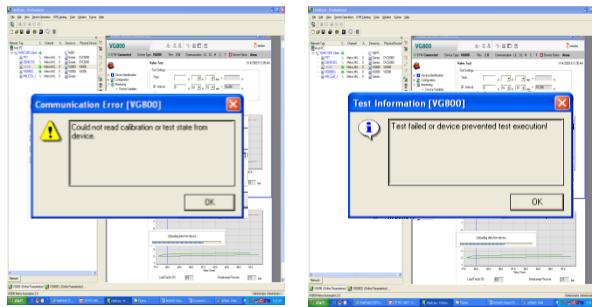
First Stroke:



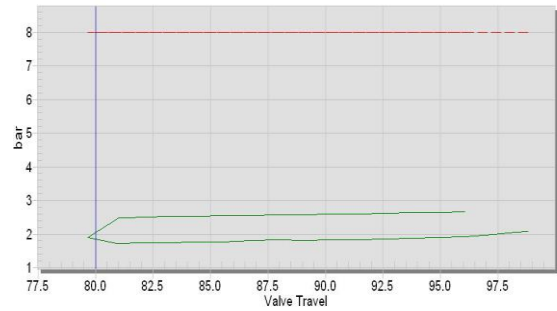
Second Stroke:



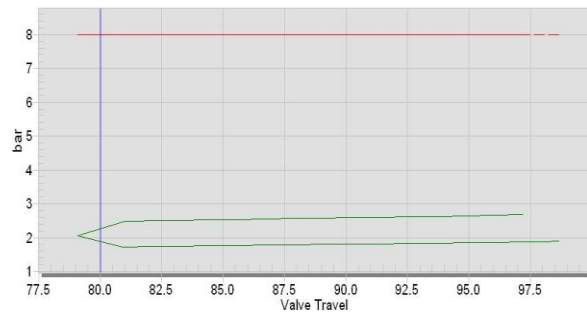
Third Stroke – PST + FST:



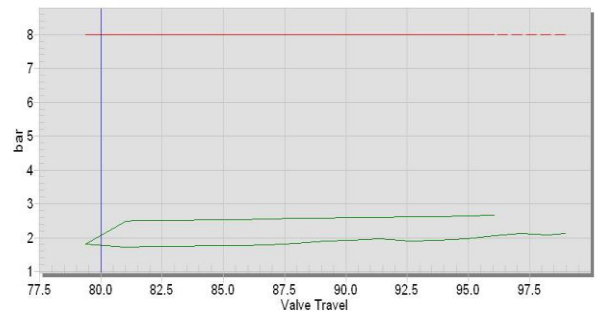
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

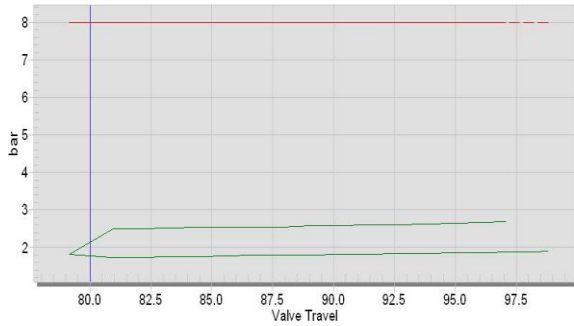


Sample 3 : Day 20

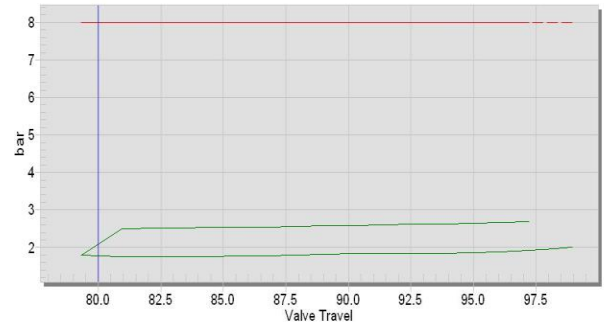
Test Date : January 24th , 2009

Time : 9:00 am – 10:15 am

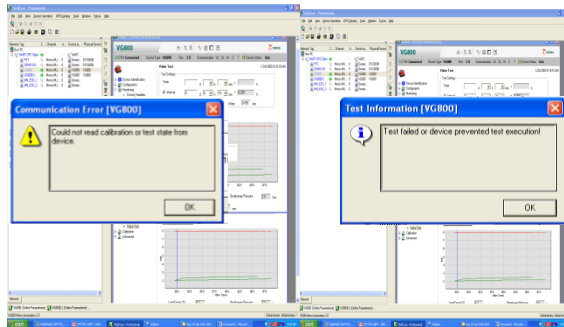
First Stroke:



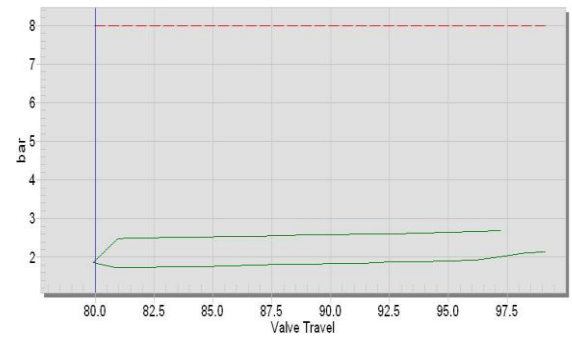
Second Stroke:



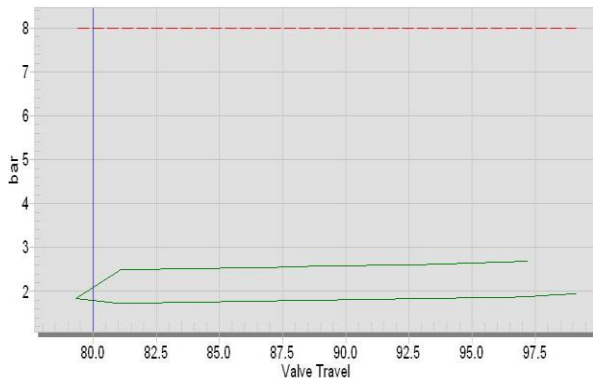
Third Stroke – PST + FST:



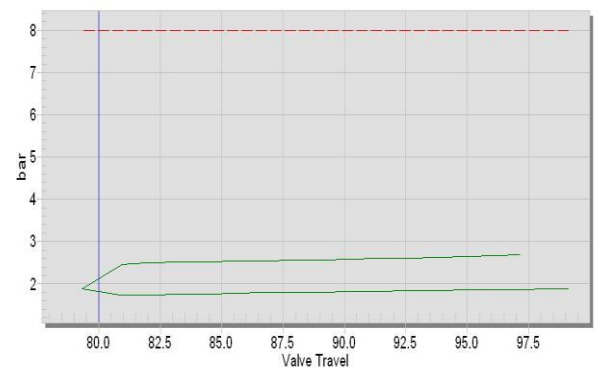
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

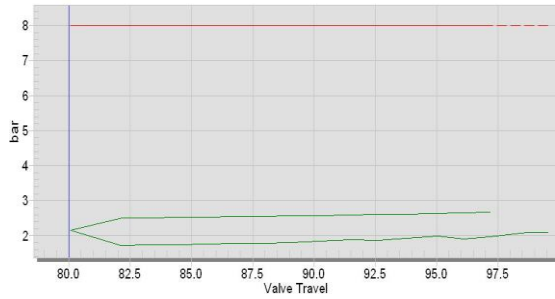


Sample 4 : Day 30

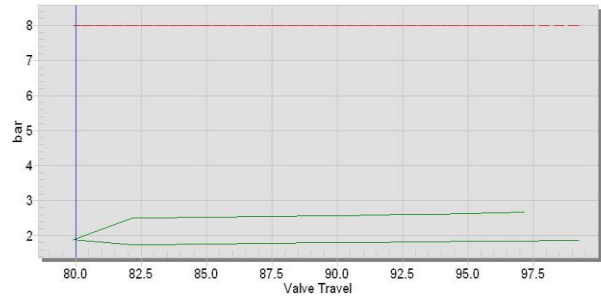
Test Date : February 12th , 2009

Time : 11:20 am – 12:35 pm

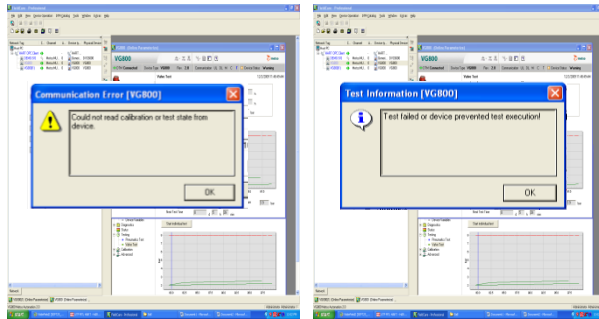
First Stroke:



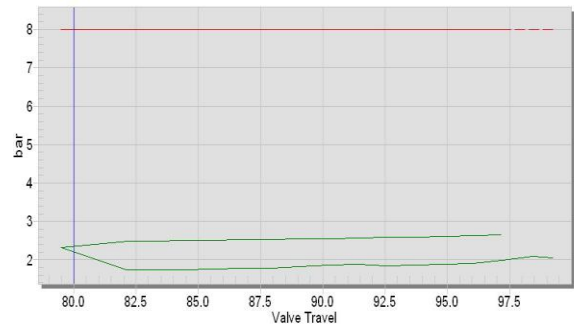
Second Stroke:



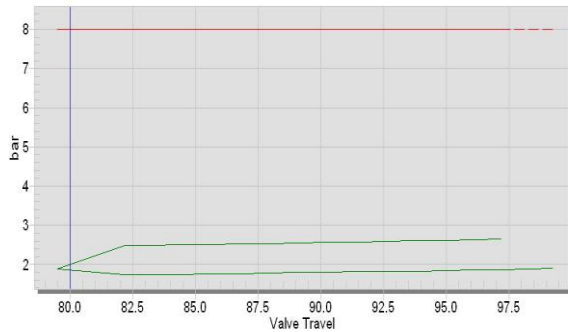
Third Stroke – PST + FST:



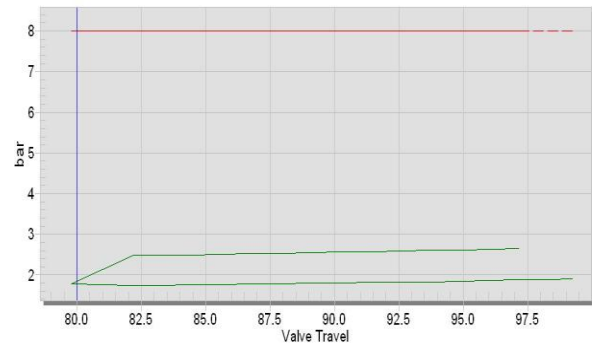
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

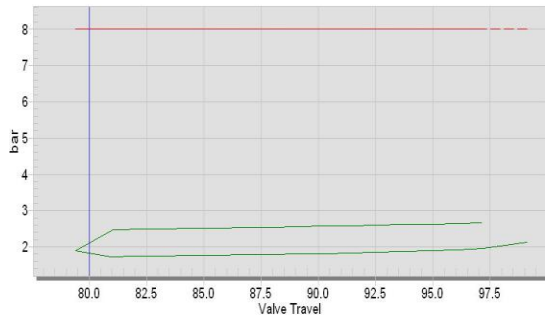


Sample 5 : Day 40

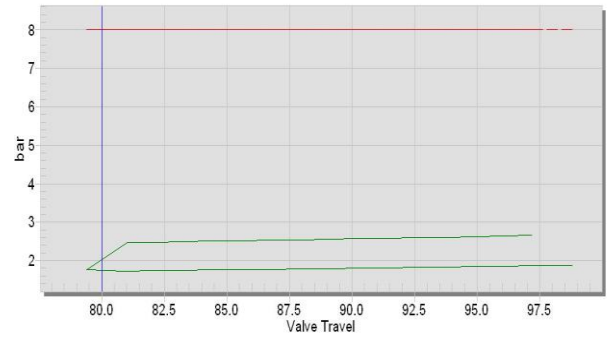
Test Date : February 28th , 2009

Time : 2:40 pm – 3:55 pm

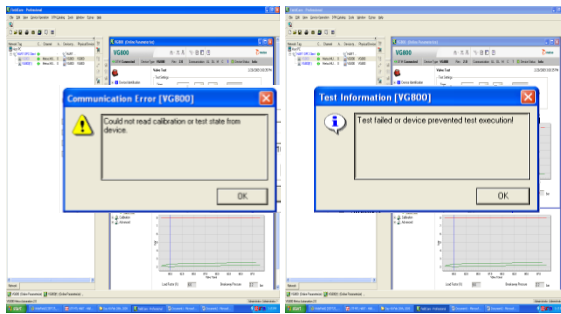
First Stroke:



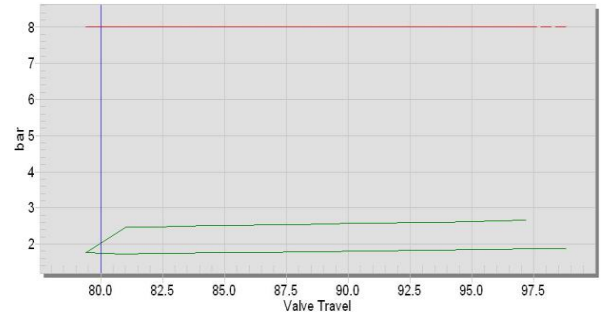
Second Stroke:



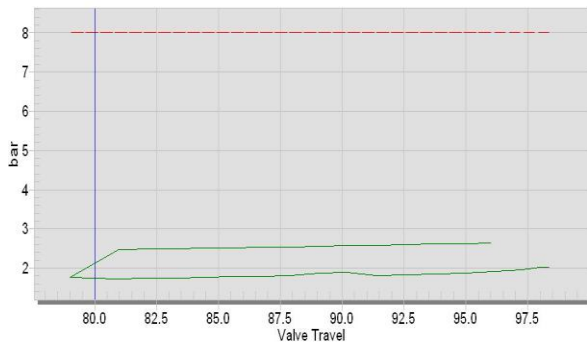
Third Stroke – PST + FST:



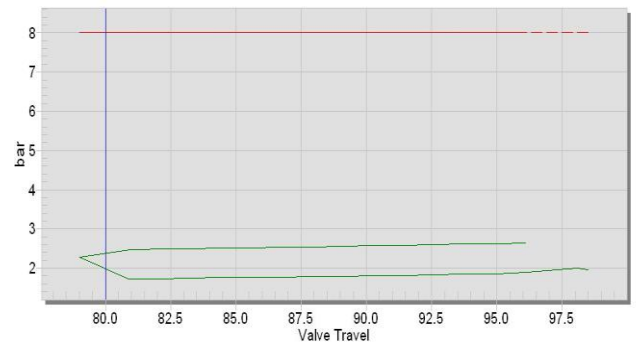
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

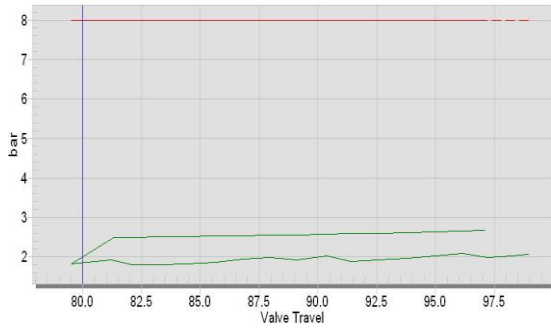


Sample 6 : Day 50

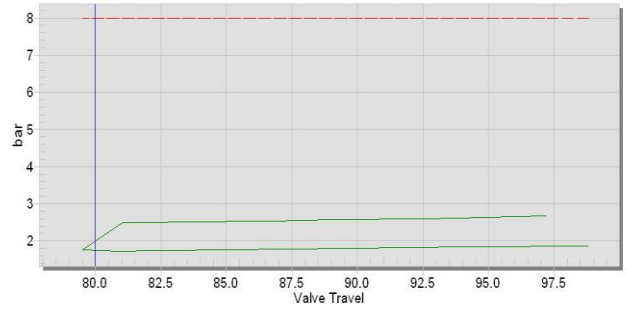
Test Date : March 16th , 2009

Time : 9:00 am – 10:15 am

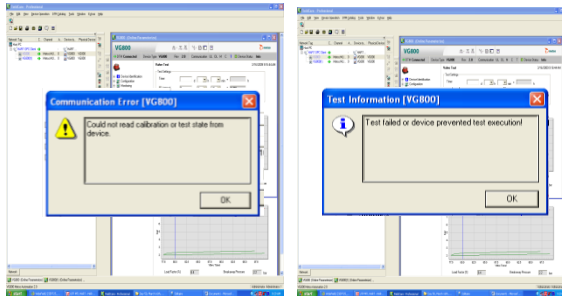
First Stroke:



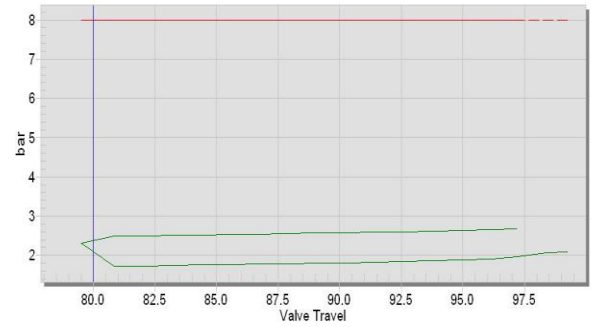
Second Stroke:



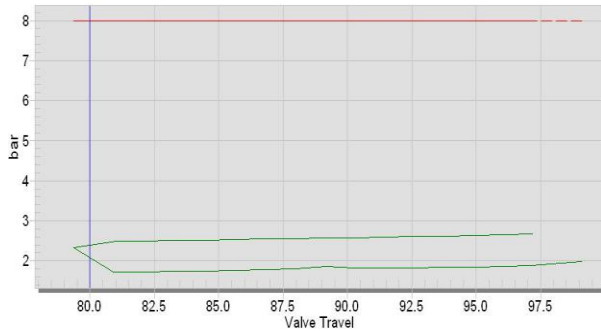
Third Stroke – PST + FST:



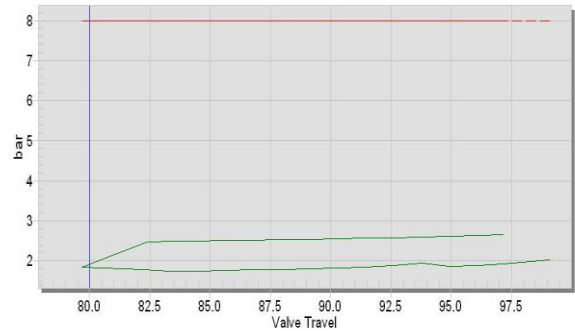
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

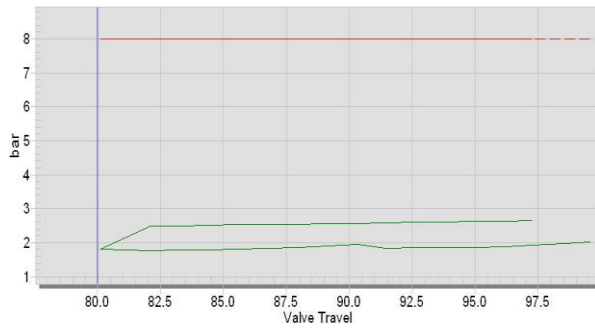


Sample 7 : Day 60

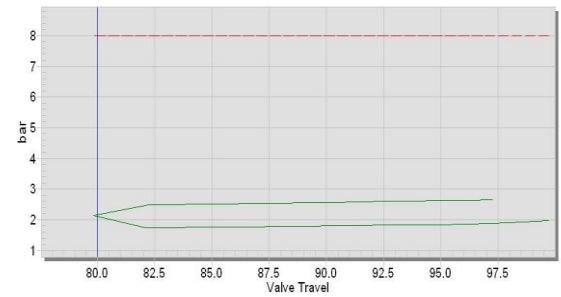
Test Date: July 26th, 2009

Time : 12:45 pm – 2:00 pm

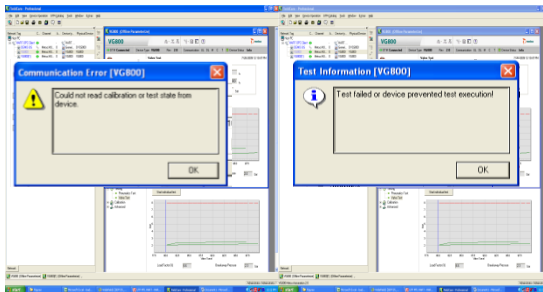
First Stroke:



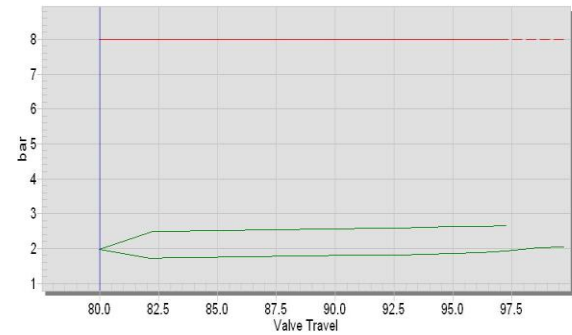
Second Stroke:



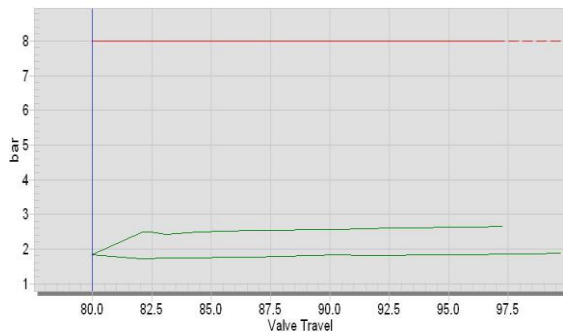
Third Stroke – PST + FST:



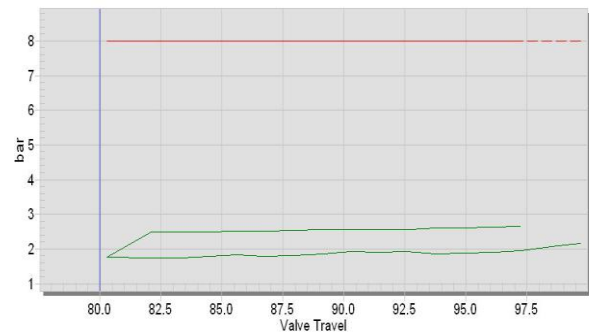
Forth Stroke:



Fifth Stroke:

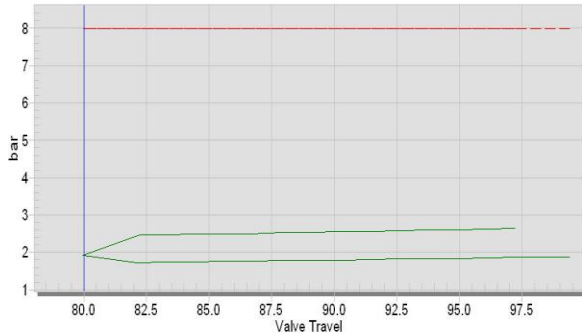


Sixth Stroke:

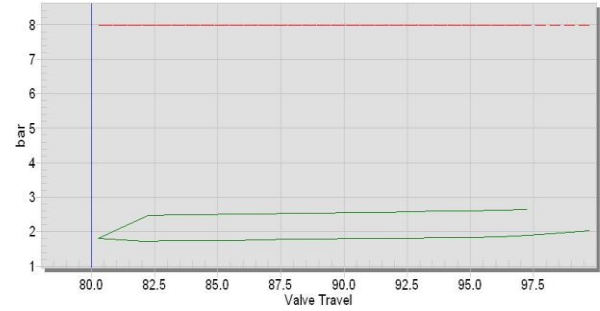


Sample 8 : Day 70
 Test Date : August, 21st 2009
 Time : 11.50 am – 1:15 pm

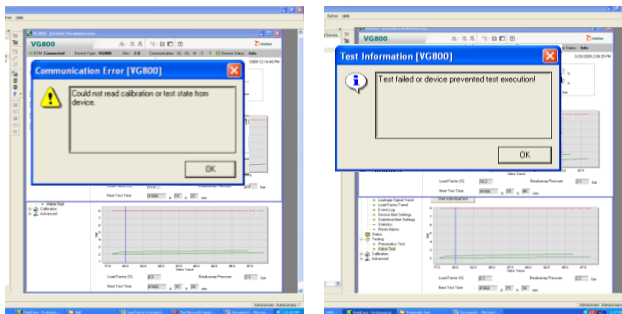
First Stroke:



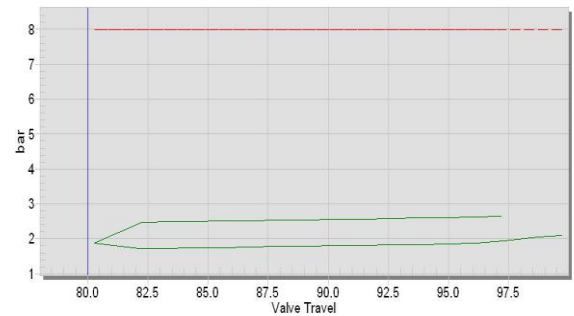
Second Stroke:



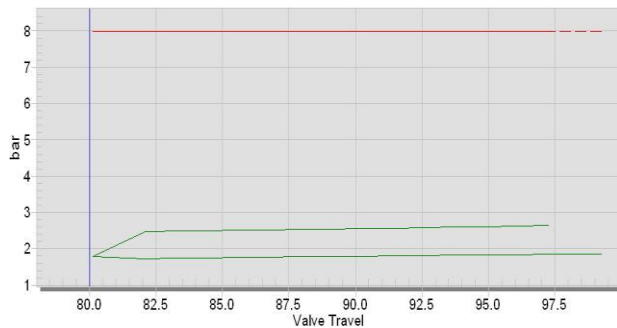
Third Stroke – PST + FST:



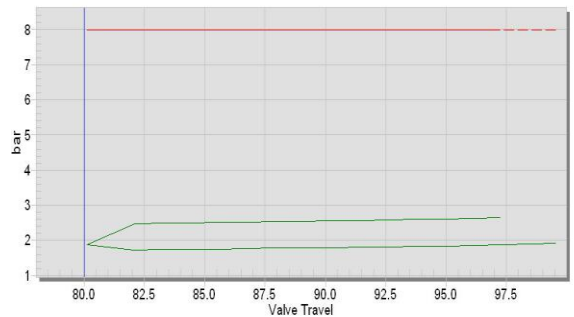
Forth Stroke:



Fifth Stroke:



Sixth Stroke:



APPENDIX VIII

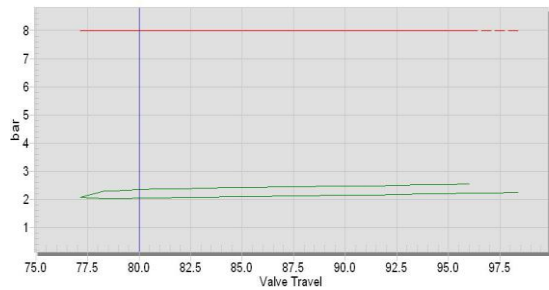
Test Result for Butterfly Valve

Sample 1 : Day 1

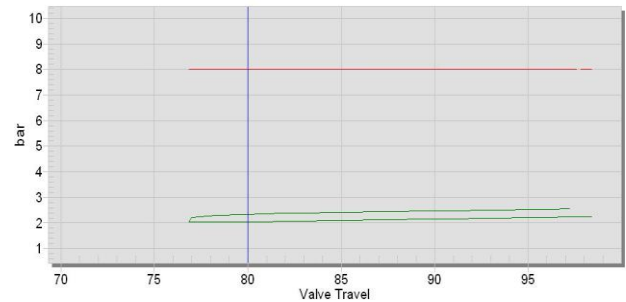
Test Date : December 22nd , 2008

Time : 10.20am – 11.35 am

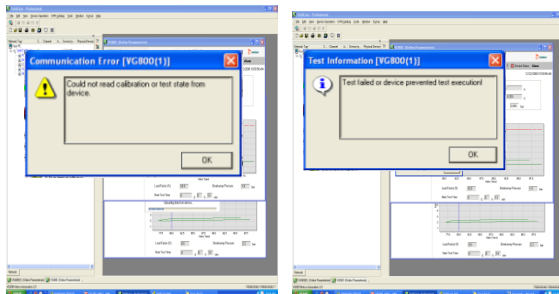
First Stroke:



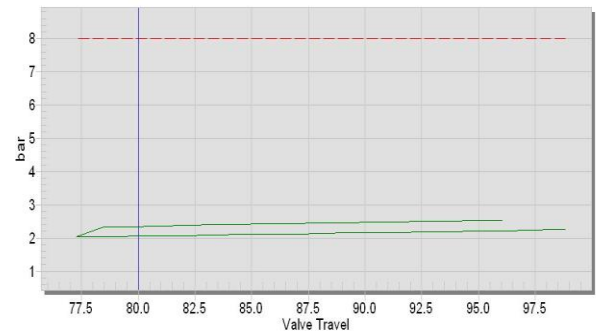
Second Stroke:



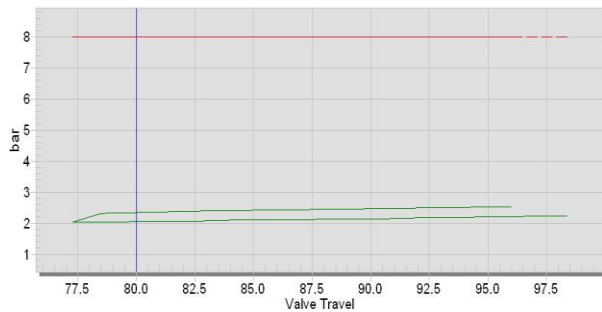
Third Stroke – PST + FST:



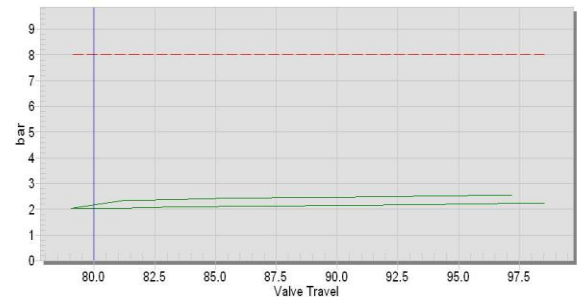
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

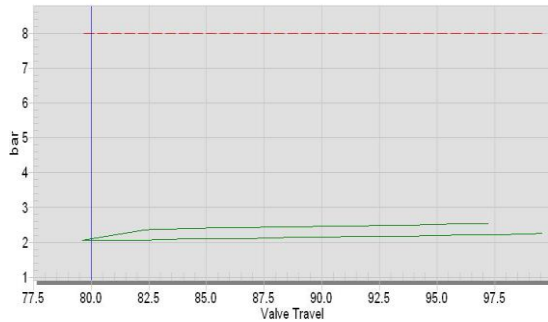


Sample 2 : Day 10

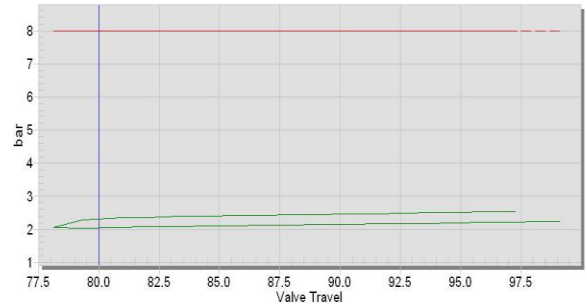
Test Date : January 14th , 2009

Time : 8:50 am – 10:05 am

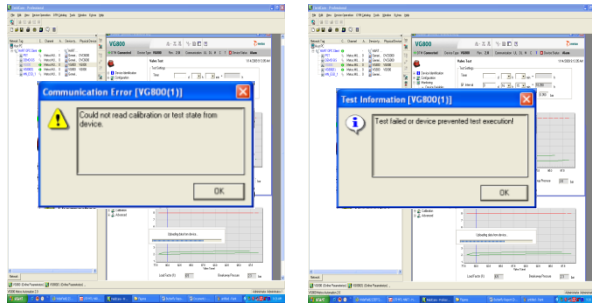
First Stroke:



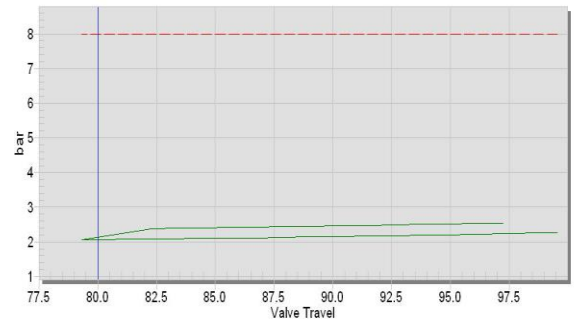
Second Stroke:



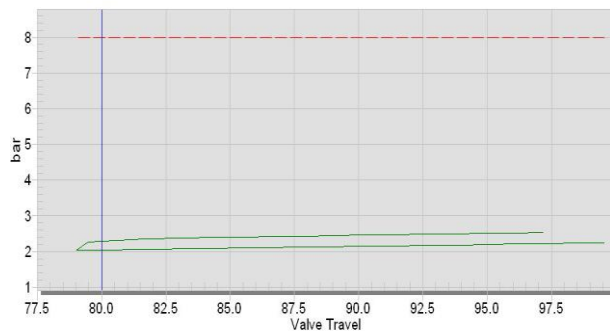
Third Stroke – PST + FST:



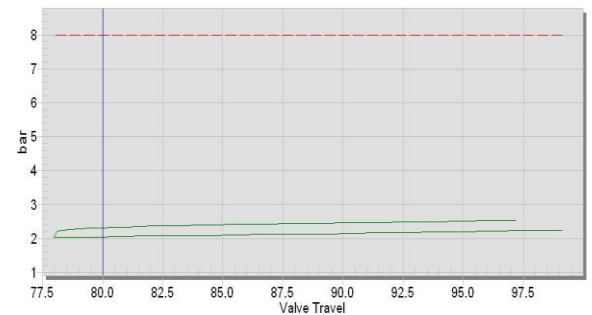
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

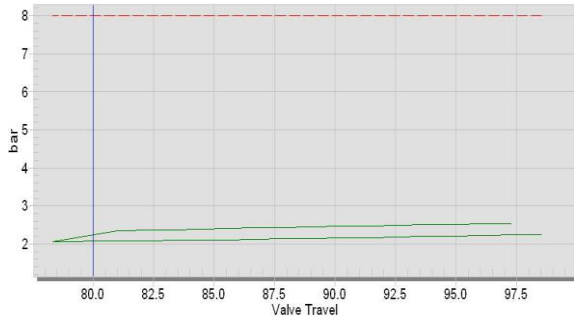


Sample 3 : Day 20

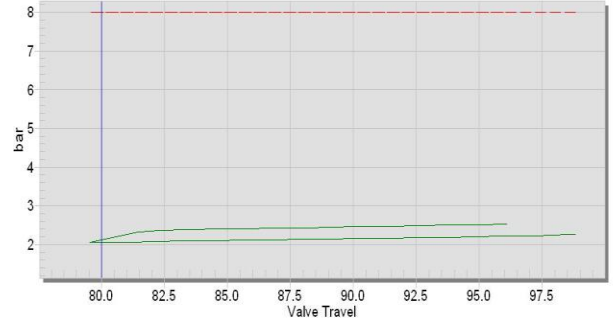
Test Date : January 24th , 2009

Time : 9:00 am – 10:15 am

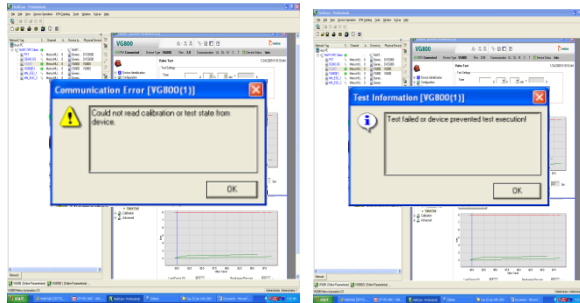
First Stroke:



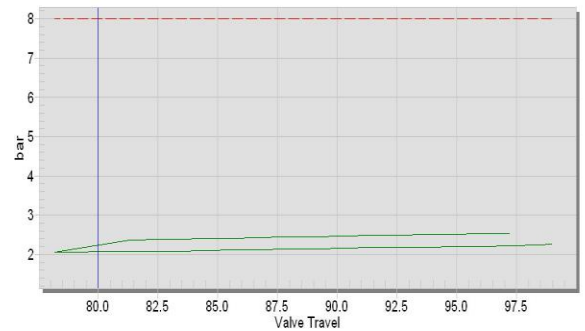
Second Stroke:



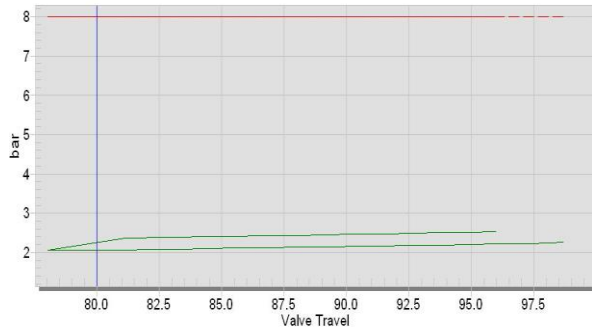
Third Stroke – PST + FST:



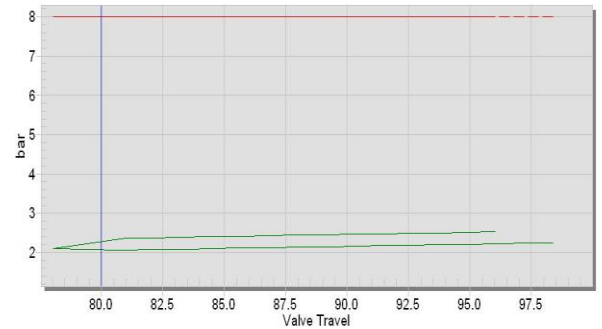
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

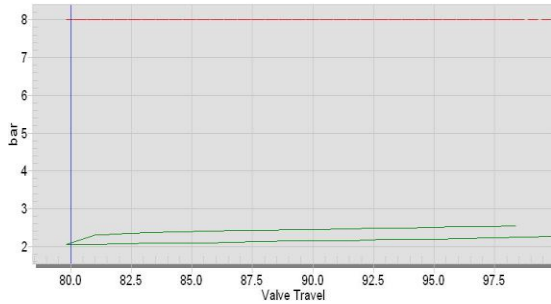


Sample 4 : Day 30

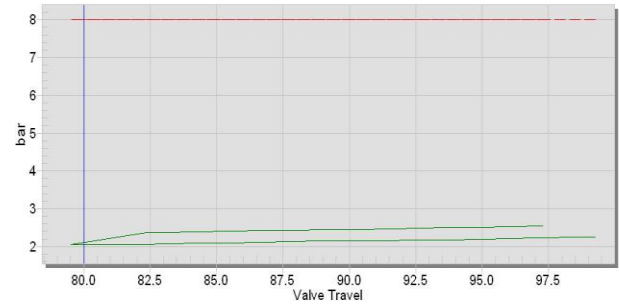
Test Date : February 12th , 2009

Time : 11:20 am – 12:35 pm

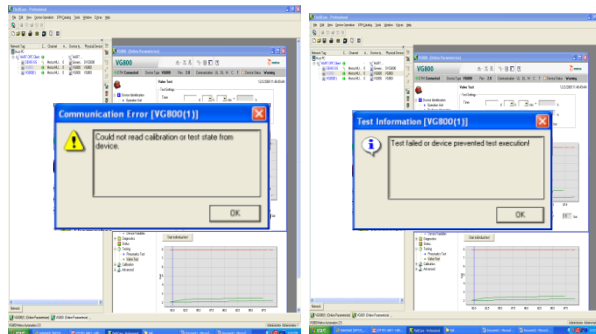
First Stroke:



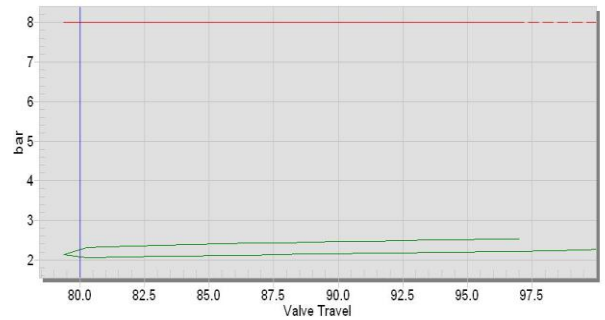
Second Stroke:



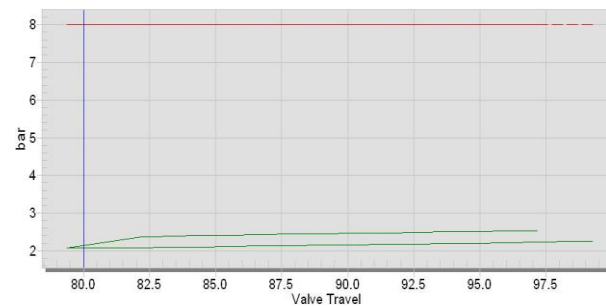
Third Stroke – PST + FST:



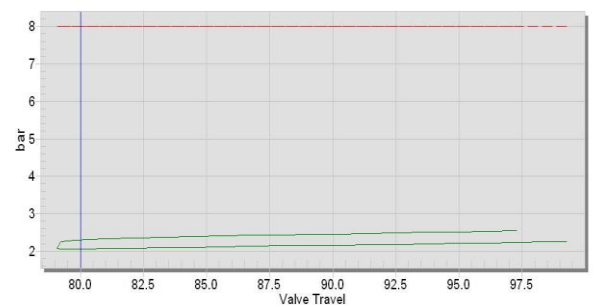
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

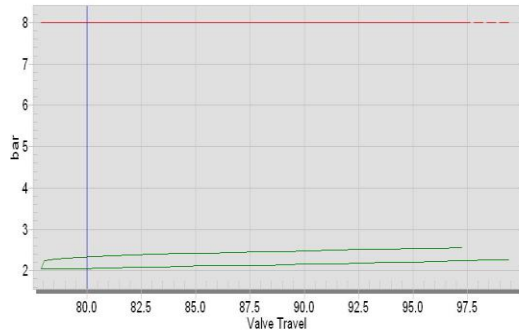


Sample 5 : Day 40

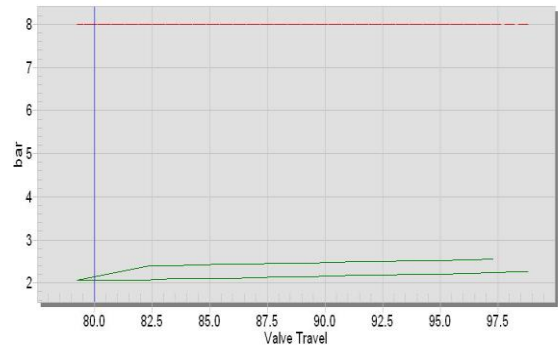
Test Date : February 28th , 2009

Time : 2:40 pm – 3:55 pm

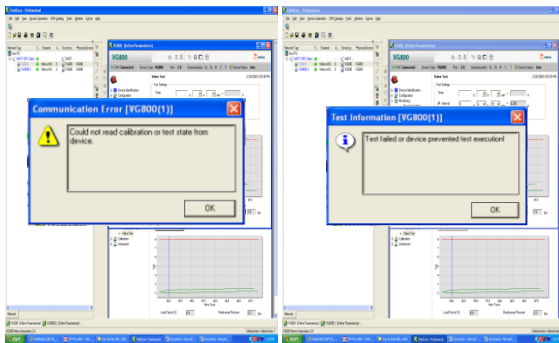
First Stroke:



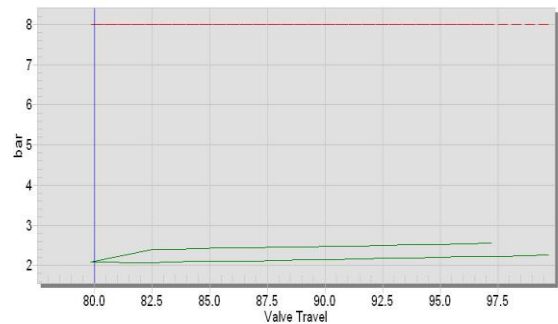
Second Stroke:



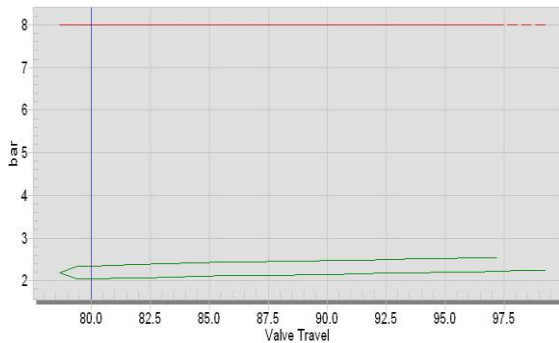
Third Stroke – PST + FST:



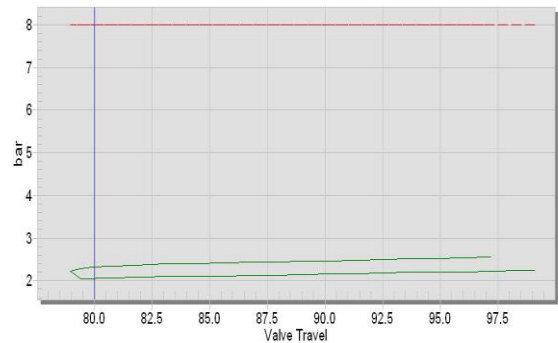
Forth Stroke:



Fifth Stroke:



Sixth Stroke:

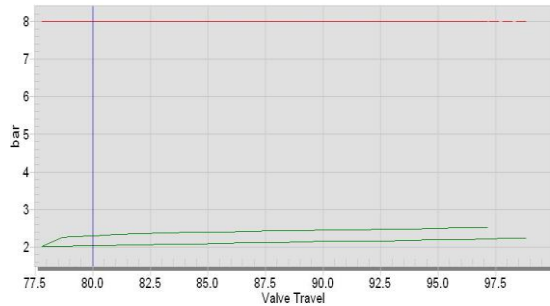


Sample 6 : Day 50

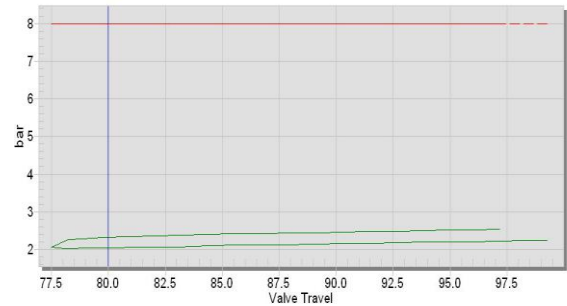
Test Date : March 16th , 2009

Time : 9:00 am – 10:15 am

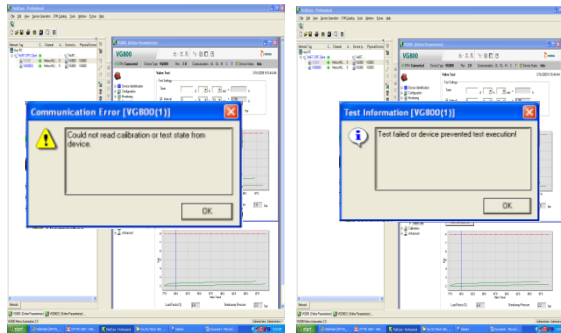
First Stroke:



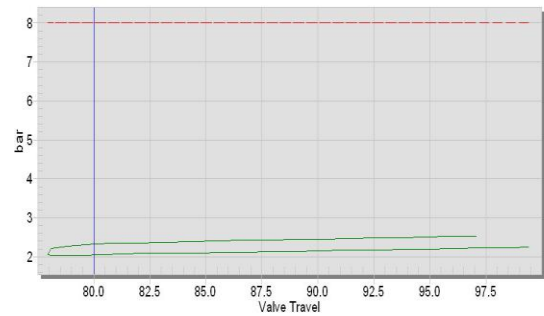
Second Stroke:



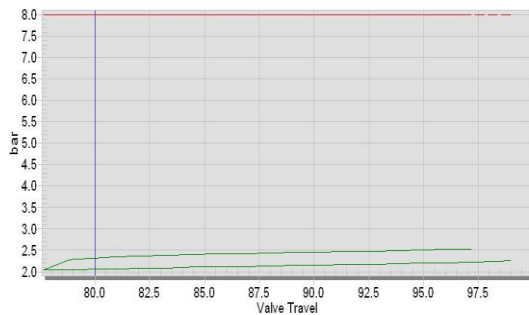
Third Stroke – PST + FST:



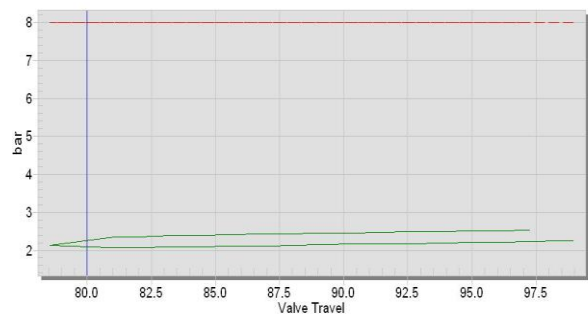
Forth Stroke:



Fifth Stroke:



Sixth Stroke:



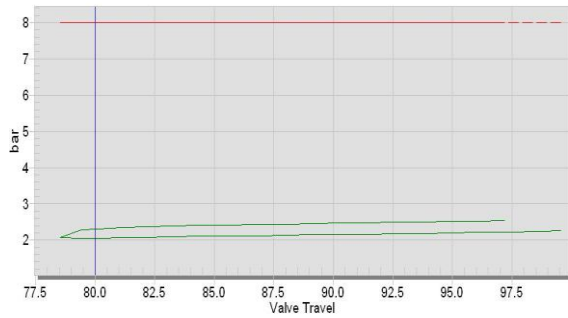
Sample 7 : Day 60

Test Date: July 26th, 2009

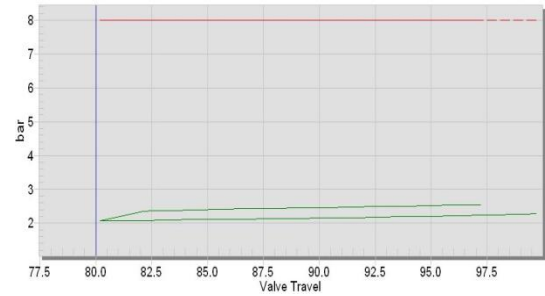
Valve : Metso Neles (Ball Valve)

Time : 12:45 pm – 1:05 pm

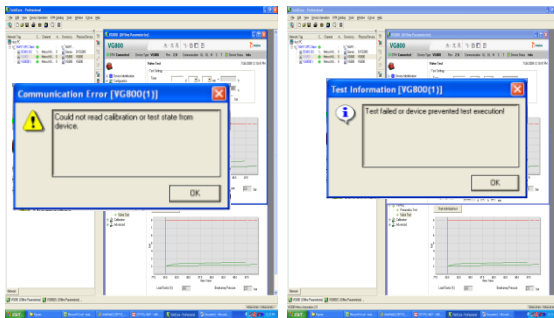
First Stroke:



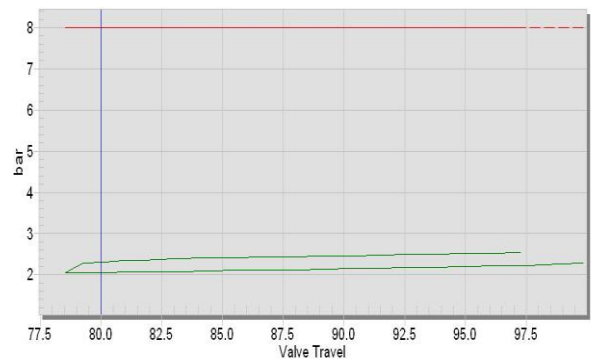
Second Stroke:



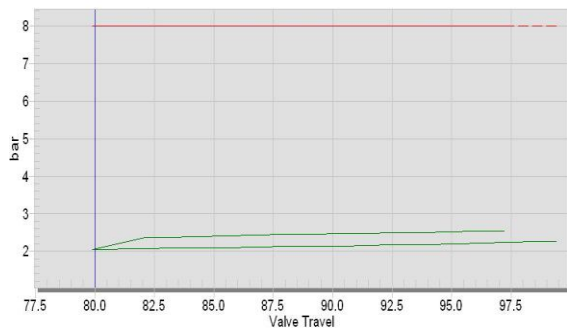
Third Stroke – PST + FST:



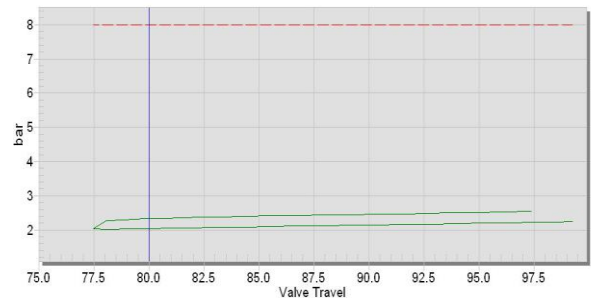
Forth Stroke:



Fifth Stroke:

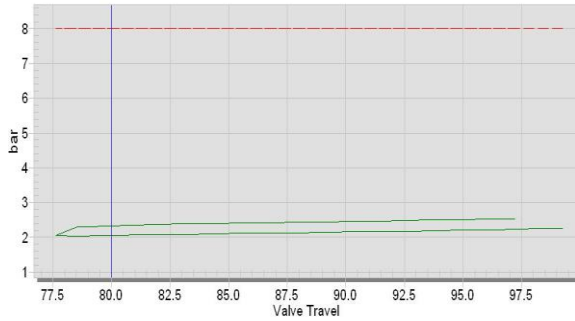


Sixth Stroke:

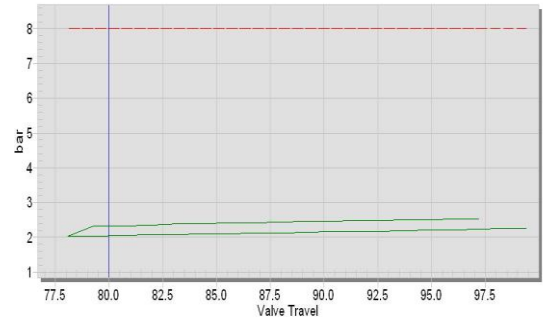


Sample 8 : Day 70
 Test Date : August, 21st 2009
 Time : 11.50 am – 1:15 pm

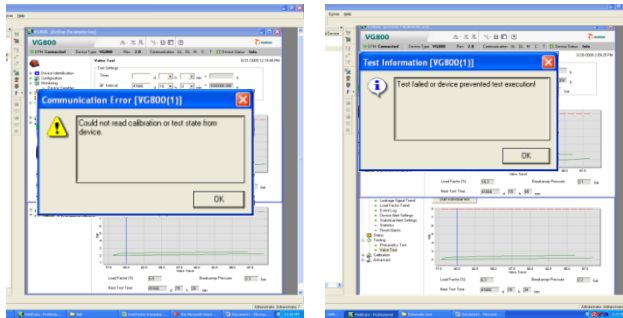
First Stroke:



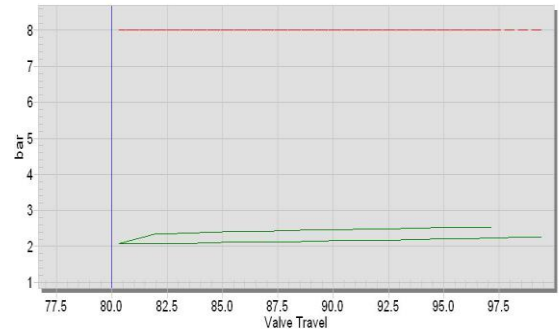
Second Stroke:



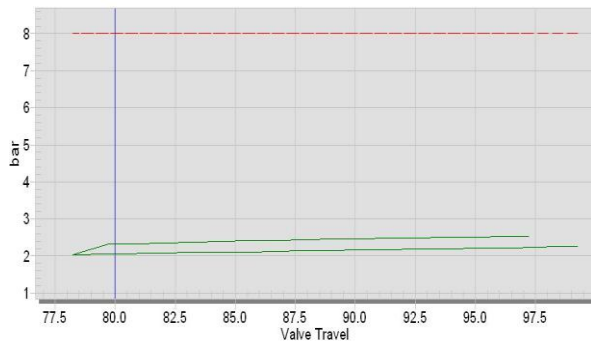
Third Stroke – PST + FST:



Forth Stroke:



Fifth Stroke:



Sixth Stroke:

