



AVK International A/S
Bizonvej 1
8464 Galten
Denmark
Att. Martin Børsting

Brøndby, 3 June 2022

121-23058.20
TRNL/dbk/bbo

TEST REPORT

Full scale hydrogen testing of AVK gate valves series 06 and series 46

MATERIALS CONSULTANCY

Reviewed by:

Reported by:

The report is only valid with two digital signatures from FORCE Technology. The original version of the report is archived in FORCE Technology's database and is sent in electronic duplicate to the customer. The stored version of the report at FORCE Technology prevails as documentation for its contents and validity.



FORCE Technology Norway AS
Nye Vakåsvei 32
1395 Hvalstad, Norge
Tel. +47 64 00 35 00
Fax +47 64 00 35 01
e-mail info@forcetechnology.no
www.forcetechnology.no

FORCE Technology, Hovedkontor
Park Allé 345
2605 Brøndby, Danmark
Tel. +45 43 25 00 00
Fax +45 43 25 00 10
e-mail force@force.dk
www.force.dk

Table of Contents

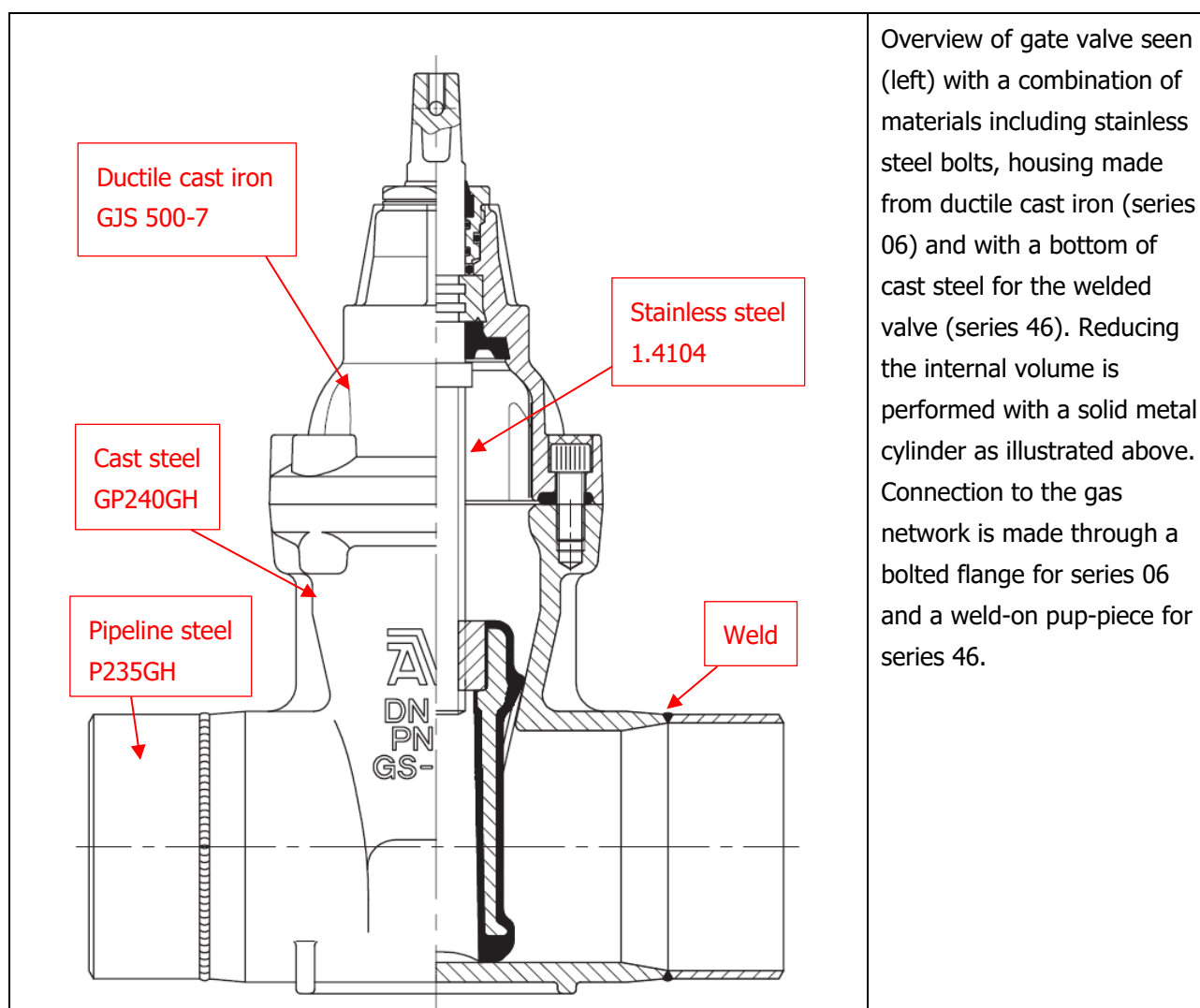
Background information.....	2
Test procedure.....	3
Post-test examinations and evaluation	4
Conclusion	6

OVERVIEW OF APPENDICES

- Appendix 1: Photo documentation of test setup
- Appendix 2: Pressure curves from tests

Background information

AVK gate valve series 06 and series 46 have been tested in FORCE Technology laboratories to evaluate the fitness for purpose in a 100% hydrogen gas environment. Based on literature study and study of current standards, the ductile cast iron used for the valve housing is considered incompatible with hydrogen service. However, this is based on evaluation of post yield tests, and it is generally accepted that such approach is overly conservative and costly as it tends to eliminate the use of materials which would otherwise be satisfactory if evaluated under the prevailing conditions in their use. Many standards acknowledge this viewpoint by allowing qualification of products through fracture mechanic testing or in full scale simulated service testing. The purpose of the present component tests is to evaluate fitness for service in a 100% hydrogen gas environment of the AVK valve series 06 and series 46.



Overview of gate valve seen (left) with a combination of materials including stainless steel bolts, housing made from ductile cast iron (series 06) and with a bottom of cast steel for the welded valve (series 46). Reducing the internal volume is performed with a solid metal cylinder as illustrated above. Connection to the gas network is made through a bolted flange for series 06 and a weld-on pup-piece for series 46.

Test procedure

Two identical valves are tested for comparison of properties in a 100% hydrogen gas atmosphere and the reference environment in nitrogen. One valve (series 06) was tested without internal epoxy coating. If material properties are affected by hydrogen charging a reduction factor on the hydrogen charged valve may be derived.

Valve type	Serial no.	Gas environment
Series 06 (flange)	229993977	Hydrogen
Series 06 (flange)	229993978	Nitrogen
Series 46 (weld)	230158282	Hydrogen
Series 46 (weld)	230158283	Nitrogen
Series 06 no internal coating (flange)	230984709	Hydrogen

Test parameters are defined by the specifications on the AVK valves to simulate a lifetime operating up to 200 cycles at 16 bar pressure. Temperature limits on the valves are set to 70 °C but in service most valves operate at ambient temperature.

Hydrogen testing

Caution is essential when working with hydrogen. Thorough risk assessments and evaluation of the test setups are conducted prior to testing. In order to reduce the risk of ignition of hydrogen gas, the gas volume inside the valve was reduced by a solid, metal cylinder as illustrated in *Background information*.

Hydrogen diffusion into the valve materials is enhanced by heating to 70 °C (due to limit on epoxy coating) in a hydrogen gas atmosphere (analysis grade pure hydrogen, H₂ ≥ 99,9999 mol %). Heating is conducted in a water bath. This procedure is followed for tests in both nitrogen and hydrogen, to reduce the number of parameters affecting test results. For the hydrogen tests, charging is commenced 2 weeks prior to function and burst test to ensure sufficient hydrogen diffusion into the materials. The exposure time of 2 weeks prior to function test should be sufficient to allow the various materials to be saturated with hydrogen. To further evaluate the diffusion of hydrogen into the material, in order to ensure stability of the AVK components during long term exposure, permeation testing on a sample of the ductile cast iron housing and a subsequent test of a valve without internal coating, provide additional conservatism to the evaluation. It was confirmed through a hydrogen permeation test of the ductile cast iron valve housing material, that hydrogen is present in the material after this charging time. This further ensures hydrogen diffusion to areas of defects or high stresses, i.e. possible crack initiation sites. This will simulate realistic conditions of a valve in a hydrogen gas infrastructure.

The tests in nitrogen are conducted at the same temperature and with internal volume reduction, hence the only difference between the tests is the test gas composition.

Function test

Once the valve is charged with hydrogen (or nitrogen), 200 decompressions from 0 to 16 bar, corresponding to the design service life, are made. Manual maneuvering with a T-wrench is conducted, and the 80 Nm torque is controlled by a torque wrench. The 200 pressure cycles to 16 bar, corresponding to the design service life, are conducted as follows;

1. The valve's internal wedge is down, gas is let in, and pressure increased to 16 bar via a pressure reducing valve.
2. Checking the back chamber pressure is at 0 bar.
3. Valve is opened (pressure reducing valve fills the back chamber at 16 bar).
4. The gas supply valve is closed.
5. Pressure from the valve is relieved via the outlet valve after which the outlet valve is closed again.
6. The valve's internal wedge is closed and tightened at 80 Nm.
7. Cycle is repeated manually 200 times.

Photo documentation of the tests is enclosed as Appendix 1.

Burst test

It is not safe to conduct the burst test with 100% hydrogen gas. Thus, following the 200 decompressions the valve is flushed, filled with water and pressure is increased until burst occurs. Using water for pressurisation is a safety precaution, as it is not safe to conduct the burst test with 100% hydrogen gas. Burst testing is conducted within minutes following the continuous hydrogen charging, to ensure that hydrogen diffusion out of the metallic components does not occur. The burst pressure is recorded by pressure transducers. The burst test follows this procedure:

1. The valve is flushed with nitrogen (10 times at 0-10 bar) to remove any hydrogen gas and hence risk of ignition.
2. The valve is removed from the water bath and flushed with nitrogen at vertical position to ensure that no hydrogen is left inside.
3. The valve is filled with water in open position and pressure is increased until burst occurs.

Post-test examinations and evaluation

Comparison between burst pressure after hydrogen charging and burst pressure of the reference test in nitrogen did not result in a significant reduction factor. Following hydrogen exposure, the valves performed similar to those tested in nitrogen and with burst pressures far beyond the design pressure of 16 bar. A reduction was measured for valve series 06, although this was attributed to leaks along the gaskets and not the metallic components of the valve. Test results are enclosed as graphs in Appendix 2, and summarised in the table below

Valve type	Gas environment	Function test	Burst test pressure
Series 06	Hydrogen	Pass	177 bar
Series 06	Nitrogen	Pass	191 bar
Series 46	Hydrogen	Pass	180 bar
Series 46	Nitrogen	Pass	187 bar
Series 06 (no internal coating)	Hydrogen	Pass	163 bar

Overview photos of valves post-testing are shown in Appendix 1, Figures 4-9. Visual examination of visible interior parts did not reveal any damage, except for the gasket on the series 06 valves. These were taken for examination at the AVK manufacturer, but the cause is suspected to be related to the temperature in the water bath, exceeding the acceptable exposure limit of the NBR gasket.

Besides recording of burst pressures and evaluation of potential reduction in valve properties, the following post-test evaluation may be considered to evaluate if damage due to hydrogen exposure has initiated:

- Visual inspection of surfaces after sectioning of valve body to detect major cracking, coating blisters etc., possibly aided by stereo microscope.
- Crack detection both internally and externally (Ultrasonic or X-Ray of external surfaces) may be performed by suitable NDT methods (not included in quotation), with special focus on welds on valve series 46.
- Ultimately, hydrogen compatibility of threaded items, i.e. stem and the bonnet bolts may be evaluated through tensile testing in nitrogen vs. hydrogen.

The above-mentioned evaluation methods may reveal possible signs of hydrogen embrittlement. Besides hydrogen embrittlement of metals, the main concern related to hydrogen infrastructure is leaks. AVK International A/S has previously had leak testing performed on their components to mitigate this issue.

Conclusion

Through the conducted tests in hydrogen and nitrogen, no deterioration of the technical integrity of the valve was detected due to hydrogen exposure. All tested valves passed both the function test and the burst test. Burst pressures did not reveal a reduction factor on the valves exposed to hydrogen. Following hydrogen exposure, the valves performed similar to those tested in nitrogen and with burst pressures far beyond the design pressure of 16 bar.

Based on the conducted tests, the AVK valve series 06 and series 46 are considered fit for operation in a gas environment up to 100% hydrogen. Potential long-term effects of hydrogen, such as coating degradation, have not been considered.

**APPENDIX 1 Photo documentation of test setup
(10 appendix pages including this page)**

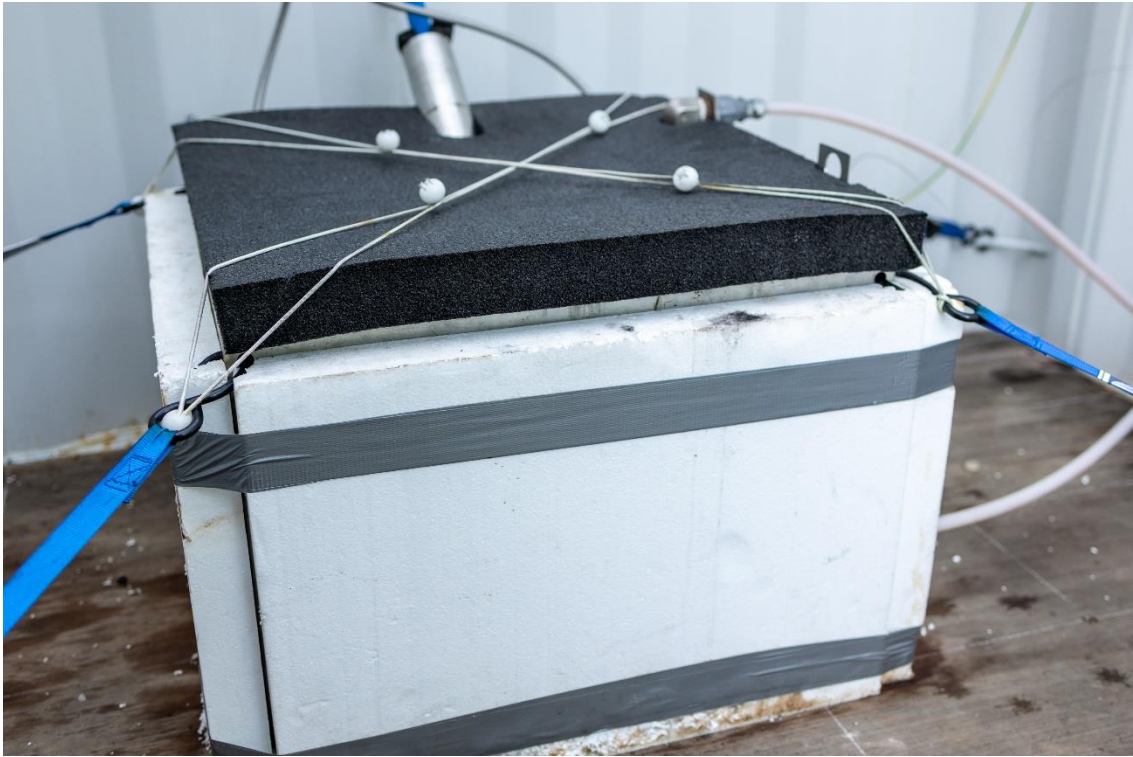


Figure 1 Test setup with valve placed in water bath at 70 degC.

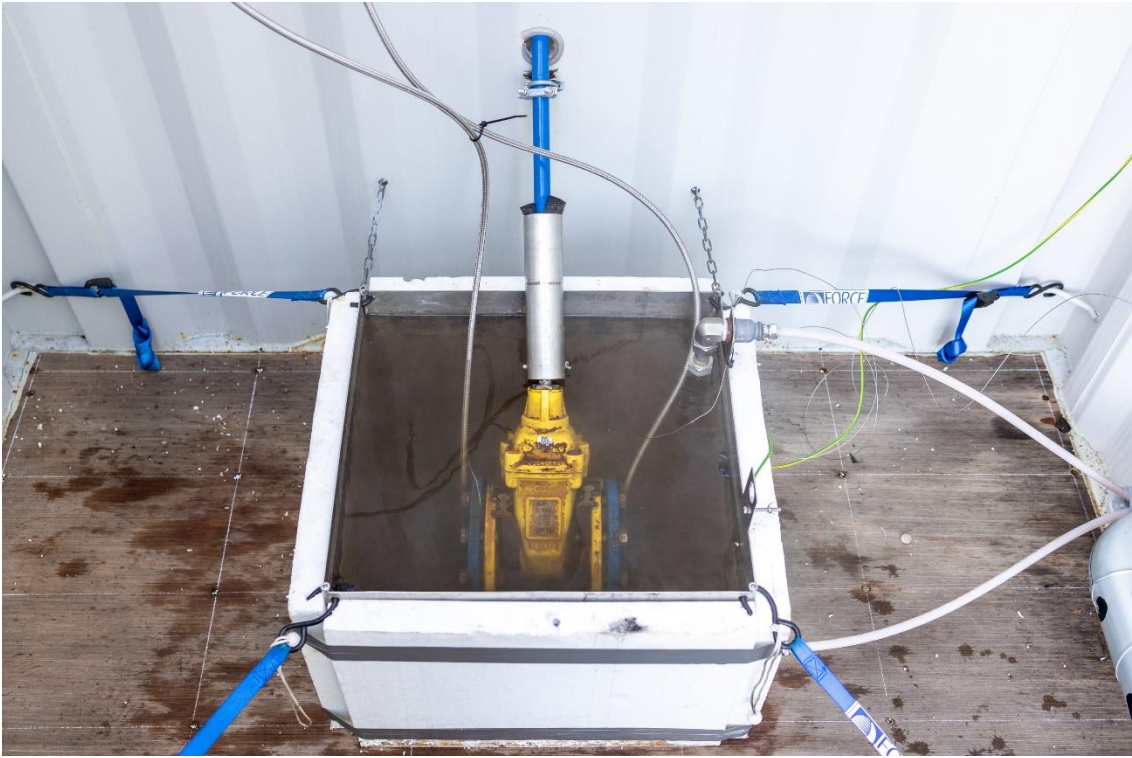


Figure 2 Valve placed in water bath post function test, prior to burst test.



Figure 3 Function test of 200 cycles conducted through handle outside the container.



Figure 4 Valve series 06 post testing.

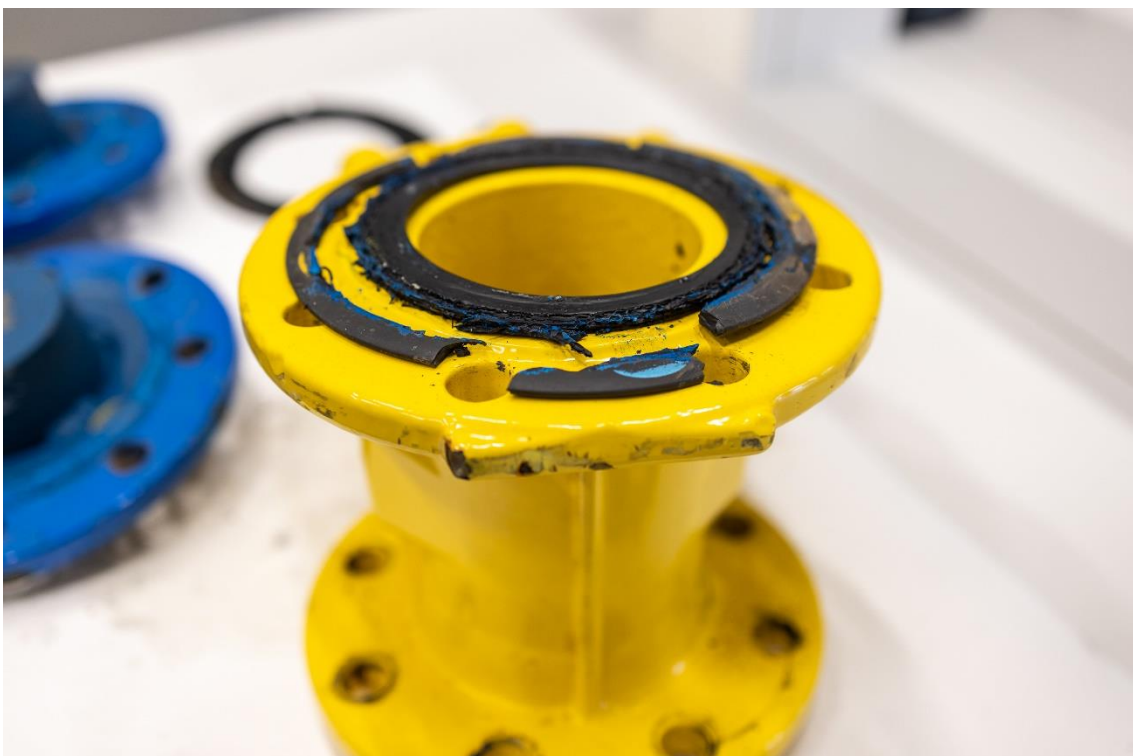


Figure 5 Valves series 06 seen with damaged sealings where leaks occurred at pressures a factor 10 higher than the operating pressure (177 bar).



Figure 6 Valve series 46 post testing.



Figure 7 No visual internal damage present on either valve type.



Figure 8

Leak at gasket corner on valve series 46 occurred at pressures a factor 10 higher than the operating pressure (180 bar).



Figure 9

Leak at gasket corner on valve series 46 at pressures a factor 10 higher than the operating pressure (180 bar).

**APPENDIX 2 Pressure curves from test
(7 appendix pages including this page)**

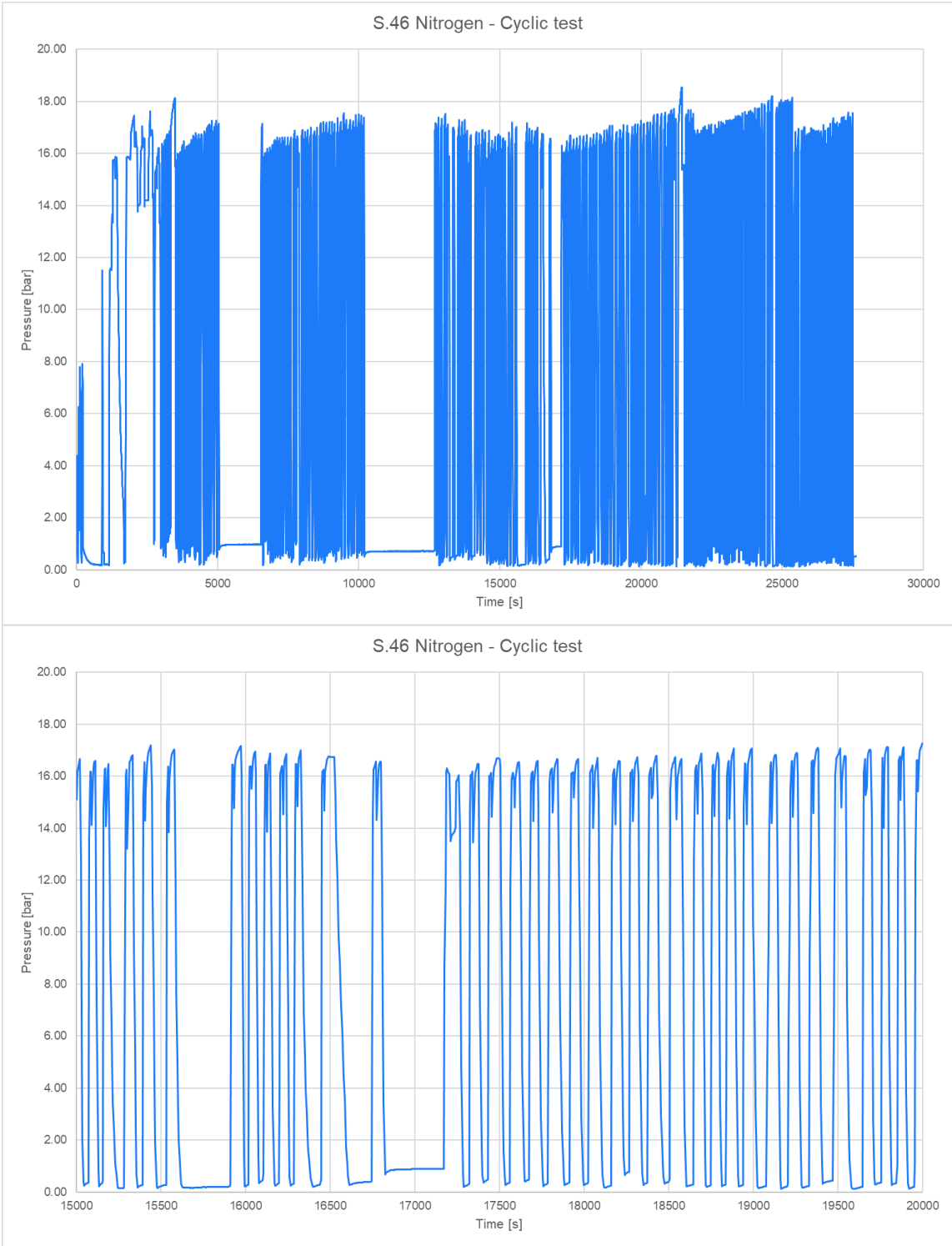


Figure 1 Series 46 nitrogen cyclic test. Function test of 200 cycles. Top showing pressure variation of the entire cyclic test. Bottom showing a section for improved illustration of the pressure cycles.

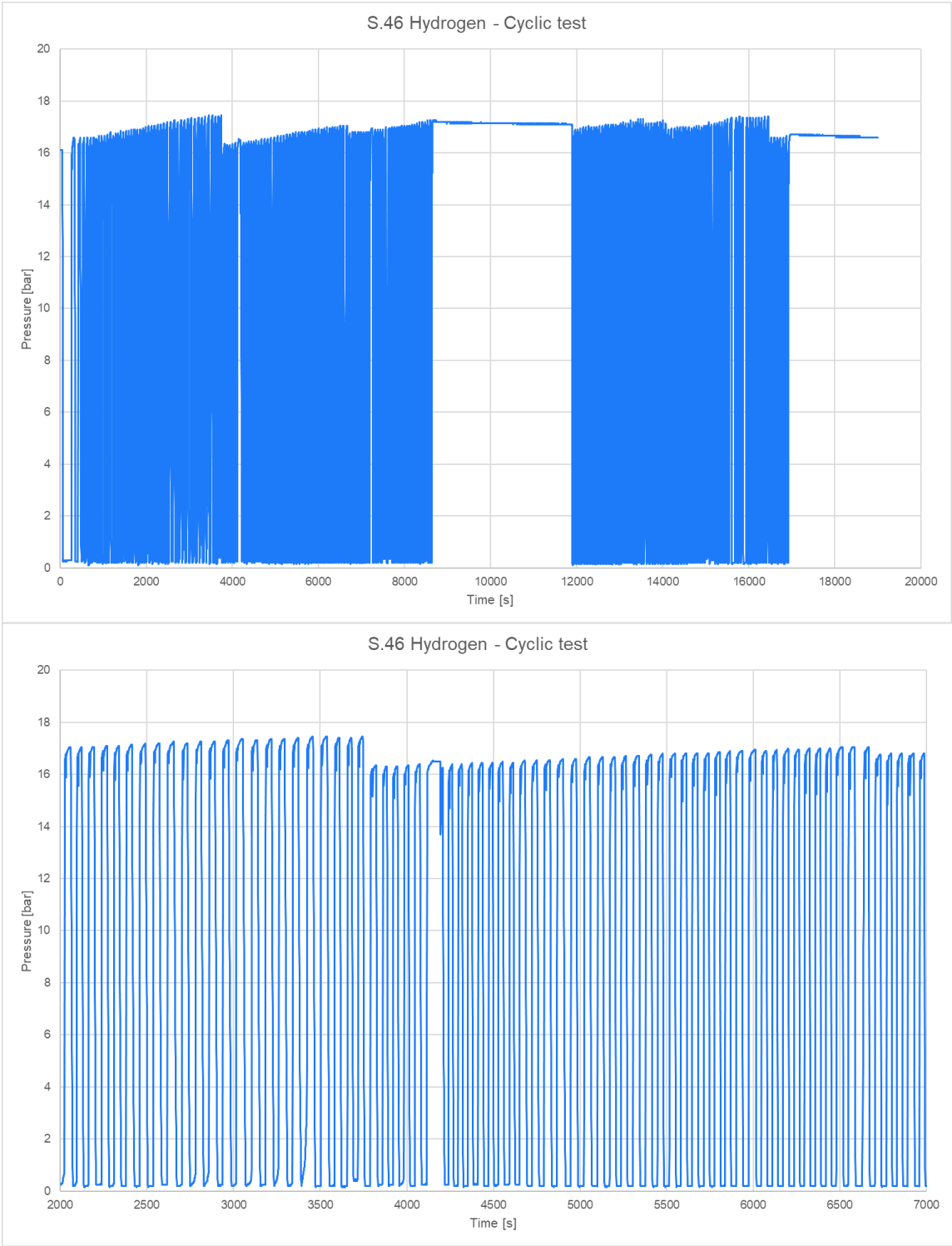


Figure 2 Series 46 hydrogen cyclic test. Function test of 200 cycles. Top showing pressure variation of the entire cyclic test. Bottom showing a section for improved illustration of the pressure cycles.

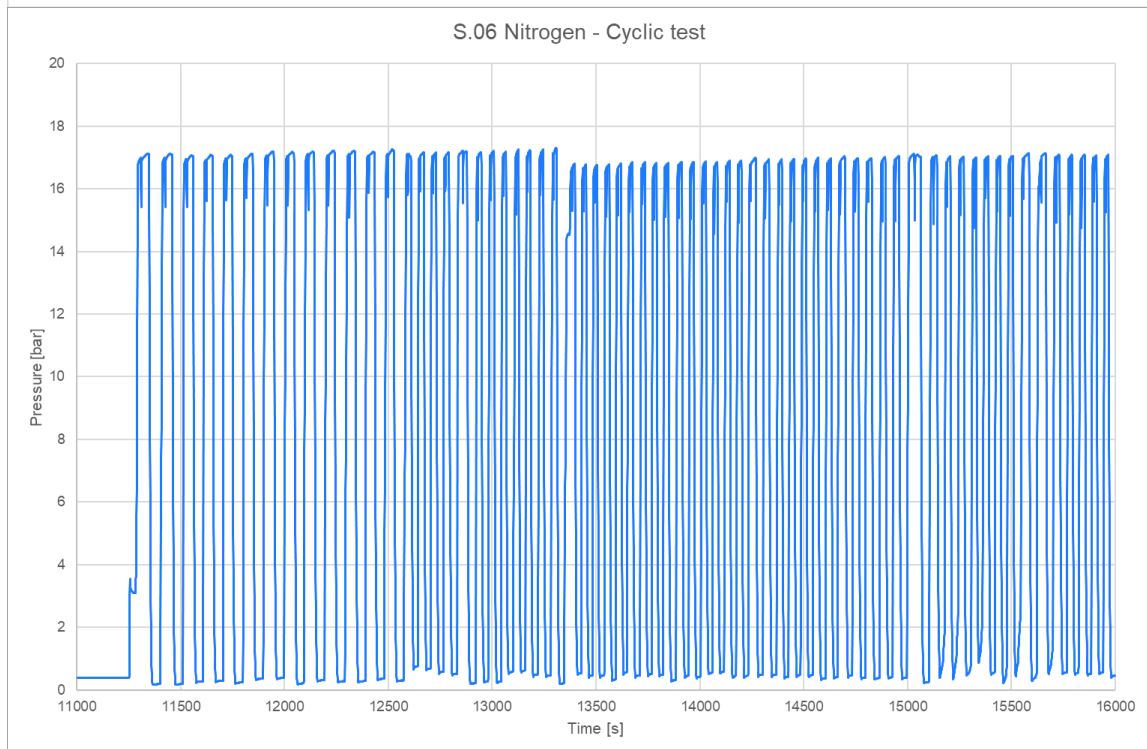
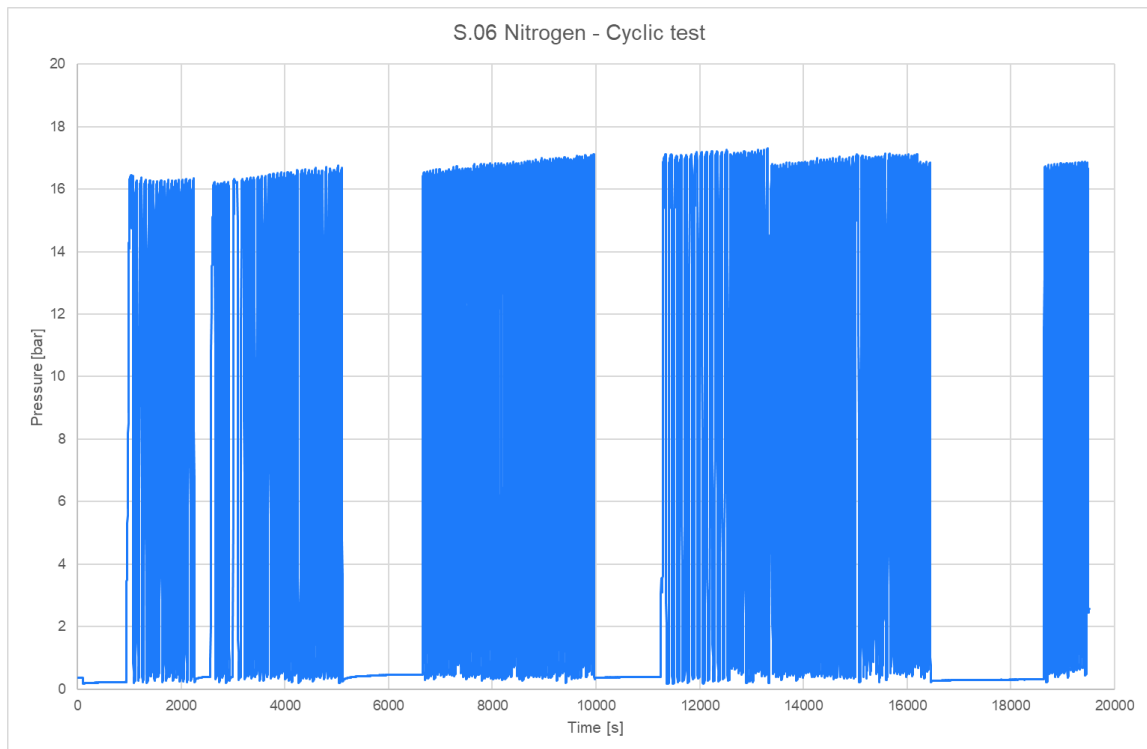


Figure 3 Series 06 nitrogen cyclic test. Function test of 200 cycles. Top showing pressure variation of the entire cyclic test. Bottom showing a section for improved illustration of the pressure cycles.

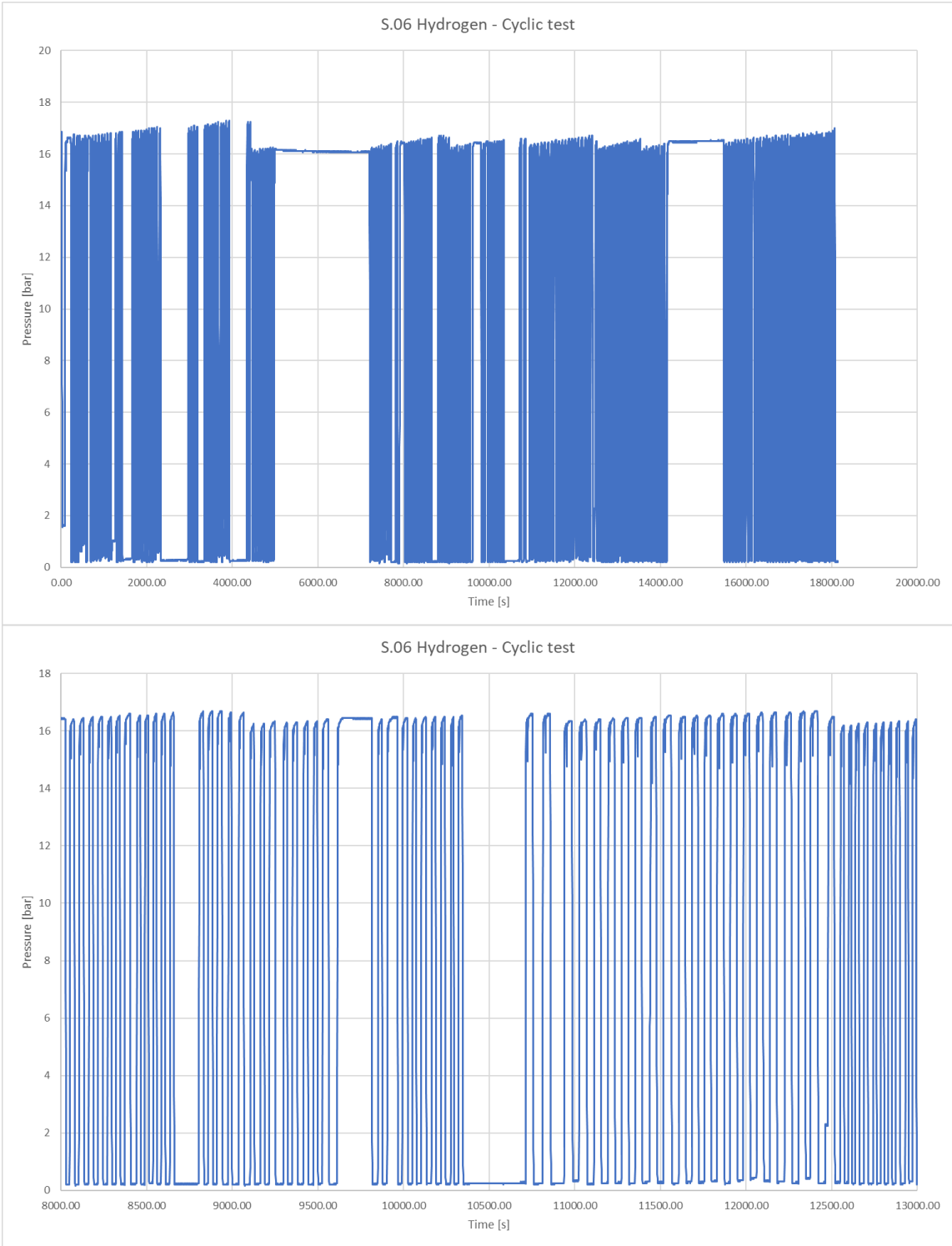


Figure 4 Series 06 hydrogen cyclic test. Function test of 200 cycles. Top showing pressure variation of the entire cyclic test. Bottom showing a section for improved illustration of the pressure cycles.

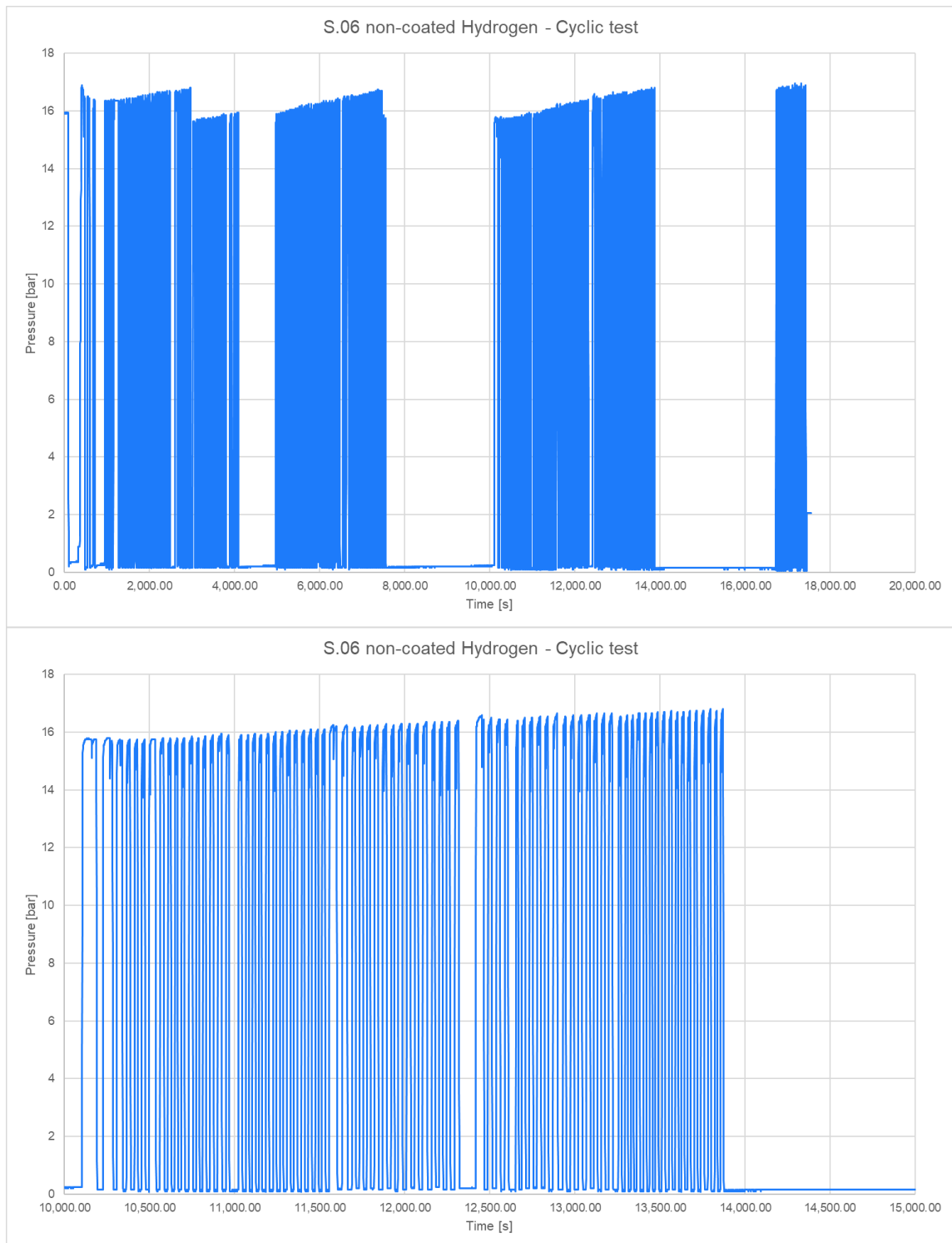


Figure 5 Series 06 hydrogen cyclic test on internally non-coated valve. Function test of 200 cycles. Top showing pressure variation of the entire cyclic test. Bottom showing a section for improved illustration of the pressure cycles.

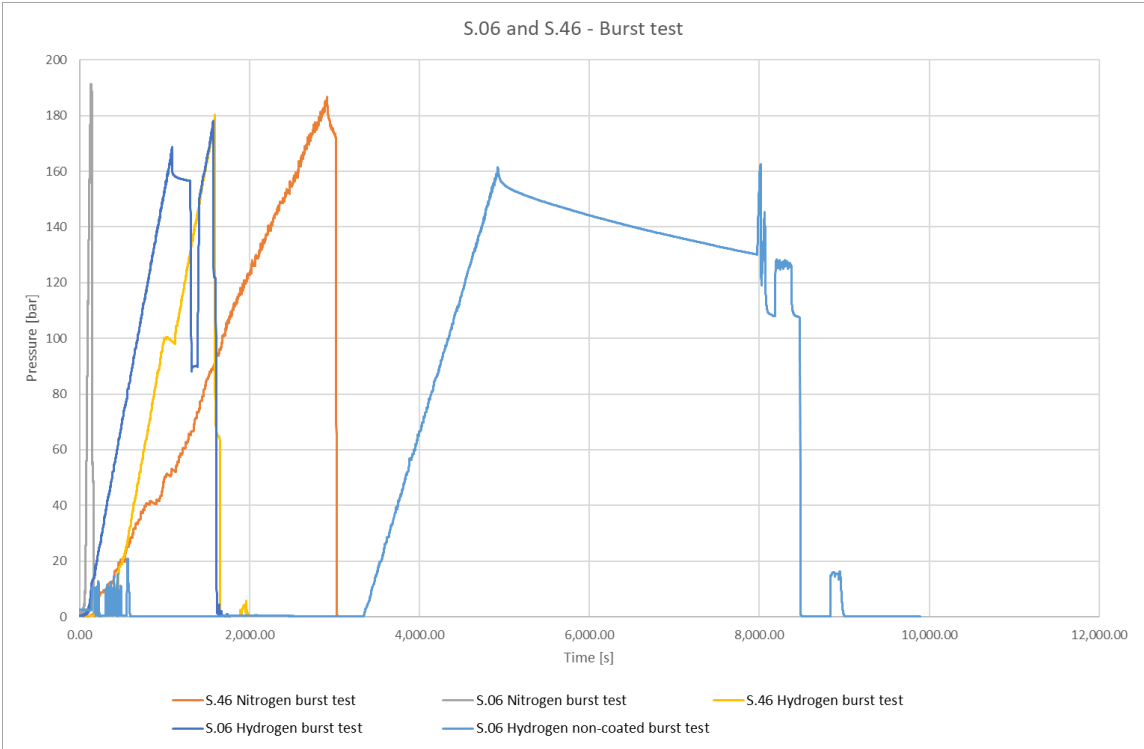


Figure 6 Series 06 and Series 46 burst test conducted with water after 200 cycles function testing.

FORCE Technology - Terms and Conditions

Test, calibration and product approval



1. PREAMBLE

- 1.1 FORCE Technology ("FORCE") registration no. 55117314 is a GTS institute (in Danish: "Godkendt Teknologisk Servicevirksomhed"). FORCE is an approved technological service institution, organised and existing under the laws of Denmark with its registered office at Park Allé 345, 2605 Brøndby, Denmark.
- 1.2 In these Terms and Conditions ("Conditions"), Customer means the counterparty to the Agreement.
- 1.3 These Conditions constitute an integral part of the Agreement concluded between FORCE and the Customer ("the Parties"), including any quotations from FORCE and/or purchase orders from the Customer.
- 1.4 Any deviation from or amendments to individual provisions of FORCE's Conditions have no effect unless expressly agreed upon in writing, signed by an authorized representative of each Party and provided the deviation/amendment is clearly specified.
- 1.5 The Customer's prospective general terms and conditions is not accepted by FORCE irrespective whether the Customer sends such general terms and conditions to FORCE after having received FORCE's Conditions and irrespective of such general terms and conditions have been expressly rejected by FORCE. In the event of a conflict between the Agreement, these Conditions and/or the specifications, drawings, illustrations and photos the documents prevail in the above-mentioned order.

2. AGREEMENT

- 2.1 Prior to commencing Services (as defined below) and/or deliveries ("Report"), an agreement shall be concluded in writing between the Parties stating as a minimum the type of work, scope, time schedule, pricing (including whether fixed or time spent) and payment terms.
- 2.2 Quotations given by FORCE are valid for 30 days unless otherwise agreed in writing.
- 2.3 Test, calibration and/or product approval, including calibration of product and technical approval constitutes a test, measurement, and/or control of a condition, at any given time within specified standards, framework or by agreement ("Services"). Consultancy services are not part of the scope, unless otherwise stated in the agreement between FORCE and the Customer cf. 3.1.
- 2.4 FORCE is only liable towards the Customer for test, calibration or product approval performed, unless otherwise directly agreed with FORCE.
- 2.5 All tests are performed according to existing or agreed standards.

3. CONSULTANCY SERVICE

- 3.1 In the event that Service by FORCE includes consultancy service, the scope and content of such consultancy service must be specifically agreed between the Parties in writing.

4. FORCE MAJEURE

- 4.1 Any delay or failure of FORCE to perform its obligations according to the Agreement will be excused if and to the extent that it was caused by an event or occurrence beyond FORCE's reasonable control and without its fault or negligence ("Force Majeure"). Force Majeure includes, but is not limited to, acts of God, actions by any government authority (whether valid or invalid), fires, floods, windstorms, explosions, riots, natural disasters, wars, sabotage, acts of terrorism, or court injunction or order, labour problems of FORCE, or its critical subcontractors, such as, lockouts, strikes, and slowdowns. Further, Force Majeure shall include epidemics, quarantines, isolations and denied access by national authorities to the site of the Customer or work site due to health risks, including restrictions in flights and/or other kind of transportation for the same reason.
- 4.2 Should a Force Majeure event continue for more than three (3) months, either Party shall have the right to terminate any relevant orders. In case the Customer terminates the Agreement or any order due to Force Majeure, the Customer must pay any outstanding fees or costs including pro rata payment of work performed until the date of notice of termination including unavoidable termination costs of sub-suppliers.

5. WORK ENVIRONMENT AND SAFETY

- 5.1 The Customer shall ensure safe working conditions and proper instruction to FORCE's personnel when or if entering and working on a site designated by the Customer.
- 5.2 FORCE's personnel shall have the right without incurring any liability on FORCE or itself to terminate work for the Customer at any time if the FORCE personnel, at their discretion, find that the performance of work at site pose a risk to the FORCE personnel's safety and health or in any other way prevents the safe performance of the work.

6. PRICE

- 6.1 FORCE reserves the right to modify hourly rates as of January 1st each year. Furthermore, modification of hourly rates can be made with thirty (30) days' notice.
- 6.2 Materials spent, purchased resources and services for the work are calculated at the agreed rates, or in case of no agreement on this, at FORCE's cost price, with a handling fee of ten percent (10 %).
- 6.3 FORCE notifies the Customer as soon as it is established that an estimated price of the agreed work materially is higher than the given estimated price, and quotes at

FORCE Technology - Terms and Conditions

Test, calibration and product approval



the same time the new price. The Customer is not notified if an estimate increases to less than ten thousand (10,000) DKK or less than twenty percent (20 %) of the most recent estimated price.

6.4 All prices are exclusive of VAT and other taxes.

7. PAYMENT TERMS

7.1 The Customer shall comply with the payment obligations set out in the Agreement.

7.2 In the absence of payment obligations in the Agreement:

a) The Customer shall submit payment to FORCE within thirty (30) days from the date of invoice.

b) Payment shall be made to the bank account specified by FORCE.

c) The Customer shall pay all amounts due under the Agreement in full and without any setoff, counterclaim, deduction or withholding, except if said setoff, counterclaim etc. is required by law and the Customer has documented such request.

d) If a payment is delayed, the Customer shall pay to FORCE an interest rate of one percent (1 %) per month for the duration of the delay.

7.3 If the Customer does not comply with the payment obligations set out in the Agreement or hereunder, FORCE may suspend its performance until the Customer complies with the payment obligations.

7.4 Nothing under this Clause 7 will limit any other right or remedy available to FORCE.

7.5 FORCE reserves the right to set-off against any payments due under the Agreement and/or any other agreement with the Customer.

8. INVOICING

8.1 Unless otherwise agreed upon in writing or stipulated in FORCE's quotation, the Customer may be invoiced, upon acceptance of an order, an advance payment of twenty five percent (25 %) of the fixed or estimated price, however, at least five thousand (5,000) DKK if the price exceeds five thousand (5,000) DKK.

8.2 Ongoing Services including expenses will be invoiced continuously.

8.3 For Services with a fixed price with a duration exceeding thirty (30) days, FORCE may continuously charge on account payments based on FORCE's estimate on pro rata completion.

8.4 Final invoicing will take place at completion of the work.

9. ITEMS TO TEST

9.1 In connection with performance of certain tests it may be necessary to modify the test subject. The test subject may be damaged during testing. FORCE does not undertake that any subject tested can be used for its purpose after the testing.

9.2 After the Service is completed FORCE will return the test subject received from the Customer unless otherwise agreed in writing.

9.3 The shipment return is EXW (INCOTERMS 2020). If the Customer does not facilitate the return of the test subject within thirty (30) days after written notice from FORCE, FORCE is permitted to dispose of the Customers test subject. Any expenses related thereto will be invoiced to the Customer.

9.4 In connection with authority approval of products it can be a requirement for FORCE to store the test subject and any test documentation in a certain period.

10. WARRANTIES

10.1 FORCE undertakes to remedy defects in the Service due to the fault of FORCE.

10.2 The Customer has a standard duty to investigate the work at delivery according to agreement. FORCE's liability for errors and deficiencies shall be limited to errors and deficiencies present on delivery and which become known within twenty-four (24) months from delivery.

10.3 In the event of a claim, the Customer must immediately provide FORCE with a written notice detailing the deficiency or error. Upon receipt of a claim for which FORCE is liable, FORCE will as the only remedy perform a new test, calibration or product approval as relevant, including, if applicable, adjusting the Report.

10.4 FORCE's period of liability for replaced or repaired Service is identical with the period of liability for the original delivered work, which means the new period of liability starts at the same point in time as for the original delivered work.

11. LIABILITY

11.1 FORCE shall not be liable for any costs, loss or damage unless it can be documented and has occurred due to negligence of FORCE in connection with the performance of the Service or deliveries under the Agreement.

11.2 FORCE shall not be liable for loss of operation, loss of time, loss of profits or similar indirect or consequential losses, including any indirect losses which may be remunerated to third parties.

11.3 FORCE performs the requested Service and presents Reports and guidance on the basis of knowledge and engineering available to FORCE at the time of completing the Service.

11.4 FORCE is not liable for damages, costs or loss that may occur in connection with any use of data and results outside of the agreed Service and outside the purpose for which FORCE's Service or Report is issued.

11.5 FORCE is not liable in relation to statements nor estimates, where it is apparent that such are based on discretionary assessments, unless it can be proven that this assessment was clearly incomplete based on the common knowledge or techniques within the industry at the time of completing the Service.

11.6 FORCE is not liable for any loss or damage incurred if the loss or damage is caused by properties or content

FORCE Technology - Terms and Conditions

Test, calibration and product approval



of a product or use of a product that has either not been tested nor investigated and described in the Report, or which deviates from FORCE's description in the Report of a product feature or of a possible use of the product.

- 11.7 FORCE is not liable for any damages incurred, so long as a harmful product or product type has not been actually tested, calibrated or product approved by FORCE, unless the Customer demonstrates a basis for liability and that the damaging product is identical to one that FORCE has specifically tested, calibrated or product approved.
- 11.8 Notwithstanding any other provisions of the Agreement or related documents, FORCE's total liability, for whatever reason, both in contract and tort, is maximized to the minimum amount of either; the total payment from Customer to FORCE under the specific purchase order under this Agreement or 5,000,000 (five million) DKK. The limitation of liability includes amounts that may be remunerated to third parties.
- 11.9 In the event of a third-party claim, which FORCE is not liable for under these Conditions, the Customer shall indemnify and hold harmless FORCE for all costs, including legal costs and compensations.

12. MARKETING AND REFERENCE

- 12.1 In case the Customer wishes to use results from the Service for marketing purposes all references to Services, shall be made to the complete documentation (Report) or product type from FORCE in adherence to applicable law. Any wording in such marketing material is the sole responsibility of the Customer.
- 12.2 In the event that the Service is ceased or suspended by the Customer in accordance with clause 16.1, the Customer may only use FORCE's name and logo in connection with the Service or its result after written agreement.

13. INTELLECTUAL PROPERTY

- 13.1 Subject to clause 12 the Customer has full title to Reports, when delivered to the Customer. FORCE's Reports may only be published in their entirety, and with source credits. Use of extracts and in citations is only allowed with written consent.
- 13.2 FORCE maintains all rights to know-how, technology, methods, trade secrets, design, source code, Software, interfaces, images, graphics, documentation, tools, processes, patents and other intellectual property rights, and reserves the right to all developments, improvements or modifications thereof, including those used or incurred in connection with the performance of the work (collectively "FORCE Rights").
- 13.3 FORCE retains all rights to data generated by FORCE based on the FORCE Rights regardless of how such

arise, and any statistics, information, and other analysis derived from such. FORCE shall have royalty free, perpetual, right to use and further improve or develop for any of its products or services or FORCE Rights including machine learning of any data that may belong to the Customer (and of which inferred statistics, information and other analysis) arising from access to or use of the FORCE Rights by, or on behalf of, the Customer, regardless of how such have occurred, while respecting confidentiality, cf. clause 14.

- 13.4 The Customer must respect the obligations of FORCE under the Danish Employee's Inventions Act.

14. INFORMATION AND CONFIDENTIALITY

- 14.1 FORCE treats Customer information, the performance of Services, and other details in relation to the customer relationship confidentially. However, FORCE may use the Customer's name and the overall scope of the Service for reference unless the Customer relationship itself is subject to a separate confidentiality agreement.
- 14.2 FORCE being a GTS institute, means that FORCE is subject to Ministerial supervision, which includes user surveys of Danish Customers, and in this regard, FORCE shall provide Customer's company name, VAT number and address unless the Customer relationship itself is subject to a separate confidentiality agreement.

15. CUSTOMERS CANCELLATION OR POSTPONEMENT OF THE WORK BEFORE START

- 15.1 The Customer can cancel or postpone the work until thirty (30) days before the agreed start of the Service.
- 15.2 If the Service is cancelled or postponed thirty (30) days or less before the agreed start, the Customer will be invoiced a cancellation- or postponement fee of twenty percent (20 %) of the price for the work or the estimated price of the work, however not less than five thousand (5,000) DKK and maximum one hundred thousand (100.000) DKK. This will also apply if the Customer is responsible for delays in the work.

16. THE RIGHT OF THE CUSTOMER TO STOP THE WORK

- 16.1 Should the Customer wish to cease the Service, the Customer must pay for Services already performed, with the addition of the costs incurred by FORCE for staff, equipment etc. as a consequence of the Service being ceased.
- 16.2 Notwithstanding the above, the Customer's total payment shall never exceed the agreed or estimated price for the Service, and never be less than twenty percent (20 %) of the estimated or fixed price, however, no less than five thousand (5,000) DKK.
- 16.3 After the Service has ceased the Customer will receive any preliminary results of the Service in the form available at the cessation time.
- 16.4 If the Service is stopped at the request of the Customer, (i) FORCE's liability for errors and deficiencies in performed work will lapse and, (ii) any subsequent use

FORCE Technology - Terms and Conditions

Test, calibration and product approval



of the results received is the sole responsibility of the Customer.

17. TERMINATION

- 17.1 The Agreement may be terminated by either Party with thirty (30) days written notice, however, the Customer must pay any outstanding fees or costs including pro rata payment of work performed until the date of notice of termination including unavoidable termination costs of sub-suppliers.
- 17.2 In case of material breach of the Agreement and/or these Conditions FORCE may terminate without notice. Any breach of clauses 18 and 19 is a considered a material breach.

18. BUSINESS ETHICS AND CODE OF CONDUCT

- 18.1 FORCE's Code of Conduct applies to FORCE and any performance by the Parties under this Agreement.

19. SANCTIONS AND EXPORT CONTROL

- 19.1 Customer represents and warrants that it is not subject to any sanctions, including but not limited to sanctions issued by the United States Department of Treasury Office of Foreign Assets Controls (OFAC), the European Union, or any other applicable sanctions rules ("Sanctions") that would prevent FORCE from transacting business with the Customer, and agrees that it shall comply with such Sanctions.
- 19.2 In the event that the Customer, or its affiliates, is or becomes subject to Sanctions at any point in time, FORCE shall have the right to amend the Agreement, withhold any deliverables and payments, and reject payments in order to comply with the applicable Sanctions.
- 19.3 If, as a part of the Service performed under the Agreement, the Customer shall deliver or disclose to FORCE any technologies, products, test objects or elements that are covered by any global export control programmes such as the European Union

Regulation (EC) No 428/2009 or similar, the Customer represents and warrants that the delivery and redelivery of the product, test object, or Report has received relevant export control approval from the applicable authorities. Failure to ensure that items and other elements that are covered by export control regulations have received adequate approvals will cause Customer to be liable and Customer shall indemnify FORCE for any losses, damages or costs in respect of such non-compliance.

20. GOVERNING LAW AND DISPUTES

- 20.1 The Agreement, including these Conditions are governed by Danish law, without giving effect to its provision or rules regarding conflicts of law.
- 20.2 Any dispute arising between the Parties including disputes arising out of the performance of the Service or the interpretation of the Agreement and/or these Conditions shall, if such dispute cannot be solved amicably between the Parties within reasonable time, be settled by the Danish Arbitration Institute in accordance with the rules of arbitration procedure adopted by The Danish Institute of Arbitration and in force at the time when such proceedings are commenced. The process shall be subject to strict confidentiality.

21. ACCREDITED SERVICES

- 21.1 Accredited services are performed subject to applicable regulations on accreditation, as amended from time to time, and in accordance with and limited in scope to the relevant standards.
- 21.2 FORCE is subject to the supervision of the accreditation authority, which has a duty of confidentiality. The Customer agrees that FORCE, for accredited services, provides the accreditation authority access to the Customer's information for the execution of review and audits.