Industrie Service
Test Laboratory for Pressure Equipment

[ ] Test Report – Examination of Design
[X] Test Report – EC-Design Examination
according to Modul B1

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TÜV Rheinland Group

Test report No.: BU1.1(T)-08-037

Within the scope of Module: B ☐ B1 ☒ G ☐ H1 ☐ **Drawing** ☒

Customer: Hi-Flow Valves Limited 31 Hampstead Avenue, Mildenhall Suffolk, IP28 7AS, UK	Order-No.: **7901012**

TEST OBJECT:

Category: I, II, III Fluid/Fluid group: **1, 2** Test fluid: **Water**

Name of equipment (see attachment)	Drawing No.	Design Pressure [bar]	Design Temperature [°C]	Test Pressure PT [bar]	Notes
Wafer type dual plate check valve Class 150, NPS6-24	150R2 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 300, NPS6-24	300R2 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 600, NPS6-24	600R2 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 900, NPS6-24	900R2 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 1500, NPS6-24	1500R2 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 150, NPS2-4	150R1 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 300, NPS2-4	300R1 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 600, NPS2-4	600R1 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 900, NPS2-4	900R1 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	
Wafer type dual plate check valve Class 1500, NPS2-4	1500R1 Rev. 1 HFL/DOC 58 Issue 1 Rev. 0	See Remarks.1	See Remarks.1	See Remarks.2	

SPECIFICATIONS: **Directive 97/23/EC** ☒ **Directive 99/36/EC** ☐

1. Regulations/Codes:	AD 2000	TRD	ADR	EN 13445	API 594
Applied in full	☐	☐	☐	☐	☒
Applied in part	☐	☐	☐	☐	☐

Remarks:
1. Temperature/pressure rating acc. to ASME B16.34
2. Inspection and test acc. to API598

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2. Standards/other specifications: API 598, ASME B16.34, ASME B16.5
(e.g. customer spec.)

	CHECK LIST	Accept-able	Open[1)]	N/A[2)]
1.	Means of examination	☒	☐	☐
2.	Draining and venting	☒	☐	☐
3.	Corrosion and wear	☒	☐	☐
4.	No chemical attack of the material by the fluid (e.g. AD2000-HP511, 5.3.1 (13))	☒	☐	☐
5.	Safety devices	☐	☐	☒
6.	Qualification of personnel performing permanent joining	☐	☐	☒
7.	Suitability of base materials	☐	☐	☒
8.	Suitability of welding consumables	☐	☐	☒
9.	Qualification of operating procedures	☐	☐	☒
10.	Qualification of NDE personnel	☐	☐	☒
11.	Application of manufacturer (annex III, module G or B, No. 2)	☒	☐	☐
12.	Hazard analysis	presented	☐	☐
13.	Operating instructions (according to guideline 4/7)	presented	☐	☐

1) to be examined during the applicable conformity assessment procedure (e.g. final assessment in module G)
2) not applicable / not available

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Additional documents available:

☐ Calculations	☒ Hazard analysis	☒ Operating instructions
☐ Material certificates	☐ Operating procedures	☒ Application of manufacturer
☒ Drawings		

Notice:

1. Only the operating conditions stated in the reviewed documents have been considered.
2. The validity of the design examination is one year as a rule.
3. The suitability of the material for pressure parts listed in the drawing/parts list will be confirmed. (reference to the available data for the materials, which had been assumed safe before 29. Nov. 1999. This conforms to a particular material appraisal acc. to Directive 97/23/EC, Annex I, 4.2.b)
4. Relevant declarations for intended use and residual hazards have to be included in the operating instructions.
5. Additional tests of finished valves shall be carried out according to the requirements of respective standards.

RESULT:

The examination of the design was performed in accordance with the provisions of the stated test specifications. The requirements are met, under the observance of the a.m. open items. Those have to be examined during the applicable module assessment procedure (e.g. final assessment). The a.m. drawing/s is/are part of this test report.

Place: **Dudley, UK** **Date:** **18/06/2007** **Test Laboratory for Pressure Equipment**

TÜVRheinland® Notified Body ÜTV 1 0035 Industrial Services

Joe Shu
(Name)

Attachments: Calculation sheets and drawings

Notified Body, ID number 0035

Notified Body: TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, 51105 Köln, GERMANY

For order processing we have stored essential object data and the address. The protection of the data is guaranteed.

The test results relate exclusively to the described test object. Partial copies of the test report without a written authorization by the test laboratory is not permitted.