



INSPECTION REPORT

Client: *****

Client order No: PO0032

Factory: *****

Inspector: Jack Lau

Report date: 10th-Aug&20th-Aug,2016



Fair Valve Inspection

Report No.:F-201608082

1、 Product Description and amount of inspection

| Item | Product Description | Quantity (SETS) | | |
|-------|-----------------------------------|-----------------|--|-----------|
| | | Order | Series no. | Inspected |
| 1 | GATE VALVE 3''150LB | 9 | VX-52801,VX-52803,VX-52804,VX-52808,VX-52809,VX-52814,VX-52815,VX-52820,VX-52821 | VX52803 |
| 2 | GATE VALVE 4''150LB | 9 | VX-52901,VX-52903,VX-52904,VX-52908,VX-52909,VX-52914,VX-52915,VX-52920,VX-52921 | VX52904 |
| 3 | GLOBE VALVE 3''150LB | 2 | VX-52806 | VX52806 |
| 4 | GLOBE VALVE 4''150LB | 2 | VX-52906 | VX52906 |
| 5 | Y-STRAINER 3''150LB | 2 | VX-52810,VX-52816 | VX52810 |
| 6 | Y-STRAINER 4''150LB | 2 | VX-52910,VX-52916 | VX52916 |
| 7 | DUO-PLATE CHECK VALVE 3''150LB | 3 | VX-52802,VX-52812,VX-52818 | VX52812 |
| 8 | DUO-PLATE CHECK VALVE 4''150LB | 3 | VX-52902, VX-52912,VX-52918 | VX52912 |
| Total | | 32 | | |

Inspection place & Date or Period:

Wuxing Industrial Area Oubei Town, Wenzhou City, Zhejiang Province,China.

10th-Aug&20th-Aug,2016

Stage of inspection :

- Before manufacturing
- During manufacturing
- Final
- Packing

Kind of inspection:

- Pre-inspection meeting
- Witnessing tests
- Material inspection
- Document review
- Packing

Results of inspection :

- Satisfactory
- Unsatisfactory



Main Conclusions & Remarks:

1, PMI of globe valve stem was out of standard, details see report below.

2、 Inspection activities

Product basic information on products is conducted by inspectors examine test and performance test, structure test, size, details are as follows:

- 1) visual inspection to check the basic information of the products, to record the scene visual information;
- 2) Inspection on the appearance of the product structure.
- 3) According to the requirements of the guests for the product structure length and flange size measurement,

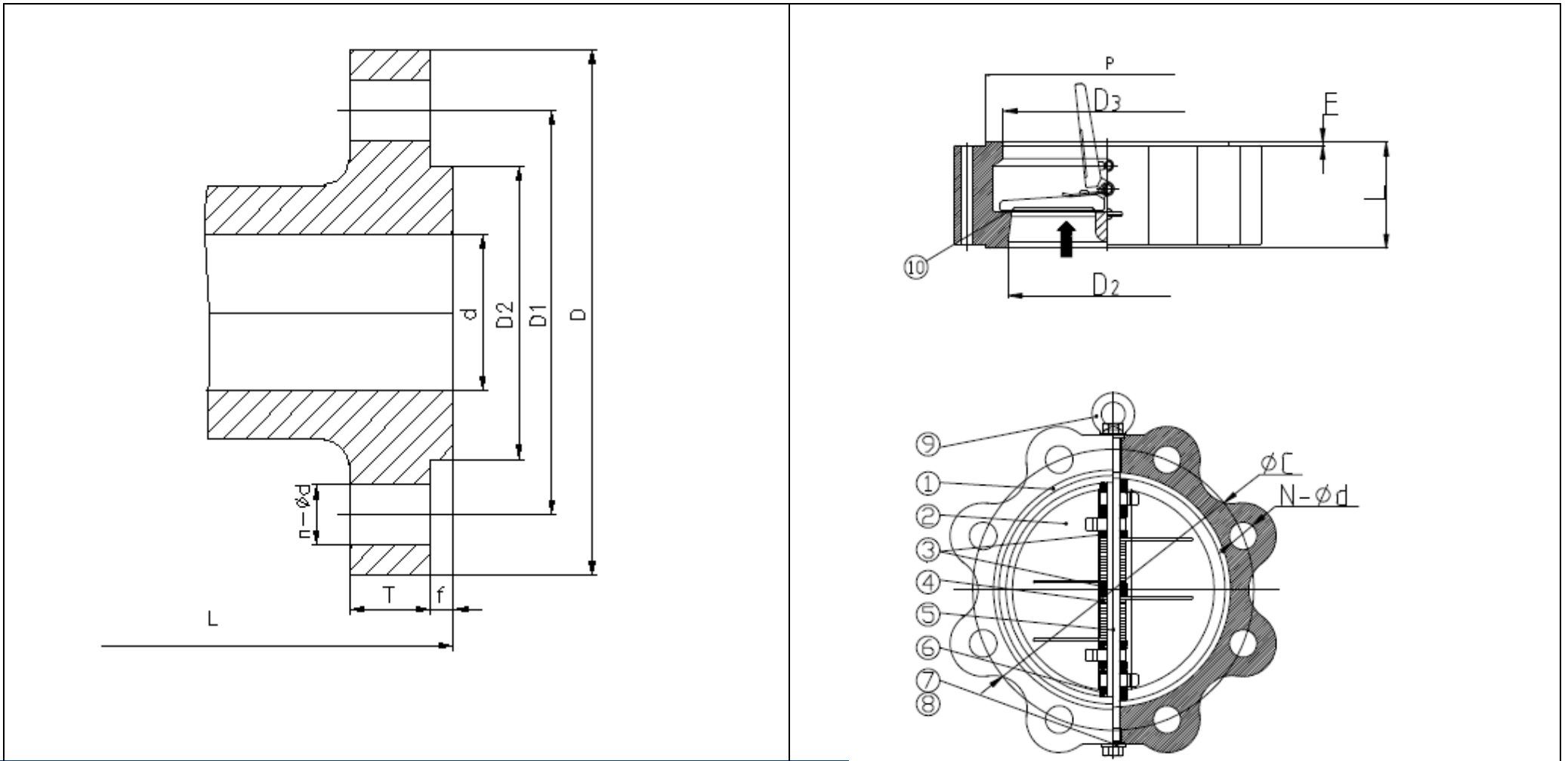
Record the measured data;

- 4) PMI

5) According to the requirements of the guests on the performance of the product testing, testing standards, in accordance with API 598.

In size and performance test before, Inspector has carried on the inspection to measure caliper and pressure gauge, Confirm that they are qualified and effective.

CONNECTION DIMENSION INSPECTION





FR Fair Valve Inspection

Report No.:F-201608082

| Part A: | | PO.#: PO0032 | | Item No:GATE VALVE 3"150LB | | | | | | | | | | | | | | | |
|----------------|------------------------------|---------------------|-------|------------------------------------|-------|-------|-------|-------|-------|------|-------|-----|--------------------|--------|-------|-----|-------|-----|---------|
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- \varnothing d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52803 | 203.0 | 204.0 | 190.0 | 189.2 | 152.4 | 152.4 | 127.0 | 127.2 | 19.0 | 20.3 | 2.0 | 2.0 | 4-19.0 | 4-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No:GATE VALVE 4"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- \varnothing d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52904 | 229 | 230.9 | 230.0 | 229.5 | 190.5 | 189.8 | 157.0 | 157.0 | 24.3 | 25.0 | 2.0 | 2.0 | 8-19.0 | 8-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No:GLOBE VALVE 3"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- \varnothing d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52806 | 241.0 | 242.0 | 190.0 | 190.2 | 152.4 | 152.2 | 127.0 | 127.0 | 19.0 | 19.5 | 2.0 | 2.0 | 4-19.0 | 4-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No:GLOBE VALVE 4"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- \varnothing d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52906 | 292.0 | 292.7 | 230.0 | 229.4 | 190.5 | 189.9 | 157.0 | 157.0 | 24.3 | 25.3 | 2.0 | 2.0 | 8-19.0 | 8-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No:Y-Strainer 3"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- \varnothing d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52810 | 241.0 | 242.6 | 190.0 | 190.1 | 152.4 | 152.3 | 127.0 | 127.0 | 19.0 | 19.5 | 2.0 | 2.0 | 4-19.0 | 4-19.0 | N/A | N/A | N/A | N/A | PASS |

YOU EYES ON YOUR SUPPLY CHAIN



FR Fair Valve Inspection

Report No.:F-201608082

| Part A: | | PO.#: PO0032 | | Item No:Y-strainer 4"150LB | | | | | | | | | | | | | | | |
|----------------|------------------------------|---------------------|----------|---|-------|-------|-------|-------|-------|-------|-------|-----|-------------|--------|-------|-----|-------|-----|---------|
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | D | | D1 | | D2 | | T | | f | | n- ϕ d | | d | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52916 | 292.0 | 293.8 | 230.0 | 229.0 | 190.5 | 189.8 | 157.0 | 157.0 | 24.0 | 25.7 | 1.6 | 2.0 | 8-19.0 | 8-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No: DUO-PLATE CHECK VALVE 3"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | ϕ C | | p | | D3 | | D2 | | E | | n- ϕ d | | N/A | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX52812 | 73.0 | 73.4 | 152.5 | 152.8 | 127.0 | 126.5 | 88.0 | 89.1 | 80.0 | 81.1 | N/A | 2.0 | 4-19.0 | 4-19.0 | N/A | N/A | N/A | N/A | PASS |
| Part A: | | PO.#: PO0032 | | Item No: DUO-PLATE CHECK VALVE 4"150LB | | | | | | | | | | | | | | | |
| Series No. | Detailed measurement of body | | | | | | | | | | | | | | | | | | result: |
| | L | | ϕ C | | p | | D3 | | D2 | | E | | n- ϕ d | | N/A | | N/A | | |
| | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | Spec. | AS | |
| VX51912 | 73.0 | 72.9 | 190.5 | 190.2 | 157.0 | 157.3 | 108.0 | 108.6 | 102.0 | 103.1 | N/A | 2.0 | 8-19.0 | 8-19.0 | N/A | N/A | N/A | N/A | PASS |



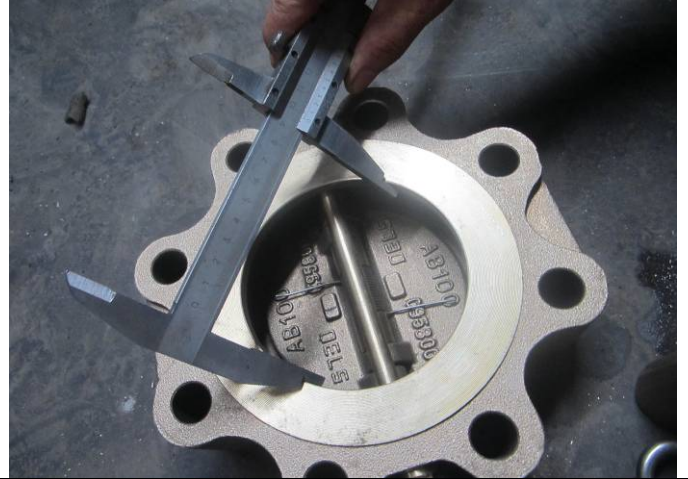
Fair Valve Inspection

Report No.:F-201608082

PHOTO ATTACHMENT



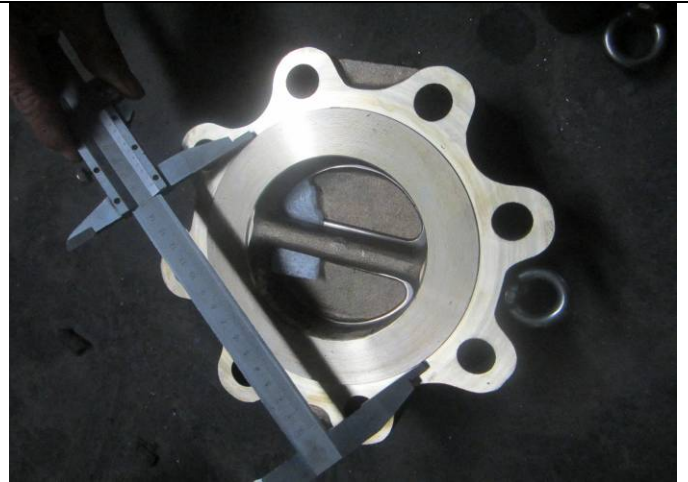
1 size measurement



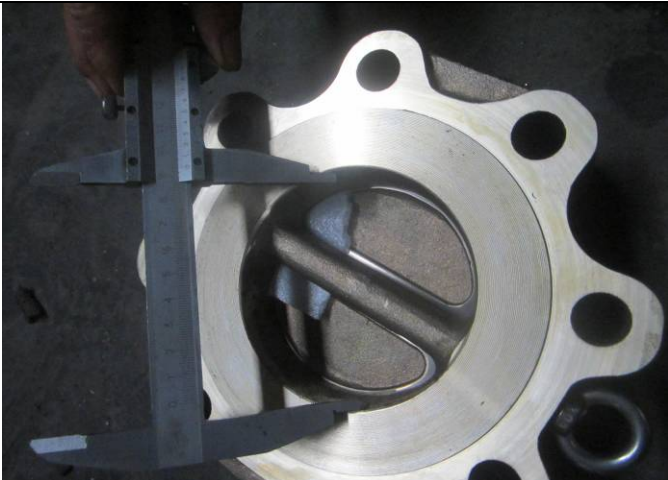
2 size measurement



3 size measurement



4 size measurement



5 size measurement



6 size measurement



Fair Valve Inspection

Report No.:F-201608082



7 size measurement

PMI INSPECTION

Data of Spectrum Analysis

| Material: C95800 | | C% | Si% | Mn% | Al% | Cr% | Mo% | Ni% | Cu% | N% | Nb% | Fe% | Remark |
|------------------|---|----|------|---------|---------|-----|-----|---------|-------|----|-----|---------|-----------|
| Heat No. | Part name | / | <0.1 | 0.8~1.5 | 8.5~9.5 | / | / | 4.0~5.0 | >79 | / | / | 3.5~4.5 | ASTM B148 |
| 2828 | Gate/globe/strainer Body/bonnet/disc | / | <0.1 | 0.94 | 8.89 | / | / | 4.75 | 81.44 | / | / | 3.87 | PASS |
| 2838 | Check valve body | / | <0.1 | 1.17 | 9.02 | / | / | 4.27 | 81.34 | / | / | 3.82 | PASS |
| Q142 | Gate/globe stem | / | <0.1 | 0.92 | 7.99 | / | / | 4.51 | 82.34 | / | / | 3.85 | PASS |
| 5730 | Check valve disc | / | <0.1 | 0.98 | 9.01 | / | / | 4.21 | 80.99 | / | / | 3.92 | PASS |
| 1780 | Gate body,disc,stem | / | <0.1 | 1.49 | 9.20 | / | / | 4.40 | 80.20 | / | / | 3.90 | PASS |
| Note: | The datasheet from third party report. | | | | | | | | | | | | |
| Comment: | NIL. | | | | | | | | | | | | |



Fair Valve Inspection

Report No.:F-201608082

PMI TEST



1 globe valve



2 GLOBE VALVE



3 Copper scrap



4 disc



5 marking



6 get sample from disc

FR Fair Valve Inspection

Report No.:F-201608082



7 Copper scrap



8 stem raw material



9 stem raw material



10 cutting



11 get sample from raw material

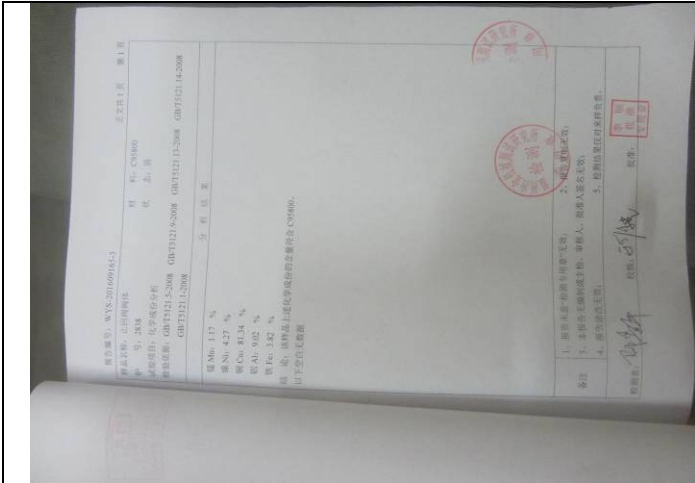


12 details



Fair Valve Inspection

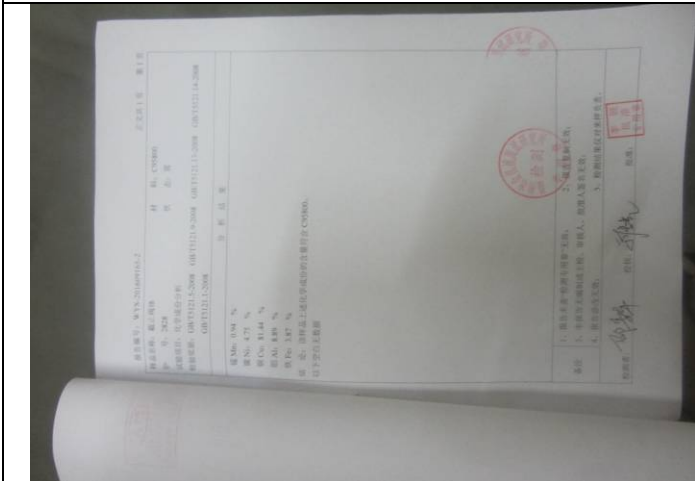
Report No.:F-201608082



13 test report from Third party



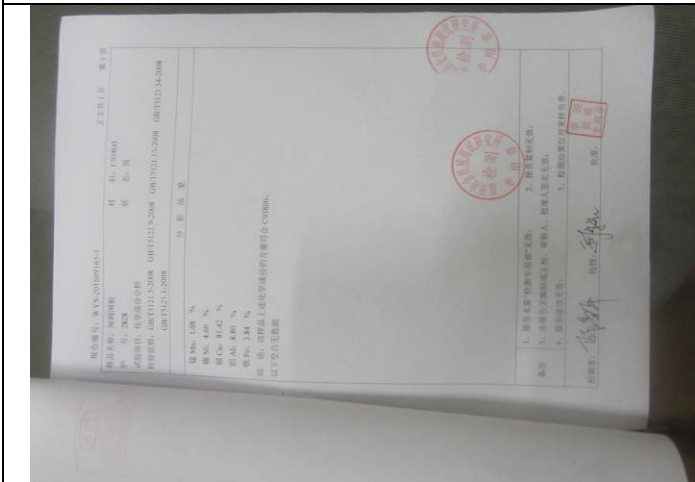
14 test report from Third party



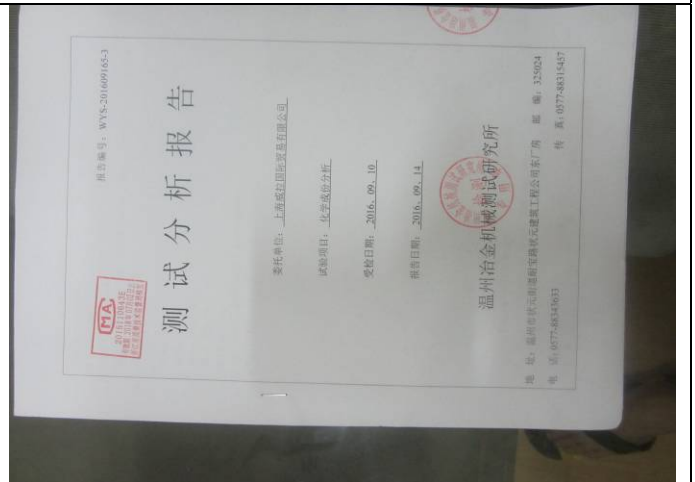
15 test report from Third party



16 test report from Third party



17 test report from Third party



18 test report from Third party

STRENGTH AND SEAL INSPECTION REPORT

Details of Shell Strength/Seat Seal/ Pneumatic Pressure/Back Seal Inspection as below:

| Part A: | | PO#: PO0032 | | | | | | | | | |
|---------|--|----------------------------------|----------------|--------|------------|--------|--------------------|--------|------------|--------|----------------|
| No. | Series No. | Item No. | Shell Strength | | Seat Seal | | Pneumatic Pressure | | Back Seal | | Overall Result |
| | | | Spec.(Mpa) | Result | Spec.(Mpa) | Result | Spec.(Mpa) | Result | Spec.(Mpa) | Result | |
| 1 | VX52803 | GATE VALVE 3"150LB | / | / | / | / | / | / | / | / | / |
| 2 | VX52904 | GATE VALVE 4"150LB | / | / | / | / | / | / | / | / | / |
| 3 | VX52806 | GLOBE VALVE 3"150LB | / | / | / | / | / | / | / | / | / |
| 4 | VX52906 | GLOBE VALVE 4"150LB | / | / | / | / | / | / | / | / | / |
| 5 | VX52810 | Y-STRINER 3"150LB | 3.0 | √ | N/A | N/A | N/A | N/A | N/A | N/A | PASS |
| 6 | VX52916 | Y-STRINER 4"150LB | 3.0 | √ | N/A | N/A | N/A | N/A | N/A | N/A | PASS |
| 7 | VX52812 | DOU PLATE CHECK VALVE 3"150LB | 3.0 | √ | 2.2 | √ | N/A | N/A | N/A | N/A | PASS |
| 8 | VX52902 | DOU PLATE CHECK VALVE 4"150LB | 3.0 | √ | 2.2 | √ | N/A | N/A | N/A | N/A | PASS |
| Remark: | Leakage 0.6ml/min was found on high pressure test of Duo-plate check valve 4"150lb,it's acceptable according to API 598(Max acceptable leakage 12ml/min) Leakage 1.2ml/min was found on high pressure test of Duo-plate check valve 4"150lb,it's acceptable according to API 598(Max acceptable leakage 9ml/min) Globe/Gate valve do not do pressure test due to stem PMI not qualified. | | | | | | | | | | |
| Note: | 1, Mark "F" means "fail", mark "√" means "OK". 2, The expiry date of all pressure gauges was acceptable. | | | | | | | | | | |



Fair Valve Inspection

Report No.:F-201608082

PHOTO ATTACHMENT



21 strainer



22 shell test



31 shell test of check valve



32 details



33 test at 3.0Mpa



34 seal test



Fair Valve Inspection

Report No.:F-201608082



35 test at 2.2MPa



36 leakage



37 leakage details

FR Fair Valve Inspection

Report No.:F-201608082

PAINTING&FINAL INSPECTION



1 unit



2 unit



3 unit



4 unit



5 gate valve



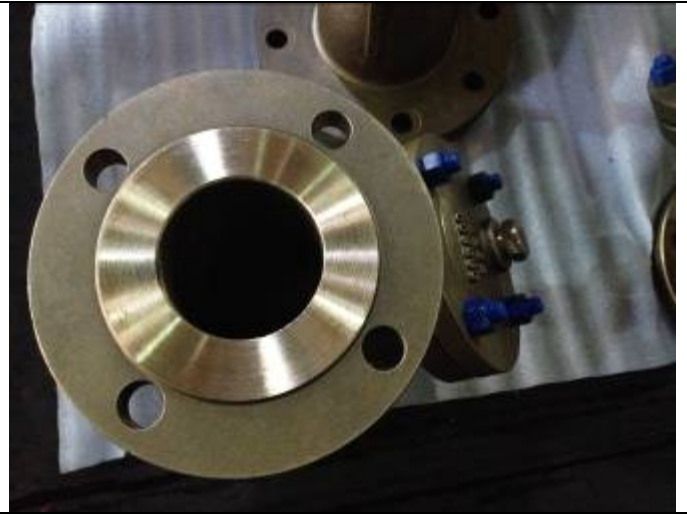
6 globe valve

FR Fair Valve Inspection

Report No.:F-201608082



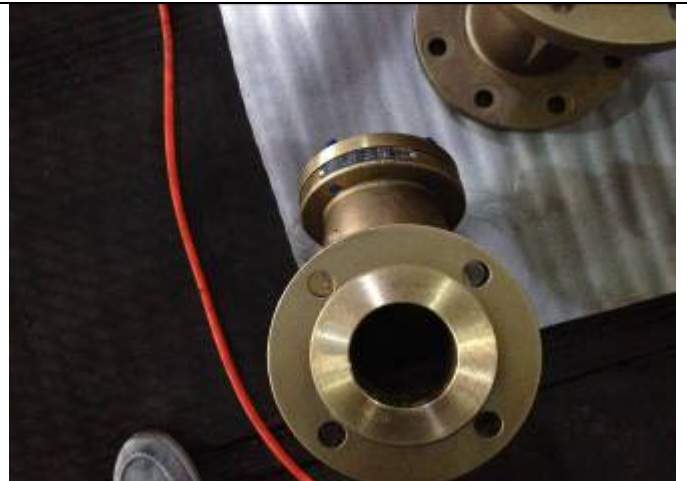
7 strainer



8 unit view



9 unit view



10 unit view



11 nameplate



12 bolt&nut

FR Fair Valve Inspection

Report No.:F-201608082



15 unit view



16 spare part

******END******