

Inspection Report

(Non-negotiable)

Inspector: **Snow Wang**

Inspection location: **Wenzhou City, Zhejiang Province, China**

Date of inspection: **6 Nov, 2023**



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Industrial Services

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1. Background information

SGS order No.:	IN-NB-5801-23310																																										
Coordinator:	Fennie Feng	Telephone:	+86-574-89070184																																								
Description of commodity (Name ,Model ,Quantity ...)																																											
	<table border="1"> <tr> <td>Tube fitting</td> <td>6L-CM-S8-NT8</td> <td>316L</td> <td>1PC</td> </tr> <tr> <td>Pipe fitting</td> <td>6L-PE-NT8</td> <td>316L</td> <td>1PC</td> </tr> <tr> <td>Male Elbow</td> <td>6L-LM-S8-NT4</td> <td>316L</td> <td>1PC</td> </tr> <tr> <td>Tube fitting</td> <td>6L-TTT-S8</td> <td>316L</td> <td>1PC</td> </tr> <tr> <td>Check Valve</td> <td>SS-C1-S4-1-S</td> <td>316</td> <td>1PC</td> </tr> <tr> <td>Relief Valve</td> <td>SS-R1-M4-F4-4-4-F-S</td> <td>316</td> <td>1PC</td> </tr> <tr> <td>Two Valve Manifolds</td> <td>SS-2R-F8-V-S</td> <td>316</td> <td>1PC</td> </tr> <tr> <td>Needle valve</td> <td>SS-V4-F6-5-S</td> <td>316</td> <td>1PC</td> </tr> <tr> <td>Ball valve</td> <td>SS-B1-S6-5-S</td> <td>316</td> <td>1PC</td> </tr> <tr> <td>Five Valve Manifolds</td> <td>SS-5D-F8-A-SC</td> <td>316</td> <td>1PC</td> </tr> </table>	Tube fitting	6L-CM-S8-NT8	316L	1PC	Pipe fitting	6L-PE-NT8	316L	1PC	Male Elbow	6L-LM-S8-NT4	316L	1PC	Tube fitting	6L-TTT-S8	316L	1PC	Check Valve	SS-C1-S4-1-S	316	1PC	Relief Valve	SS-R1-M4-F4-4-4-F-S	316	1PC	Two Valve Manifolds	SS-2R-F8-V-S	316	1PC	Needle valve	SS-V4-F6-5-S	316	1PC	Ball valve	SS-B1-S6-5-S	316	1PC	Five Valve Manifolds	SS-5D-F8-A-SC	316	1PC		
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Five Valve Manifolds	SS-5D-F8-A-SC	316	1PC																																								
Total 10PCS																																											
Buyer (Name, Address...)																																											
N/A																																											
Seller (Name, Address...)																																											
Zhejiang Fangdun Instrument Valve Co., Ltd No. 18-3, Binhai 9th Road, Konggang New District, Yongxing Street, Longwan District, Wenzhou City, Zhejiang Province																																											
PO No.	N/A																																										
Others.	Product list Foreign Agency (provided by client directly) : Paydar Sanat Petro Tajhiz																																										
Nature of inspection:	Item	Satisfactory		Non conforming																																							
	Quantity check (not include weight check)	●																																									
	Item	Satisfactory	Non conforming	Rejected	Subject to buyer's evaluation																																						
	Visual check	●																																									
	Marking check				●																																						
	Dimension check	●																																									
Witness test					●																																						



2. Instrument

During the inspection, the following instrument calibration status has been checked for inspection:

No.	Name	ID No.	Measuring range	Calibrated ^[1] (Yes/No/NA)	Certificate NO. (Optional)
1	Universal testing machine	130513	WEW-300B	Yes	CA230508214
2	Brinell hardness tester	HB5012028	HBE-3000A	Yes	CA230701056
3	Rockwell hardness tester	2322	HR-150A	Yes	JX-2022-F-1125032W
4	Fully automatic image measuring instrument	VPK50117	VMS-3020H	Yes	CB231100340
5	Portable spectrometer	816617	X-MET8000	Yes	CB231100338
6	Pressure gauge	FD-YL-04	0-200MPa	Yes	JX-2023-F-0525106W
7	Pressure gauge	FD-YL-05	0-10000PSI	Yes	JX-2023-F-0525125W
8	Digital precision pressure gauge	11711050	Y-150/(0~60)M Pa	Yes	JX-2022-F-1125026W
9	Pressure gauge	9-150129	0-160MPa	Yes	JX-2023-F-0525108W
10	Conical pipe threaded ring gauge	FD-NH-012	1/2-14NPT	Yes	CB230504777
11	Conical pipe threaded ring gauge	FD-NH-104	NPT1/4	Yes	CB230303677
12	Tapered pipe thread plug gauge	FD-NS-016	1/2-14NPT	Yes	CB230606117
13	Tapered pipe thread plug gauge	FD-NS-107	3/8-18NPT	Yes	CB230303660
14	Caliper	9205661752	0~300mm	Yes	CA220308207
15	Caliper	21555532	0~150mm	Yes	CA230402644
16	Tapered pipe thread plug gauge	FD-NS-124	NPT1/4	Yes	CB230303661

[1] Calibrated

--- "Yes" means the instrument was calibrated and now is in the period of validity.

--- "No" means the instrument should be calibrated, in fact it was never calibrated or not calibrated before the expiry date.

--- "NA" means the instrument does not need to be calibrated in the view of its function.



3. Quantity check

3.1. Reference documents:

→ [Product list submitted by manufacturer]

3.2. Method of quantity check

→ [check the items one by one]

Description	REQ. Qty.	ACT. Qty.
Tube fitting 6L-CM-S8-NT8 316L	1	1
Pipe fittings 6L-PE-NT8 316L	1	1
Male Elbow 6L-LM-S8-NT4 316L	1	1
Tube fittings 6L-TTT-S8 316L	1	1
Check Valve SS-C1-S4-1-S 316	1	1
Relief Valve SS-R1-M4-F4-4-F-S 316	1	1
Two Valve Manifolds SS-2R-F8-V-S 316	1	1
Needle valve SS-V4-F6-5-S 316	1	1
Ball valve SS-B1-S6-5-S 316	1	1
Five Valve Manifolds SS-5D-F8-A-SC 316	1	1
Total	10	10

Note: the quantity was the same as the product list submitted by manufacturer

4. Visual check

♦ Sample size: [100%]

During the inspection, 10pcs products (100%) had been carried out for the visual check, no obvious defect (damaged and scratch, dents, burrs) was found on the surface.

Remark:

The results were acceptable.

5. Marking check

Marking on product typical (including C-LOK, material, heat number, size, SLB, flow direction, class, NACE, diagram etc. if applicable)

Description	Marking
Tube fitting 6L-CM-S8-NT8 316L	C-LOK-316L-1/2 YX-2304-2191
Pipe fitting 6L-PE-NT8 316L	C-LOK 872-0214 316L SLB
Male Elbow 6L-LM-S8-NT4 316L	C-LOK 872-0214 316L SLB



Tube fittings 6L-TTT-S8 316L	C-LOK 872-0214 316L SLB
Check Valve SS-C1-S4-1-S 316	C-LOK CHECK VALVE flow direction 316SS 1/4OD 3000PSI YX2304-2191 NACE
Relief Valve SS-R1-M4-F4-4-4-F-S 316	C-LOK SS-R1-M4-F4-4-4-F-S HT872-0214 316 flow direction DB:23032610101 NACE
Two Valve Manifolds SS-2R-F8-V-S 316	C-LOK 316SS 1/2NPT 6000PSI @100°F YX2110-2182 NACE Diagram
Needle valve SS-V4-F6-5-S 316	C-LOK 316SS 3/8NPT 6000PSI @100°F N220503AT04 NACE flow direction
Ball valve SS-B1-S6-5-S 316	C-LOK 316SS 3/8OD 3000PSI @100°F N220730AX05 NACE
Five Valve Manifolds SS-5D-F8-A-SC 316	C-LOK 316SS 1/2NPT 6000PSI @100°F YX2204-2072 Diagram

Remark:

The result was subject to buyer's evaluation.

6. Dimension check

- Sample size: [100%]
- Reference document: [drawing provided by client]

During the inspection, 10pcs products (100%) had been carried out for dimension check. Details please see attached dimension inspection report.

Remark:

The results were acceptable according to drawing provided by client.

7. Witness testing

7.1 Pressure test

- Sample size: [100%]
- Reference document: [drawing provided by client, API598-2016, BS 7993-2011]

Tube fitting 6L-CM-S8-NT8 316L 1PC			
Pipe fitting 6L-PE-NT8 316L 1PC			
Male Elbow 6L-LM-S8-NT4 316L 1PC			
Tube fitting 6L-TTT-S8 316L 1PC			
High-pressure closure with air		/	
Pressure	Hold time	Pressure	Hold time
6000PSI	15s	/PSI	/s
acceptable		/	
Check Valve SS-C1-S4-1-S 316 1PC			



Shell test with air		Turn on pressure with air	
Pressure	Hold time	Pressure (1~4PSI)	Hold time
4500PSI	15s	1PSI	/s
acceptable		acceptable	
Relief Valve SS-R1-M4-F4-4-F-S 316 1PC			
Shell test with water		Turn on pressure with water	
Pressure	Hold time	Pressure (50~300PSI)	Hold time
9000PSI	15s	165PSI	/s
acceptable		/	
Two Valve Manifolds SS-2R-F8-V-S 316 1PC			
Shell test with water		High-pressure closure with water	
Pressure	Hold time	Pressure	Hold time
9000PSI	15s	6600PSI	15s
acceptable		acceptable	
Needle valve SS-V4-F6-5-S 316 1PC			
Shell test with water		High-pressure closure with water	
Pressure	Hold time	Pressure	Hold time
9000PSI	15s	6600PSI	15s
acceptable		acceptable	
Ball valve SS-B1-S6-5-S 316 1PC			
Shell test with air		High-pressure closure with air	
Pressure	Hold time	Pressure	Hold time
4500PSI	15s	3300PSI	15s
acceptable		acceptable	
Five Valve Manifolds SS-5D-F8-A-SC 316 1PC			
Shell test with water		High-pressure closure with water	
Pressure	Hold time	Pressure	Hold time
9000PSI	15s	6600PSI	15s
acceptable		acceptable	

Remark:

The pressure test results were acceptable.

7.2 Tensile test

- Sample size: [one heat number was provided by manufacturer]
- Reference document: [ASTM A182-2021 & ASTM A479-2021]

Material	Heat No.	Yield strength	Tensile strength	Elongation	Reduction of area
A182 316	YX2204-2072	Req.	≥205MPa	≥30%	≥50%
		Act.	570	695	53



Comment: Only one not all heat number was performed tensile test and test result was acceptable

Remark:

The result was subject to client's evaluation.

7.3 Chemical composition test

- Sample size: [100% on product body only for metal elements]

Description	Heat number	Cr 16.0-18.0	Ni 10.0-14.0	Mo 2.00-3.00	Mn ≤2.00
Tube fitting 6L-CM-S8-NT8 316L	YX-2304-2191	17.70	10.75	2.05	1.42
Pipe fittings 6L-PE-NT8 316L	872-0214	16.19	10.31	2.00	0.99
Male Elbow 6L-LM-S8-NT4 316L	872-0214	16.14	10.05	2.07	1.10
Tube fittings 6L-TTT-S8 316L	872-0214	16.28	10.00	2.02	1.02
Check Valve SS-C1-S4-1-S 316	YX2304-2191	16.40	10.42	2.03	1.78
Relief Valve SS-R1-M4-F4-4-4-F-S 316	HT872-0214	16.08	10.10	2.07	0.90
Two Valve Manifolds SS-2R-F8-V-S 316	YX2110-2182	16.56	10.27	2.03	1.63
Needle valve SS-V4-F6-5-S 316	N220503AT04	16.37	10.11	2.09	1.62
Ball valve SS-B1-S6-5-S 316	N220730AX05	16.38	10.26	2.07	0.91
Five Valve Manifolds SS-5D-F8-A-SC 316	YX2204-2072	17.17	10.07	2.01	1.20

Remark:

The test result was acceptable.

7.4 Hardness test

- Sample size: [6pcs valves according to requirement of client]
- Reference document: [≤22HRC]

Description	Hardness (≤22HRC)
Check Valve SS-C1-S4-1-S 316	Not checked for size limit (too small)
Relief Valve SS-R1-M4-F4-4-4-F-S 316	143HB (about 15HRC)
Two Valve Manifolds SS-2R-F8-V-S 316	17HRC
Needle valve SS-V4-F6-5-S 316	20HRC
Ball valve SS-B1-S6-5-S 316	128HB (about 14HRC)
Five Valve Manifolds SS-5D-F8-A-SC 316	18.5HRC

Remark:

The test result was acceptable according to requirement of client except Check Valve SS-C1-S4-1-S 316 was not checked for size limit (too small).



♦ **Standard witnessing/observing disclaimer (voluntary witnessing)**

In accordance with Client's instructions, the Company's involvement has been limited to witnessing/observing a third party's intervention(s) at the third party's laboratory/test house or other facilities and installations used for the intervention(s). The Company's sole responsibility was to be present at the time of the third party's intervention(s) to forward the results, or confirm the occurrence, of the intervention(s). The Company is not responsible for the condition or calibration of apparatus, instruments and measuring devices used, the analysis methods applied, the qualifications, actions or omissions of the third party's personnel or the analysis results.

♦ **Standard witnessing/observing disclaimer (regulatory witnessing)**

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8. Photos



Fig.1 Quantity and visual check



Fig.2 Dimension check



Fig.3 Dimension check



Fig.4 Dimension check





Fig.5 Dimension check

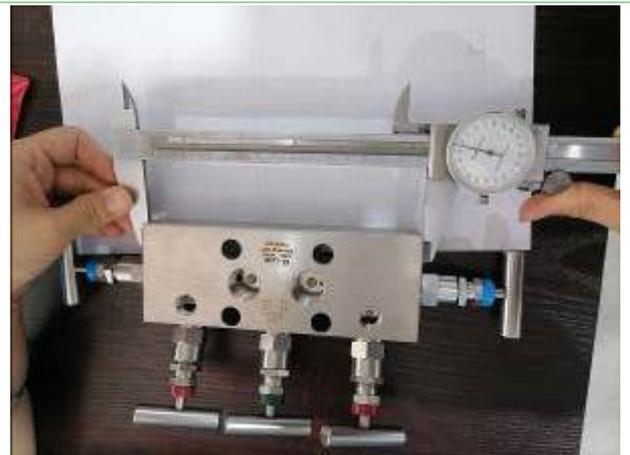


Fig.6 Dimension check



Fig.7 Dimension check



Fig.8 Dimension check



Fig.9 Marking check



Fig.10 Marking check





Fig.11 Marking check

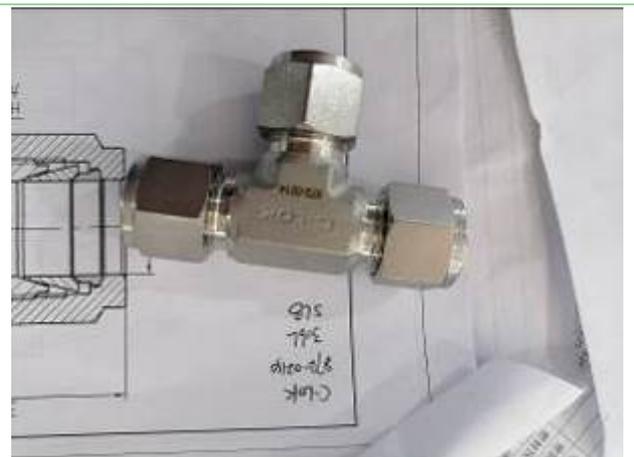


Fig.12 Marking check

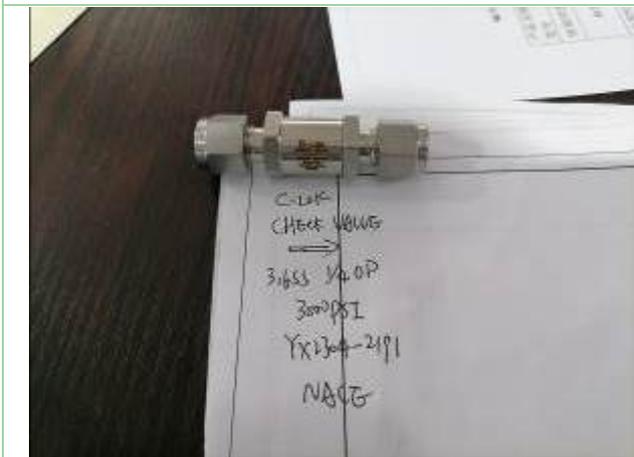


Fig.13 Marking check



Fig.14 Marking check



Fig.15 Marking check



Fig.16 Marking check





Fig.23 Pressure test

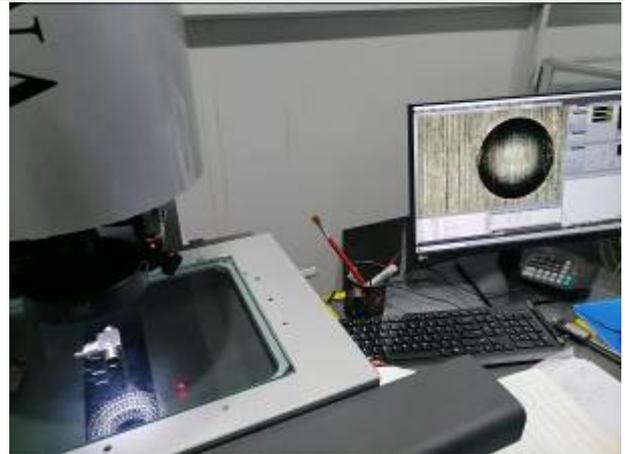


Fig.24 Pressure test



Fig.25 Pressure test



Fig.26 Pressure test



Fig.27 Pressure test



Fig.28 Pressure test



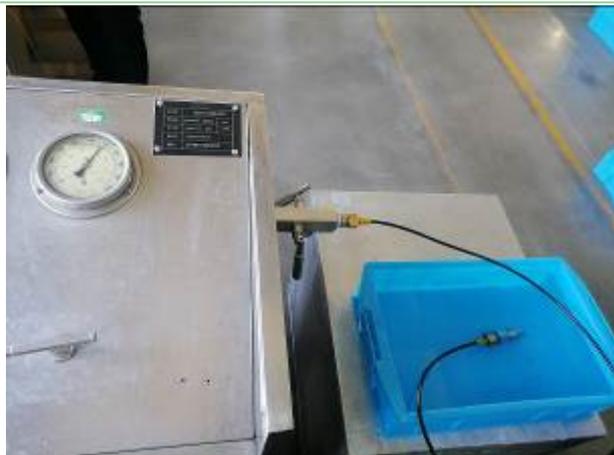


Fig.29 Pressure test



Fig.30 Pressure test



Fig.31 Pressure test



Fig.32 Pressure test (turn on pressure)



Fig.33 Pressure test



Fig.34 Pressure test (turn on pressure)

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9. Timesheet

Name/Date	Time	Description	Hours
Snow Wang Nov. 6, 2023	07:00-10:00	Traveling	3
	10:00-16:30	Working	5
	16:30-19:30	Traveling	3
	19:30-20:30	Reporting	1
Total			12

Note: Both traveling time and reporting time are included.

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Issued by:	<i>Snow Wang</i>	Reviewed by:	<i>Leo Zhang</i>	Approved by:	<i>Shin Zhang</i>
Title or position:	Inspector	Title or position:	Coordinator	Title or position:	Section Head
Date:	Nov. 7, 2023	Date:	Nov. 28, 2023	Date:	Nov. 28, 2023

End of Report

