

Project: FIRE SAFE TEST FOR VALVES

Certificate No.: M375-1/09 - 9587

Client: JC Fábricas de válvulas, S. A.

Office: Sant Joan Despí (BCN)

Client's Order No.: ---

Date: 27.04.09

Inspection dates

First: 27.04.09

Order Status: Complete

Final: 27.04.09

This certificate is issued to

Messrs. **JC Fábricas de válvulas, S. A.**, upon their request that the undersigned Suveryor to this Society did attend their premises at their works in Sant Boi de Llobregat - Barcelona (Spain) for the purpose of witnessing the FIRE SAFE TEST in accordance with the requirements specified in API 607 and ISO 10497, on the following type of valve:

A manually operate J.C Ball Valve TL series of 4" bore 4", as per fig.315 A.I.T, 150#
Body and Body connector material A216 Gr.WCB
Trim: SEE DRAWING 090909

Marks:

- BODY : Col. LE8
- BODY CONNECTOR : Col. KKZ8

The test conducted on the valve previously subject to hydraulic pressure was as follows:

The valve in the closed position, filled with water under test pressure, was put in a box and exposed to flames with an environmental temperature in the region 750° C for a period of 30 minutes and established the leakage trough the seat and external to atmosphere during this period. The temperature was checked and recorded every two minutes, while leakages were determined using containers collecting the water leaked during burn period. Afterwards cool-down to 100° C. The valve seat and external hydrostatically tested to the appropriate test pressure and leakages recorded accordingly. Subsequently manually opened up under test pressure differential and finally the valve was fully hydrottested and leakages recorded.

All the following values were determined and recorded together with temperatures, times and pressures as shown on manufacturers Fire Safe Test Report nº C375/09

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Sheet 2 of 3

1. Through-valve leakage during burn period - SATISFACTORY.
2. External leakage during burn and cool-down period - SATISFACTORY.
3. Through-valve leakage during operational test - SATISFACTORY.
4. External leakage during operational test - SATISFACTORY.
5. Operability to full open position and external leakage - SATISFACTORY.

The valve was subject to a visual examination with satisfactory results and subsequently dismantled in order to verify that valves components comply with the drawing and parts list supplied by the manufacturer, while seat rings were found completely destroyed.

The manufacturers Fire Safe Test Report nº C375/09 and drawing 090909 herewith attached were satisfactory checked and signed.

The above is considered in accordance with the mentioned specifications requirements, therefore the subject valve has satisfactory passed the prescribed fire test and can be also qualified as follows.

| <u>DN</u> | <u>CLASS RATING</u> | <u>PN RATING</u> |
|----------------|---------------------|------------------|
| 4", 5", 6", 8" | 150#, 300# | 10, 16, 25, 40 |

Surveyor

Javier Aranda García



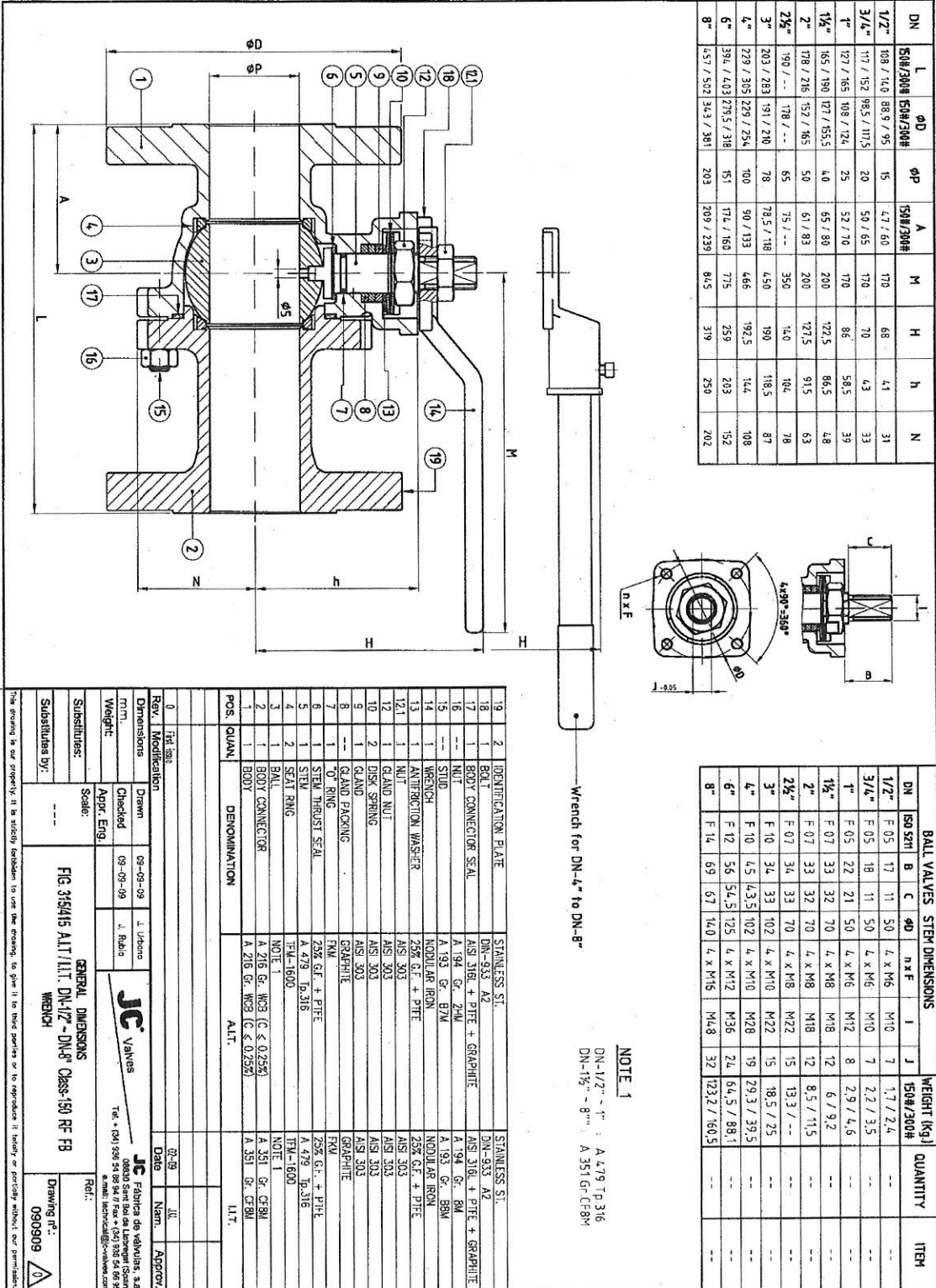
SGS Tecnos, S.A.

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Polígono Industrial Font Santa
08970 Sant Joan Despí (Barcelona)
Tel.: (34) 93 477 01 71 - 93 477 01 69
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DOCUMENTS ATTACHED:

Sheets reviewed and stamped
Accordingly.

090909



| DN | L | φD | φP | A | M | H | h | N |
|--------|-----------|--------------|------|------------|------|-------|-------|------|
| 1/2" | 108 / 140 | 88.9 / 95 | 15 | 4.7 / 6.0 | 170 | 68 | 4.1 | 31 |
| 3/4" | 117 / 152 | 98.5 / 117.5 | 20 | 5.0 / 6.5 | 170 | 70 | 4.3 | 33 |
| 1" | 127 / 165 | 108 / 124 | 25 | 5.2 / 7.0 | 170 | 86 | 5.8.5 | 39 |
| 1 1/2" | 165 / 190 | 127 / 155.5 | 4.0 | 6.5 / 8.0 | 200 | 122.5 | 8.6.5 | 4.8 |
| 2" | 178 / 216 | 152 / 165 | 5.0 | 6.1 / 8.3 | 200 | 127.5 | 9.1.5 | 6.3 |
| 2 1/2" | 190 / -- | 178 / -- | 6.5 | 7.5 / -- | 350 | 140 | 10.4 | 7.8 |
| 3" | 203 / 283 | 191 / 210 | 7.8 | 78.5 / 118 | 4.50 | 190 | 118.5 | 8.7 |
| 4" | 229 / 305 | 229 / 254 | 10.0 | 90 / 133 | 4.66 | 192.5 | 14.4 | 10.8 |
| 6" | 394 / 403 | 279.5 / 318 | 15.1 | 174 / 160 | 7.75 | 259 | 20.3 | 15.2 |
| 8" | 457 / 502 | 343 / 381 | 20.3 | 209 / 239 | 8.45 | 319 | 25.0 | 20.2 |

| DN | BALL VALVES STEM DIMENSIONS | | | | WEIGHT (Kg) | |
|--------|-----------------------------|----|------|-------|---------------|------|
| | B | C | φD | n x F | QUANTITY | ITEM |
| 1/2" | F 0.5 | 17 | 11 | 5.0 | 1.7 / 2.4 | -- |
| 3/4" | F 0.5 | 18 | 11 | 5.0 | 2.2 / 3.5 | -- |
| 1" | F 0.5 | 22 | 21 | 5.0 | 4.2 / 4.6 | -- |
| 1 1/2" | F 0.7 | 33 | 32 | 7.0 | 6.7 / 9.2 | -- |
| 2" | F 0.7 | 33 | 32 | 7.0 | 8.5 / 11.5 | -- |
| 2 1/2" | F 0.7 | 34 | 33 | 7.0 | 13.3 / -- | -- |
| 3" | F 1.0 | 34 | 33 | 10.2 | 18.5 / 2.5 | -- |
| 4" | F 1.0 | 45 | 43.5 | 10.2 | 29.3 / 39.5 | -- |
| 6" | F 1.2 | 56 | 54.5 | 12.5 | 64.5 / 88.1 | -- |
| 8" | F 1.4 | 69 | 67 | 14.0 | 123.2 / 160.5 | -- |

NOTE 1
 DN-1/2" - 1" : A 4.79 TP 316
 DN-1 1/2" - 8" : A 351 Gr. CF8M

| REV. | DATE | BY | APP. | DESCRIPTION |
|------|----------|----|------|-------------|
| 0 | 09-09-09 | JL | JL | First Issue |
| 1 | 09-09-09 | JL | JL | Revised |

| POS. | QUANT. | DENOMINATION | ALIT. |
|------|--------|----------------------|-------|
| 1 | 1 | BODY | ALIT. |
| 2 | 1 | IDENTIFICATION PLATE | ALIT. |
| 3 | 1 | BOLT | ALIT. |
| 4 | 1 | BODY CONNECTOR SEAL | ALIT. |
| 5 | 1 | NUT | ALIT. |
| 6 | 1 | STEM | ALIT. |
| 7 | 1 | WRENCH | ALIT. |
| 8 | 1 | ANTIFRICTION WASHER | ALIT. |
| 9 | 1 | GLAND NUT | ALIT. |
| 10 | 2 | DISK SPRING | ALIT. |
| 11 | 1 | GLAND | ALIT. |
| 12 | 1 | GLAND PACKING | ALIT. |
| 13 | 1 | O' RING | ALIT. |
| 14 | 1 | STEM THRUST SEAL | ALIT. |
| 15 | 1 | STEM | ALIT. |
| 16 | 1 | SEAL RING | ALIT. |
| 17 | 1 | BALL | ALIT. |
| 18 | 1 | BODY CONNECTOR | ALIT. |
| 19 | 1 | WRENCH | ALIT. |

FIG. 315415 ALIT/ALIT. DN-1/2" - DN-8" Class-150 RF FB WRENCH

090909

General Dimensions

SGS logo and company information