



Industrial de Válvulas, S.A. de C.V.

Industria Ite 16 S/N Fracc. Industrial el Trébol de Tepozotlán, Estado de México, México C.P. 54610

CERTIFICATE OF MATERIALS & TEST REPORT (CMTR) (CERTIFICADO DE CALIDAD DE MATERIALES Y REPORTE DE PRUEBAS CMTR) ACCORDING TO EN 10204 TYPE 3.1

No. código interno (Product Code Nr.): AC030BA08MA2A1XG

No. Serie (Serial Number): V12KC0044

Fecha (Date): July 1, 2016

Clientes (Customer):

No. De Tag (Tag Number):

Partida (Customer Item):

Pedido Interno No (Walworth Sales Nr.):

No. Pedido del Cliente (Customer PO Nr.):

Linea de producto (Product line):

Extremos (Ends):

Tipo de válvula (Type of valve):

Cuerpo (Shell):

Diámetro (Nominal diameter):

Interiores (Trim):

Presión clase (Pressure class):

Figura No (Figure Nr.):

Partida (Item):

Operación (Operation):

Otros (Other requirements):

|             |
|-------------|
| RF Series A |
| WCB         |
| #08 (UT)    |
| FIG 5202    |

COMPOSICION QUIMICA EN % (CHEMICAL COMPOSITION %)

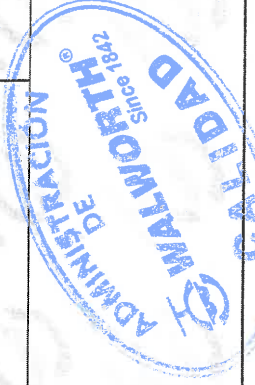
| Parte (Component) | Material (Material) | Colada (Heat) | % C   | % Mn  | % P   | % S   | % Si  | % Ni  | % Cr  | % Mo  | % Cu  | % V   | %     | %     | %     | %     |
|-------------------|---------------------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| BONETE (BONNET)   | ASTM_A_216_GR_WCB   | H1172         | 0.243 | 0.794 | 0.032 | 0.023 | 0.435 | 0.030 | 0.076 | 0.012 | 0.057 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| CUERPO (BODY)     | ASTM_A_216_GR_WCB   | H1310         | 0.229 | 0.882 | 0.021 | 0.021 | 0.435 | 0.037 | 0.058 | 0.011 | 0.048 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 |
| DISCO 1 (DISC 1)  | ASTM_A_216_GR_WCB   | 1649          | 0.249 | 0.700 | 0.032 | 0.017 | 0.570 | 0.030 | 0.132 | 0.004 | 0.028 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 |

PROPIEDADES MECANICAS (MECHANICAL TESTING)

| Parte (Component) | Colada (Heat) | Condición de TT Normalizado & revenido Heat Treatment & tempered   | Cedencia (Yield strength) (Kpsi) | Tensión (Tensile strength) (Kpsi) | Alar En 2" (Elong. in 2") (% min) | Reduccion de area (Reduction of area) (% min) | Dureza (Hardness) (Bhn) | Prueba impacto (Impact Test) (Joules) |
|-------------------|---------------|--|----------------------------------|-----------------------------------|-----------------------------------|---|-------------------------|---------------------------------------|
|                   |               |  |                                  |                                   |                                   |   | 1st 2nd                 | 1st 2nd 3rd AVG                       |
| BONETE (BONNET)   | H1172         | (910-940) °C, NORMALIZADO ( RECOCIDO ) 650 °C ENFRIAMIENTO CON AIRE (910-940) °C, NORMALIZE ( ANNEAL ) 650 °C AIR COOL | 44.0800                          | 80.1850                           | 34                                | 45  | 160 0                   | 0 0 0 0                               |
| CUERPO (BODY)     | H1310         | (910-940) °C, NORMALIZADO ( RECOCIDO ) 650 °C ENFRIAMIENTO CON AIRE (910-940) °C, NORMALIZE ( ANNEAL ) 650 °C AIR COOL | 43.9350                          | 85.5500                           | 41                                | 53  | 164 0                   | 0 0 0 0                               |
| DISCO 1 (DISC 1)  | 1649          | (910-940) °C, NORMALIZADO ( RECOCIDO ) 650 °C ENFRIAMIENTO CON AIRE (910-940) °C, NORMALIZE ( ANNEAL ) 650 °C AIR COOL | 43.7900                          | 80.3300                           | 26                                | 37  | 168 0                   | 0 0 0 0                               |

PRUEBAS DE PRESIÓN DE ACUERDO CON API 598 (PRESSURE TEST IN ACCORDANCE WITH API 598)

| TIPO DE PRUEBA (Type of test)                          | PRESION (Pressure) (Psi) | TIEMPO (Duration) (min) | RESULTADO (Result)  | TIPO DE PRUEBA (Type of test) | RESULTADO (Result) |
|--|--------------------------|-------------------------|---------------------|-------------------------------|--------------------|
| HIDROSTATICA DE CASCO (HYDROSTATIC SHELL)              | 450                      | 1 min                   | ACEPTADO (ACCEPTED) |                               |                    |
| HIDROSTATICA DE CASQUILLO (HYDROSTATIC BACK SEAT)      | 450                      | 1 min                   | ACEPTADO (ACCEPTED) |                               |                    |
| PRUEBA NEUMATICA SELLO 1 (LOW PRESSURE CLOSURE SIDE 1) | 80                       | 1 min                   | ACEPTADO (ACCEPTED) |                               |                    |
| PRUEBA NEUMATICA SELLO 2 (LOW PRESSURE CLOSURE SIDE 2) | 80                       | 1 min                   | ACEPTADO (ACCEPTED) |                               |                    |



Certificamos que este producto ha sido diseñado, fabricado y probado de acuerdo con nuestro sistema de administración de calidad y con los requisitos establecidos en una o más de las siguientes normas en su última edición. (We hereby certify this product has been designed, manufactured and tested according to our quality management system and requirements stated in one or more of the following standards on their latest edition).

- API 600 METAL FLUG VALVES, FLANGES, THROTTLES AND WELDING
- API 594 PROCESS VALVE QUALIFICATION PROCEDURE
- API 622 STEEL GLOBE VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.10 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.11 FORGED FITTINGS SOCKET WELDING AND THREADED
- ANSI B16.34 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.35 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.36 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.37 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.38 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.39 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.40 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.41 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.42 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.43 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.44 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.45 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.46 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.47 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.48 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.49 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.50 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.51 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.52 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.53 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.54 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.55 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.56 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.57 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.58 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.59 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.60 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.61 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.62 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.63 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.64 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.65 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.66 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.67 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.68 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.69 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.70 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.71 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.72 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.73 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.74 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.75 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.76 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.77 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.78 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.79 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.80 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.81 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.82 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.83 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.84 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.85 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.86 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.87 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.88 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.89 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.90 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.91 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.92 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.93 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.94 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.95 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.96 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.97 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.98 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.99 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS
- ANSI B16.100 METAL FLUG VALVES—FLANGED AND BUTT-WELDING ENDS; BOLTED BONNETS

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Quality Assurance Department Yolanda Ponciano Montoya

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