

DESIGN: API 602/ISO15761, NACE MR 01-75

**MATERIALS LIST**

| NO. | NAME      | MATERIAL         |
|-----|-----------|------------------|
| 1   | BODY      | ASTM A105N+STL#6 |
| 4   | DISC      | ASTM A182 Gr.F6A |
| 5   | SPRING    | SS304            |
| 9   | BONNET    | ASTM A105N       |
| 11  | BODY SEAL | SPW 304+GRAPHITE |
| 20  | RIVET     | CU               |
| 25  | NAMEPLATE | ALUMINUM         |
| 35  | BODY BOLT | ASTM A193 Gr.B7M |

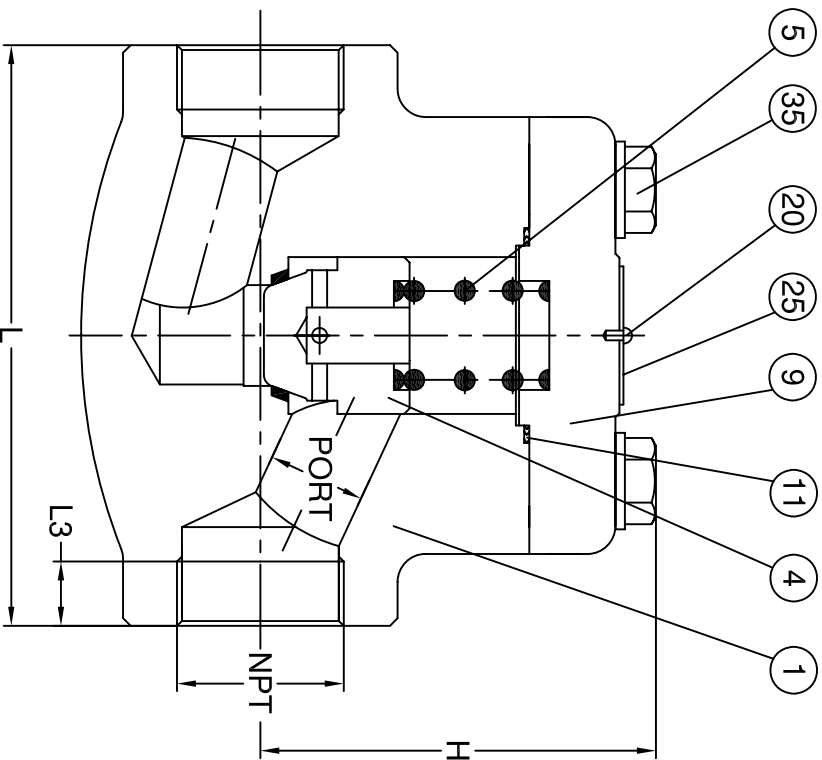
**DIMENSIONS**

unit:inch

| SIZE | PORT   | L    | L2   | H    | SW   |      |
|------|--------|------|------|------|------|------|
| DN8  | 1/4"   | 0.24 | 3.11 | 0.39 | 2.48 | 0.56 |
| DN10 | 3/8"   | 0.24 | 3.11 | 0.39 | 2.48 | 0.69 |
| DN15 | 1/2"   | 0.39 | 3.11 | 0.39 | 2.48 | 0.86 |
| DN20 | 3/4"   | 0.51 | 3.62 | 0.51 | 2.48 | 1.07 |
| DN25 | 1"     | 0.69 | 4.37 | 0.51 | 2.83 | 1.33 |
| DN40 | 1-1/2" | 1.13 | 5.51 | 0.51 | 3.15 | 1.92 |
| DN50 | 2"     | 1.44 | 6.77 | 0.63 | 3.94 | 2.41 |

|              |  |            |  |            |  |            |  |              |  |                |  |             |  |  |  |
|--------------|--|------------|--|------------|--|------------|--|--------------|--|----------------|--|-------------|--|--|--|
| APPROVED BY: |  | CHECK BY:  |  | DRAWN BY:  |  | DRAWINGNO. |  | MATERIAL     |  | UNIT           |  | DESCRIPTION |  |  |  |
| SIGN         |  | T.H.KUO    |  | SHANA      |  | ZCX        |  | WARREN-854-S |  | MATERIALS LIST |  | inch        |  | FORGED STEEL PISTON CHECK VALVES, SOCKET WELDING END, ANSI CLASS 800 |  |
| DATE         |  | 09/02/2009 |  | 09/02/2009 |  | 09/02/2009 |  | REVISION     |  | 01             |  | SCALE       |  |  |  |





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MATERIALS LIST

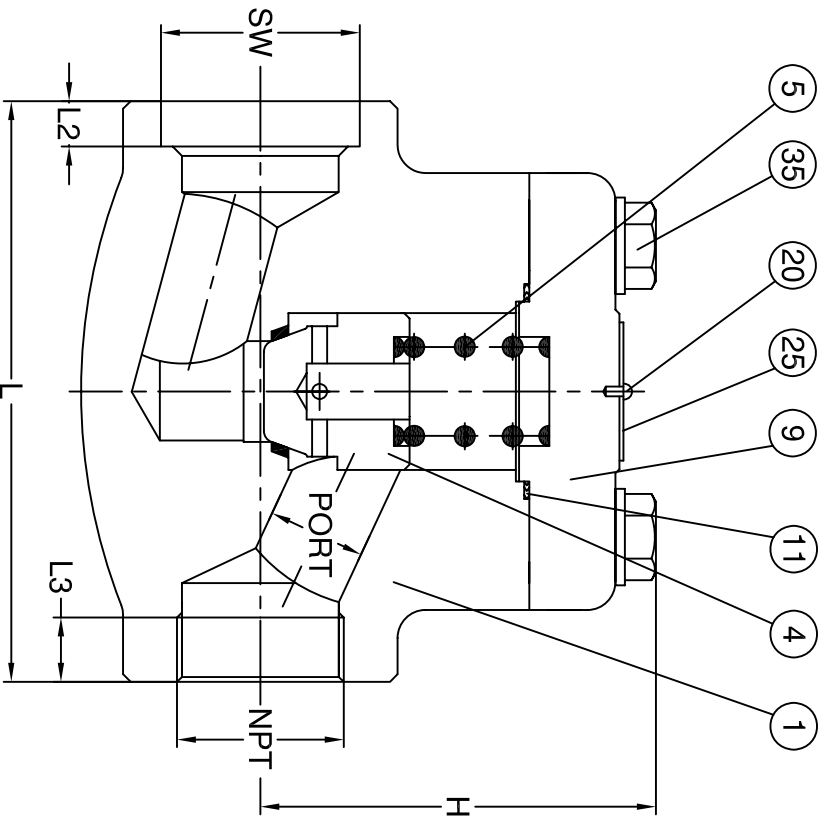
| NO. | NAME      | MATERIAL         |
|-----|-----------|------------------|
| 1   | BODY      | ASTM A105N+STL#6 |
| 4   | DISC      | ASTM A182 Gr.F6A |
| 5   | SPRING    | SS304            |
| 9   | BONNET    | ASTM A105N       |
| 11  | BODY SEAL | SPW 304+GRAPHITE |
| 20  | RIVET     | CU               |
| 25  | NAMEPLATE | ALUMINUM         |
| 35  | BODY BOLT | ASTM A193 Gr.B7M |

DIMENSIONS

unit:inch

| SIZE | PORT   | L    | L3   | H    | NPT  |        |
|------|--------|------|------|------|------|--------|
| DN8  | 1/4"   | 0.24 | 3.11 | 0.37 | 2.48 | 1/4"   |
| DN10 | 3/8"   | 0.24 | 3.11 | 0.41 | 2.48 | 3/8"   |
| DN15 | 1/2"   | 0.39 | 3.11 | 0.54 | 2.48 | 1/2"   |
| DN20 | 3/4"   | 0.51 | 3.62 | 0.55 | 2.48 | 3/4"   |
| DN25 | 1"     | 0.69 | 4.37 | 0.69 | 2.83 | 1"     |
| DN40 | 1-1/2" | 1.13 | 5.51 | 0.72 | 3.15 | 1-1/2" |
| DN50 | 2"     | 1.44 | 6.77 | 0.76 | 3.94 | 2"     |

|              |  |            |  |            |  |            |  |              |  |                |  |   |  |
|--------------|--|------------|--|------------|--|------------|--|--------------|--|----------------|--|---|--|
| APPROVED BY: |  | CHECK BY:  |  | DRAWN BY:  |  | DRAWINGNO. |  | MATERIAL     |  | UNIT           |  | DESCRIPTION   |  |
| SIGN         |  | T.H.KUO    |  | SHANA      |  | ZCX        |  | WARREN-854-T |  | MATERIALS LIST |  | inch  |  |
| DATE         |  | 09/02/2009 |  | 09/02/2009 |  | 09/02/2009 |  | REVISION     |  | 01             |  | SCALE   |  |
|              |  |            |  |            |  |            |  |              |  |                |  | FREE  |  |
|              |  |            |  |            |  |            |  |              |  |                |  | FORGED STEEL PISTON CHECK VALVES,<br>THREADED END, ANSI CLASS 800 |  |



DESIGN: API 602/ISO15761, NACE MR 01-75m

MATERIALS LIST

| NO. | NAME      | MATERIAL         |
|-----|-----------|------------------|
| 1   | BODY      | ASTM A105N+STL#6 |
| 4   | DISC      | ASTM A182 Gr.F6A |
| 5   | SPRING    | SS304            |
| 9   | BONNET    | ASTM A105N       |
| 11  | BODY SEAL | SPW 304+GRAPHITE |
| 20  | RIVET     | CU               |
| 25  | NAMEPLATE | ALUMINUM         |
| 35  | BODY BOLT | ASTM A193 Gr.B7M |

DIMENSIONS

| SIZE | PORT   | L    | L2   | L3   | H    | SW   | NPT  |
|------|--------|------|------|------|------|------|------|
| DN8  | 1/4"   | 0.24 | 3.11 | 0.39 | 0.37 | 2.48 | 0.56 |
| DN10 | 3/8"   | 0.24 | 3.11 | 0.39 | 0.41 | 2.48 | 0.69 |
| DN15 | 1/2"   | 0.39 | 3.11 | 0.39 | 0.54 | 2.48 | 0.86 |
| DN20 | 3/4"   | 0.51 | 3.62 | 0.51 | 0.55 | 2.48 | 1.07 |
| DN25 | 1"     | 0.69 | 4.37 | 0.51 | 0.69 | 2.83 | 1.33 |
| DN40 | 1-1/2" | 1.13 | 5.51 | 0.51 | 0.72 | 3.15 | 1.92 |
| DN50 | 2"     | 1.44 | 6.77 | 0.63 | 0.76 | 3.94 | 2.41 |

unit:inch

|              |  |            |  |            |  |            |  |               |  |       |  |   |  |
|--------------|--|------------|--|------------|--|------------|--|---------------|--|-------|--|---|--|
| APPROVED BY: |  | CHECK BY:  |  | DRAWN BY:  |  | DRAWINGNO. |  | MATERIAL      |  | UNIT  |  | DESCRIPTION   |  |
| SIGN         |  | T.H.KUO    |  | SHANA      |  | ZCX        |  | WARREN-854-TS |  | inch  |  | FORGED STEEL PISTON CHECK VALVES,<br>THREADED END & SOCKET WELDING END,<br>ANSI CLASS 800 |  |
| DATE         |  | 09/02/2009 |  | 09/02/2009 |  | 09/02/2009 |  | REVISION      |  | SCALE |  |   |  |
|              |  |            |  |            |  |            |  |               |  |       |  |   |  |