DRESSER Flow Control

**Consolidated Safety Relief Valve Sizing and Selection Report**
**SRVS6.0, June 15, 2001 Serial No.:** 0011 10/21/2003
**Dresser Flow Control - Alexandria, LA, USA**

FRED ZUEGEL
DRESSER VALVES EUROPE
Windenboden 23 , Neuheim , Witzerland
Prepared by FRED ZUEGEL
Checked by:
Spec. Sheet No.
Revision 02

Customer Information
Name UNIS, spol.s.r.o.
Location BRNO, Czech Republic
Contract 70 000
Project HYDROGEN - NOVOPOLOTSK

| | | | | |
|---|---|---|---|---|
| Tag Number | PRV-20311 | | | |
| P&ID Number - Location | 220-PC-B-11167 - | | | |
| **Valve Type** | **1912-00LT-1-CC*-TD-34-RF-SS-HP** | | | |
| **Gag Required** | **NO** | | | |
| **Inlet Connection** | | | | |
| Specified | 4.00 | Flg | 600# | Rf |
| Selected | 4.00 | Flg | 600# | Rf |
| **Outlet Connection** | | | | |
| Specified | 6.00 | Flg | 150# | Rf |
| Selected | 6.00 | Flg | 150# | Rf |
| **Sizing Data** | | | | |
| Design Code | ASME Section VIII | | | |
| Sizing Basis | Required Flow Rate | | | |
| Fluid | STEAM | | | |
| Fluid State | Steam | | | |
| M | 18.0200 | | | |
| Z | 0.8500 | | | |
| k | 1.300 | | | |
| C | 347 | | | |
| Kd (vapor) Kd (liquid) | 0.975 | | | |
| Kb Kw | 1.0000 | | | |
| Ksh Kn | 1.0000 | | 1.0000 | |
| G Density @ P1 | | | | |
| Viscosity Kv | | | | |
| Acc | 10.00 % | | | |
| Kc | 1.000 | | | |
| **Pressure** | | | | |
| Operating Set | 28.80 / 28,98 | | 32.00 | Kg/cm2g |
| MAWP | 32.00 | | | Kg/cm2g |
| Flowing | 36.23 | | | Kg/cm2a |
| Superimposed Minimum | 0.00 | | | Kg/cm2g |
| Superimposed Maximum | 0.00 | | | Kg/cm2g |
| Builtup Total BP | 0.00 | | 0.00 | Kg/cm2g |
| Barometric | 1.03 | | | Kg/cm2a |
| **Temperature** | | | | |
| Operating | 232.50 C | | | |
| Relieving | 243.40 C | | | |
| Design | 240.00 C | | | |
| **Flow Area** | | | | |
| Required | 1,352.5134 $mm^2$ | | | |
| Selected | 1,840.6415 $mm^2$ | | | |
| Standard | API Effective | | | |
| **Capacity** | | | | |
| Required | 24,600.0 Kg/hr | | | |
| Selected | 33,477.6 Kg/hr | | | |
| Nameplate | 75,254 Lb/hr | | | |
| Reaction Force | 1,624 Lbs | | | |
| Noise Level | 139 DBa @ 3 ft. | | | |

Valve Number 1
4L6

VALVE SIZED FOR SATURATED STEAM AT BLOW-OFF CONDITIONS.

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P&ID Number - Location 220-PC-B-11167 -

**Tag Number** PRV-20311 **Valve Number** 1

| PART NAME | MATERIAL |
|---|---|
| ADJ. RING PIN GASKET | SOFT IRON |
| ADJUSTING RING | 316 STAINLESS STEEL |
| ADJUSTING RING PIN | 316 STAINLESS STEEL |
| ADJUSTING SCREW | 416 STAINLESS STEEL |
| ADJUSTING SCREW LOCKNUT | 416 STAINLESS STEEL |
| BASE | ASME SA351 CF3 STAINLESS STEEL |
| BASE PLUG | CARBON STEEL |
| BASE STUDS | ASME SA193 B7 ALLOY STEEL |
| BONNET | ASME SA351 CF3 STAINLESS STEEL |
| BONNET GASKET | SOFT IRON |
| CAP GASKET | SOFT IRON |
| DISC HOLDER | 316 STAINLESS STEEL |
| EDUCTOR TUBE | 304 STAINLESS STEEL |
| GUIDE | 316 STAINLESS STEEL |
| GUIDE GASKET | SOFT IRON |
| NOZZLE | 316 STAINLESS STEEL |
| SPINDLE | 410 STAINLESS STEEL |
| SPINDLE RETAINER | INCONEL X-750 |
| SPRING | ALLOY STEEL |
| SPRING WASHER | CARBON STEEL |
| STUD NUTS | ASME SA194 2H ALLOY STEEL |
| THERMO DISC | 616 STAINLESS STEEL |
| VENT PIPE PLUG | CARBON STEEL |

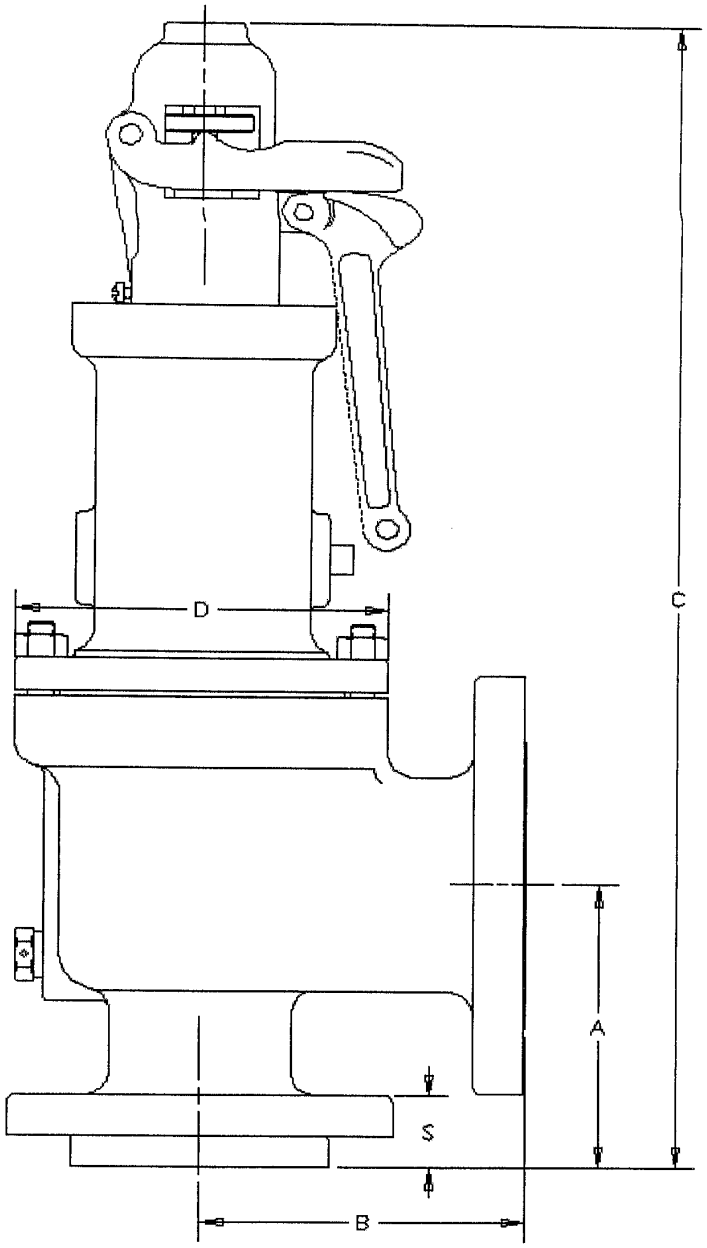
DRESSER
Flow Control

10/21/2003

**Certified by Dresser Flow Control**

Tag Number PRV-20311
Valve Type 1912-00LT-1-CC*-TD-34-RF-SS-HP
Gag Required NO

Valve Number 1
Area ,840.6415




A - 179.4 mm -- 7-1/16 in
B - 203.2 mm -- 8 in
C - 812.8 mm -- 32 in
D - 241.3 mm -- 9-1/2 in
S - 55.6 mm -- 2-3/16 in
Weight - 104.4 kg -- 230 lb

| | | | | | |
|---|---|---|---|---|---|
| Inlet Size | 4.00 | Inches | Flg | 600# | Rf |
| Outlet Size | 6.00 | Inches | Flg | 150# | Rf |