

Ruelco



FV-1

**Hydraulic Control Line
Fire Safety Valve & B.O.P.**

Model 2V02

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Hydraulic Control Line

Fire Safety Valve & B.O.P. Model 2V02

FEATURES

- Rugged and compact design.
- Stainless steel construction.
- B.O.P. function prevents hazards due to SCSSV packing leaks under normal and fire operating conditions.
- Block and bleed operation closes SCSSV automatically under fire conditions.
- Metal to metal valve seats.
- B.O.P. function independent of fire activated operation.
- Field repairable.

OPTIONS

- Fusible lock open device for B.O.P. function.
- 168, 210 & 283° F (76, 99, 139° C) eutectics for fire activation.

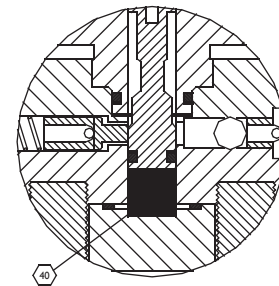
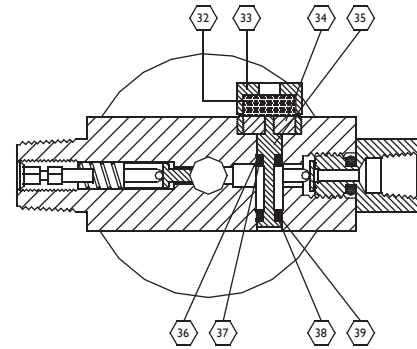
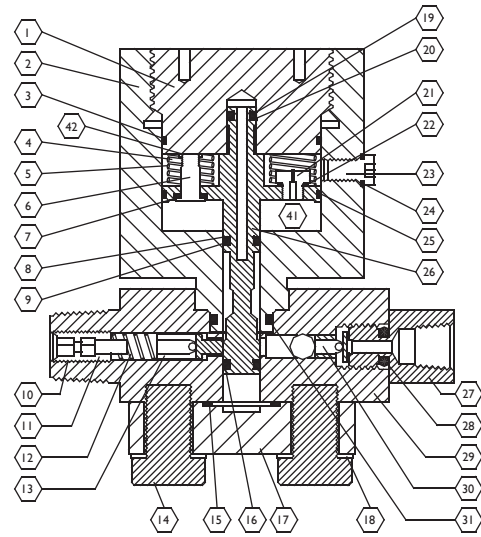
GENERAL DESCRIPTION:

The Ruelco FV-1 is a multi-function control valve. It is designed to remove the hydraulic signal to a surface controlled subsurface safety valve in the event of a fire and stop any well fluid returns due to packing leaks in the SCSSV. The FV-1 also acts as B.O.P. and provides protection from well fluid returns thru the control line during normal operating conditions.

The FV-1 operation as a fire safety and its operation as B.O.P. are completely independent of each other. When a fire activates the FV-1, it blocks and bleeds the hydraulic pressure going to SCSSV allowing it to close. After a fixed elapsed time the FV-1 will close off any further returns from the SCSSV. When operating as B.O.P. the FV-1 will allow returns from the hydraulic control line for the same elapsed time as if exposed to a fire and then it will block any further flow from the SCSSV, thus minimizing any well fluids from flowing back to the hydraulic control system.

Parts List For FV-1

| ITEM | Qty. | DESCRIPTION | MATERIAL | PART NO. |
|------|-------|-----------------------------|------------------|------------|
| 1 | 1 | Timer Body Cap | 316 St. Stl. | 2V-001-000 |
| 2 | 1 | Timer Body | 17-4 PH St. Stl. | 2V-002-000 |
| 3* | 1 | Timer Body Cap Seal | Viton | V0-032-90H |
| 4 | 2 | Timer Spring | Inconel X-750 | 2V-021-000 |
| 5 | 1 | Flow Control Spring | Inconel X-750 | 10-004-000 |
| 6 | 1 | Flow Control Stem | 316 St. Stl. | 2V-003-000 |
| 7* | 1 | Flow Control Seal | Viton | V0-008-75H |
| 8* | 1 | Timer Spool Middle B/U | Teflon | TB-009-00C |
| 9* | 1 | Timer Spool Middle Seal | Viton | V0-009-75H |
| 10 | 1 | Spring Guide Lock Screw | 316 St. Stl. | 2V-020-000 |
| 11 | 1 | Shut-Off Valve Spring Guide | Inconel X-750 | 30-004-000 |
| 12 | 1 | Shut-Off Valve Spring | 316 St. Stl. | 10-004-000 |
| 13 | 1 | Shut-Off Valve Poppet | 316 St. Stl. | 2V-005-000 |
| 14 | 2 | Crossover Plate Bolt | 316 St. Stl. | T7-0GD-103 |
| 15* | 1 | Crossover Plate Seal | Viton | V0-016-90H |
| 16* | 1 | Timer Spool Lower Seal | Viton | V0-009-75H |
| 17 | 1 | Crossover Plate | 316 St. Stl. | 2V-006-000 |
| 18 | 2 | Crossover Plate Washer | 316 St. Stl. | WA-14A-163 |
| 19* | 1 | Timer Spool Upper Seal | Viton | V0-006-75H |
| 20* | 1 | Timer Spool Upper B/U | Teflon | TB-006-00C |
| 21 | 1 | Timer Orifice | Brass | 2V-007-000 |
| 22* | 1 | Timer Orifice Seal | Viton | V0-008-75H |
| 23 | 1 | Oil Fill Port Screw | 316 St. Stl. | TA-08K-0G3 |
| 24* | 1 | Oil Fill Port Screw Seal | Viton | V0-008-75H |
| 25* | 1 | Timer Spool Oil Seal | Teflon | 2V-017-000 |
| 26 | 1 | Timer Spool | 316 St. Stl. | 2V-008-000 |
| 27 | 1 | Inlet Fitting | 17-4 PH St. Stl. | 2V-009-000 |
| 28* | 1 | Inlet Fitting Seal | Viton | V0-012-90H |
| 29 | 1 | Body | 316 St. Stl. | 2V-010-000 |
| 30 | 1 | Block & Bleed Valve Poppet | 316 St. Stl. | 2V-011-000 |
| 31* | 1 | Timer Body Seal | Viton | V0-013-90H |
| 32 | 1 | B & B Eutectic Plug | Eutectic | 2V-012-000 |
| 33 | 1 | Block & Bleed Cap | 316 St. Stl. | 2V-013-000 |
| 34 | 1 | Block & Bleed Piston | 316 St. Stl. | 2V-014-000 |
| 35 | 1 | Block & Bleed Stem | 17-4 PH St. Stl. | 2V-015-000 |
| 36* | 1 | B & B Stem Upper B/U | Teflon | TB-007-00C |
| 37* | 1 | B & B Stem Upper Seal | Viton | V0-007-75H |
| 38* | 1 | B & B Stem Lower B/U | Teflon | TB-006-00C |
| 39* | 1 | B & B Stem Lower Seal | Viton | V0-006-75H |
| 40 | 1 | Lock Open Eutectic | Eutectic | 2V-016-000 |
| 41* | 4 oz. | Timer Oil | Petroleum Base | 2V-019-000 |
| 42 | 1 | Adjustment Nut | 316 St. Stl. | T6-632-033 |
| 43 | - | Repair Kit | * Items | 2V-018-000 |



Partial View Showing
Timer Lock Open Eutectic Installed

Specifications

| | |
|-------------------------------------|--|
| Max. Working Pressure | 10,000 PSI. (690 BAR) |
| Min. Working Pressure | 1,000 PSI. (69 BAR) |
| B.O.P. Response Time | 6 Min @ 72° F (22° C) 1 Min @ 300° F (149° C) |
| Ambient Operating Temperature Range | -20° to 250° F -29° to 121° C |
| Cv Normal Operation | .063 |
| Cv Fire Activated | .097 |

Ordering Code: 2V02 - 80 A 18

