

Gryphon Oilfield Solutions

Differential Fill Float Valve Product Line

Introduction

Differential Fill equipment is an effective part of controlled surge reduction by reducing the piston ram effect when running casing. Differential Float Valves cannot deactivate inadvertently. Having to fill casing from surface when running in the hole because of prematurely closed float valves can be timely. Running casing too fast and surging producing formations by exceeding ECD's can cause unreparable mud damage to formations. Differential Float Valves are reliable and can only deactivate by ball drop methods.

Differential Fill Float Shoes and Float Collars

Gryphon's Differential Fill Float Valve permits the casing to fill automatically from the bottom while being run into the hole. The Differential Valve meters fluid into the casing when being lowered into the well and prevents over filling. It allows the pipe to be filled internally to approximately 80%-85% of capacity before closing off flow into the casing. The valve is converted into a check valve by dropping a weighted ball. The deactivation ball is pumped from surface until it lands in the sleeve of the Differential Fill Valve. When the ball seats in the ball seat, pressure is increased until the shear pins shear. The sleeve then shifts to release the main flapper valve to allow it to seal. The same ball will convert both the float shoe and float collar valves.

Design

- Gryphon's Float Shoes and Collars are made from seamless casing grade steel
- High strength Aluminum Valves ensures positive sealing in all well angles
- Case Bodies are Phosphate and Powder Coat finished for; maximum rust protection, make-up torque reduction, reduced galling occurrence, and improved cement to case body bonding
- The valve is encased and held in place by a high-strength cement mixture
- Float Valve equipment has been tested in-house in a Flow loop and HPHT Testing Equipment
- Compatible with all mud types (WBM-OBM-SBM)
- Compatible in H₂S environments
- Available in casing sizes of 5-1/2" to 20" and custom sizes upon request

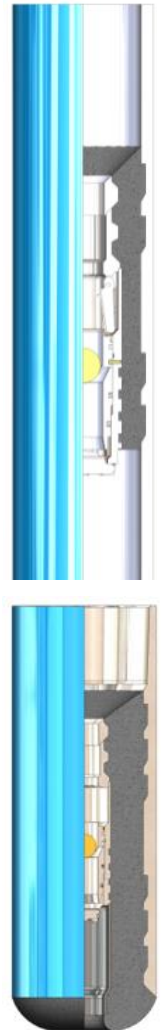
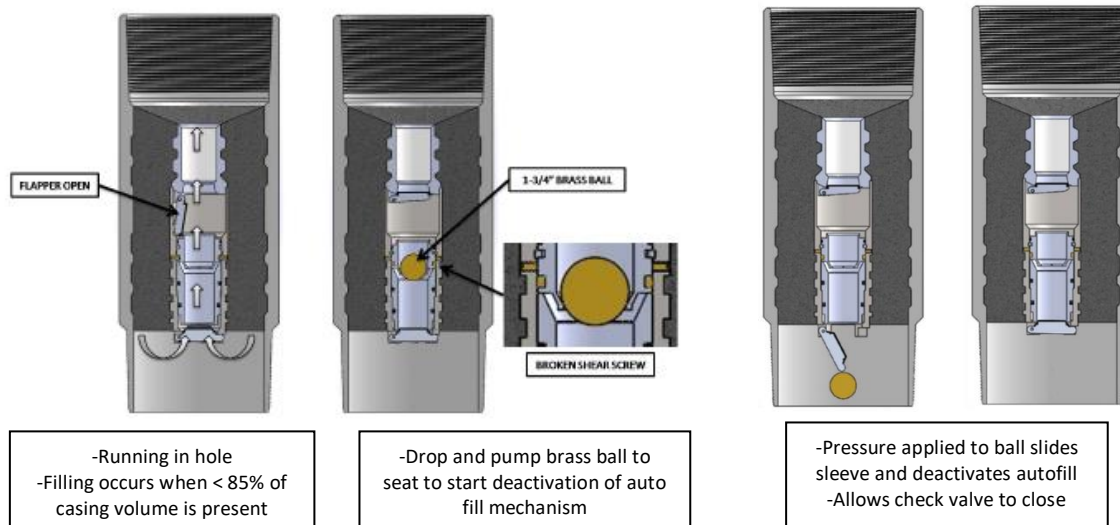
Features

- Provides controlled metered filling of casing until 1-3/4" ball is dropped and pumped from surface to deactivate the Differential Fill mechanism and close the flapper valve
- Differential Fill Valve has a rated flow area of 2.40 sqin
- Can be supplied in all casing grades of steel
- Full traceability of component material starts from the mill material certificates to delivery
- Universal Blank, API, and Premium Threading capable
- All machining is processed in-house on CNC machines operated by special skilled technicians
- All valve parts are manufactured and assembled in house
- Equipment is tested and rated in compliance with API RP10F required specs

- API rated at category III-C (10 BPM/24 hrs. and 5000 psi/400 degF)
- PDC drillable
- Differential Fill Float Valve designs can be ordered in various combinations such as;
 - Single or Double Valve Configuration
 - Non-Rotating with matching NR Plug sets
 - Latch Down Plug type
 - Stab-in and Latch-in for Inner String Cementing with or without matching wiper darts
 - Multiple Float Shoe Nose designs available
- API specifications; Q1 and ISO Quality Management Systems.

Benefits

- Multiple circulation times without deactivation of differential fill mechanism
- Casing is metered filled from bottom up while running casing
- Provides controlled surge reduction while running casing
- Enables faster casing running times
- Reliable Differential Valve provides enhanced well control while running casing
- Prevents flowback of cement slurry when pumping stops
- Provides optimal shoe track integrity
 - Plug landing pressure tested and pressure rated
 - Back pressure ratings tested to API RP10F requirements



For Additional Information or questions please contact Gryphon Oilfield Solutions at;

USA Main Office & Distribution Center / Houston, Texas (281) 738-3110

Canadian Office & Distribution Center / Calgary, Alberta (403) 720-3197

Notice: This Document and Data embodied within are Confidential and Proprietary property of Gryphon Oilfield Solutions and shall not be copied, reproduced, disclosed to others or used in whole or part for any purpose without the express written permission of GOS. © 2017 Gryphon Oilfield Solutions. All rights reserved.

<http://www.gryphonoilfield.com>