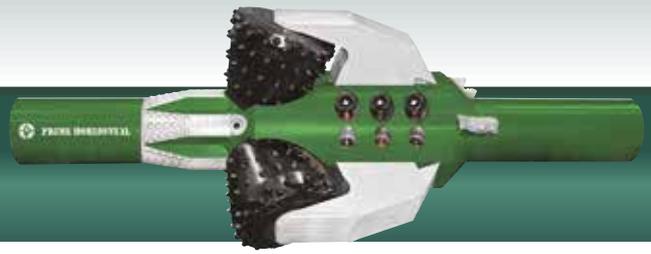




# Bi Directional Flow Valve

## Prime Horizontal



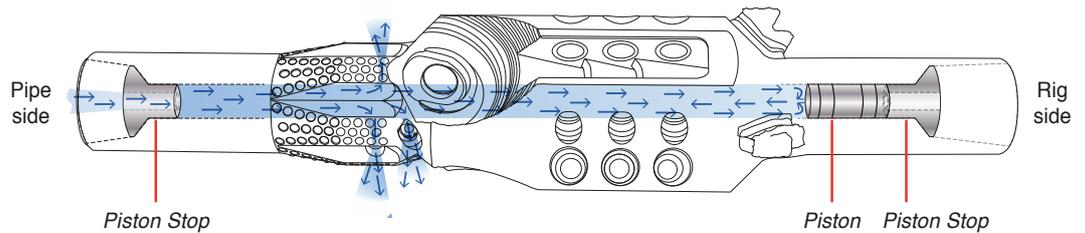
### Bi Directional Flow Hole Opener Advantages

- Increases probability of successful retrieval of the hole opener and tail string by allowing mud volume and pressure to be maintained through the tail string.
- Negates the need for Blanking sub on tail of hole opener.
- No machined modifications required to hole opener body.

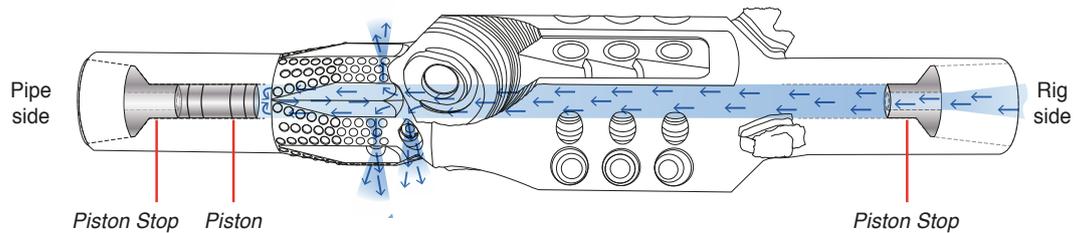
Prime Horizontal has developed a new option for our Hole Opener range. An internal bi-directional piston within the hole opener body, enables mud flow to be maintained from either side, even after a twist-off on the rig side.

In use, the hole opener operates the same as normal. It is only in the event of a twist-off between the rig and hole opener, leaving the tail string intact, that the two-way capability comes into play.

After the rig is moved to the exit side, mud pressure forces the internal piston to reposition behind the internal flow ports inside the hole opener. This allows mud flow to continue through the hole opener jets, thus allowing standard mud volume and pressure into the pilot hole while withdrawing the drilling assembly. Without mud flow, there is always the possibility of sticking the hole opener during the withdrawal process due to a completely dry hole.



STEP 1



STEP 2



### Modification specifications

Max nozzle TFA	Metric	Imperial
4 1/2" IF	11 cm <sup>2</sup>	1.71 in <sup>2</sup>
7 5/8" Reg	25 cm <sup>2</sup>	3.87 in <sup>2</sup>

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