The AVD combines all the features and benefits of the AVS multi position circulating valve combined with an integrated BHA disconnect module. This uses the same Electronics and Power Module with the addition of additional electric control motors which activate the full strength mechanical clutch.

The AVD can be run in the BHA below the Jars. It is as strong as the drillpipe and no surface intervention is required to activate i.e. no balls or darts. If the BHA becomes stuck, the Operator can achieve a disconnect in a matter of hours depending on how the AVD has been programmed.
The AVD senses it may be stuck by monitoring its sensors; accelerometers, MEMS Gyro and flow sensors. The tool has 4 modes: “Active” – when all is normal, “Listening” – when it senses it may be stuck and starts to listen for the countdown confirmation, “Countdown” – when it is confirmed that the tool is stuck and the countdown begins, “Disconnect” – when the countdown has finished and the tool is awaiting the final confirmation to disconnect from surface. The AVD has a small telescoping joint with a proximity sensor. This is used to send confirmation signals and the final signal to disconnect, however, the tool has to be in Disconnect mode before it will activate.