

Churchill Drift Catcher™

“The Surest, Safest and Fastest on-rig drifting method”

Manual drifting in the derrick, whilst very effective, is time-consuming and dangerous. Using the Drift Catcher™ reduces rig exposure by over 98%

Wire-tail drifting is faster than manual drifting but introduces new problems such as snagging, wire cut injuries and well control obstructions



Derrick drifting issues

- Time lost raising drift in derrick
- Time lost clearing rig floor
- Unnecessary manual handling
- Dropped object dangers

In-hole wire-tail issues

- Wire-cut injuries
- No immediate record of good drift
- Snagging and ‘birds-nesting’
- Obstructed well control

Common drifting sizes*

Pipe	Drift OD	Catcher ID
5.5"	3.25"	3.17"
5.0"	2.50"	2.42"
3.5-4"	2.25"	2.18"
TTRD	1.75"	1.67"

Available in all common DP connections
DSTJ, HT, NC, VAM, H533, XT

*custom sizes available

“A simple and effective solution”

Nicol Shepherd, Shell

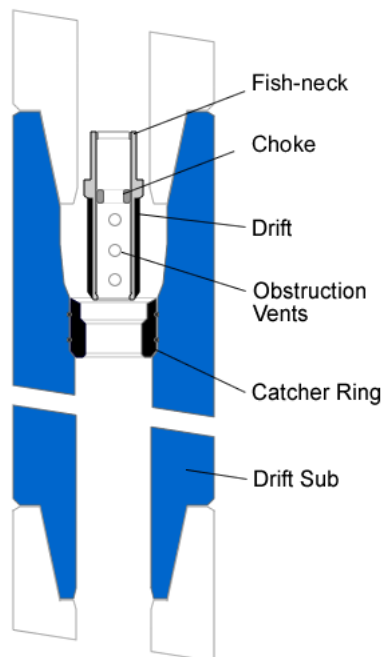
“Drifting safely is no longer an issue”

Bob Fraser, Talisman

The Drift Catcher™ includes drifting as part of the program and informs all crew members of the specification. It provides the kit for completing it simply and then feeds back the drift confirmation via the daily report.

Users

ADTI, AGR, Apache, BG, BP, Chevron, CNR, Conoco, ENI, Maersk, Marathon, Merit, Nexen, Origin, Paladin, PetroCanada, RWE, Senergy, Shell, Talisman, Total, Venture



Cost & Time Savings:

- Pump drift, pressure confirmation in minutes
- POOH faster no need to look for drift
- No need to search BHA or racked pipe for drift

Well friendly:

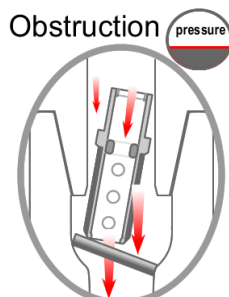
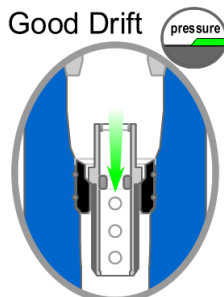
- Reliability through simplicity
- Through bore sub
- Fish-able drift
- Pump at full flow through drift if required

Easy to use and available in common pipe sizes:

- Place sub below drill pipe
- Drill section as normal
- Pump drift into place
- Observe pressure confirmation and POOH

Versatile:

- Drift in open hole or back at shoe
- Sub is volumetric drift compatible



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Fewer than 2% of drifts are obstructed, but even then the system indicates the problem early with ‘a no show’ on the pressure dial giving extra time to locate the blockage.

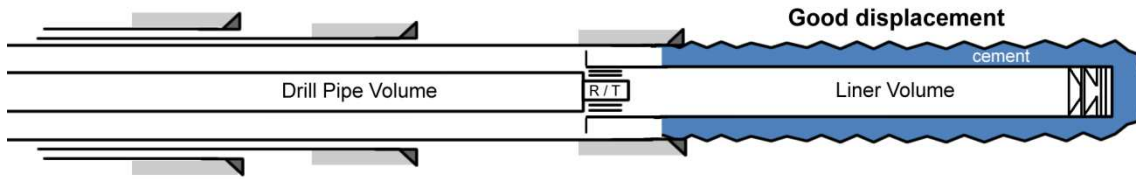
Observed surface pressure drift indication (10ppg)

Choke	1"	24/32"	22/32"	18/32"
100gpm	9psi	30psi	43psi	100psi
150gpm	22psi	70psi	100psi	220psi
200gpm	40psi	125psi	175psi	410psi
250gpm	60psi	190psi	270psi	625psi
300gpm	87psi	275psi	390psi	
350gpm	119psi	375psi	530psi	
400gpm	155psi	490psi	690psi	
425gpm	174psi	550psi		
450gpm	196psi	620psi		
475gpm	218psi	690psi		
500gpm	242psi	765psi		Ideal range

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Volumetric Drift™ Accessory



Getting safer liner cementing with pump stroke calibration

- Reduced risk of over-displacement
- Reduced risk of under displacement
- Pressure confirmation of drift at surface
- Pump down wiper drift accessory
- Calibrate displacement volume
- Reference volume to pump strokes

Good drift

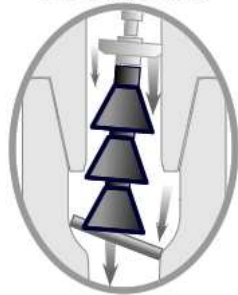


V_{drift} : In over 98% of runs, a ~1000psi* rise when the drift seats will indicate the pipe volume versus pump strokes and also confirm a good drift. The burst disc will then rupture to allow dry tripping.

With an ID of 3/4" the wiper drift is usually run after pulling back to the shoe. Where open hole drifting is a requirement, the standard drift should be selected.

On the rare occasions, where the drill pipe is compromised, early warning will be given by a lack of pressure spike. The time saved can be used to locate the obstruction to safe-guard the completion.

Obstruction

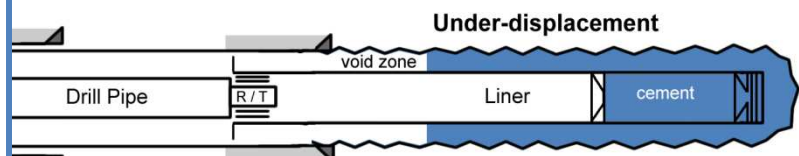
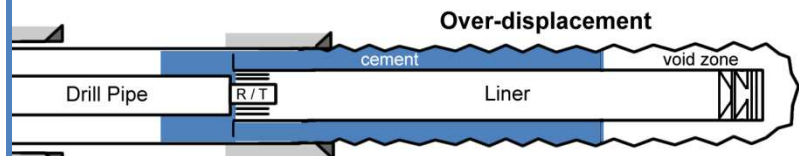


Displacement formulae:

$$V_{disp.} \approx (V_{pipe} + V_{liner}) / Efficiency_{pumps}$$

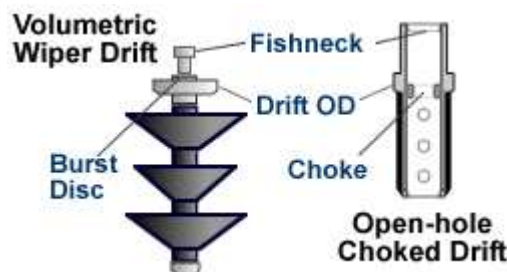
$$\text{Where } V_{drift} \approx V_{pipe} / Efficiency_{pumps}$$

and V_{liner} can be derived from calliper measurements



*burst psi can be customised

The volumetric drift will indicate the number of pump strokes required to displace the drill pipe. This provides a useful reference to reduce errors in theoretical volume and pump efficiency calculations



The standard drift is the preferred method for open-hole drifting where selecting a larger choke will enable pumping at full rate for long periods without undue pressure loss or component wear.

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Simple ordering:

To take advantage of the volumetric drift, simply specify your drill pipe, connection and drift OD requirement as usual and ask for the matching volumetric wiper to be supplied.