

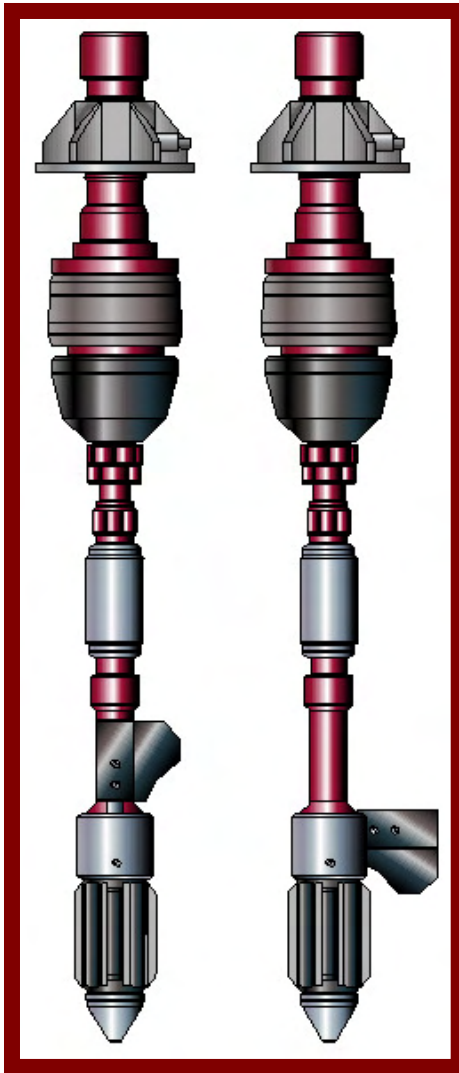
DWR **ORKS**

*Circulating and flow-back tools
for casing and drill pipe*

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Boling, Texas 77420
Wk: (979) 657-0367
Fax: (979) 657-0111
Website: www.dwrslp.com

DrawWorks, L.P.

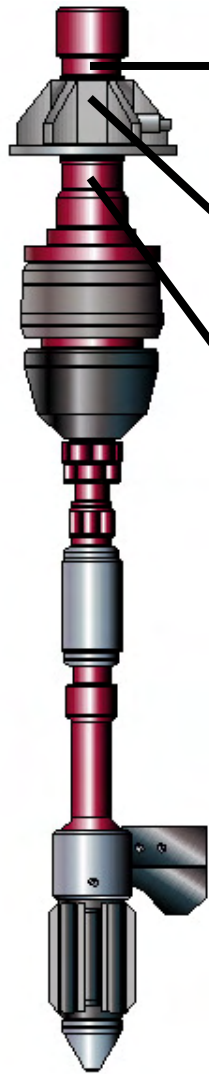
AutoFill Casing Fill-up and Circulating Tool



- Formed in 1996
- 65 years of engineering experience in design of downhole tools
- 30+ patents in the field of surface and downhole oil field equipment
- First development – AutoFill Casing Fill-up and Circulating equipment
- Hundreds of AutoFills Worldwide

DrawWorks, L.P.

AutoFill Casing Fill-up and Circulating Tool



➤ Rig Adapter

- Top Drive Adapter

- Available in any connection to connect to the top drive

- Conventional Rig Adapter

- Allows the tool string to be connected to the hook of the traveling block of a conventional rig (rotary rig).

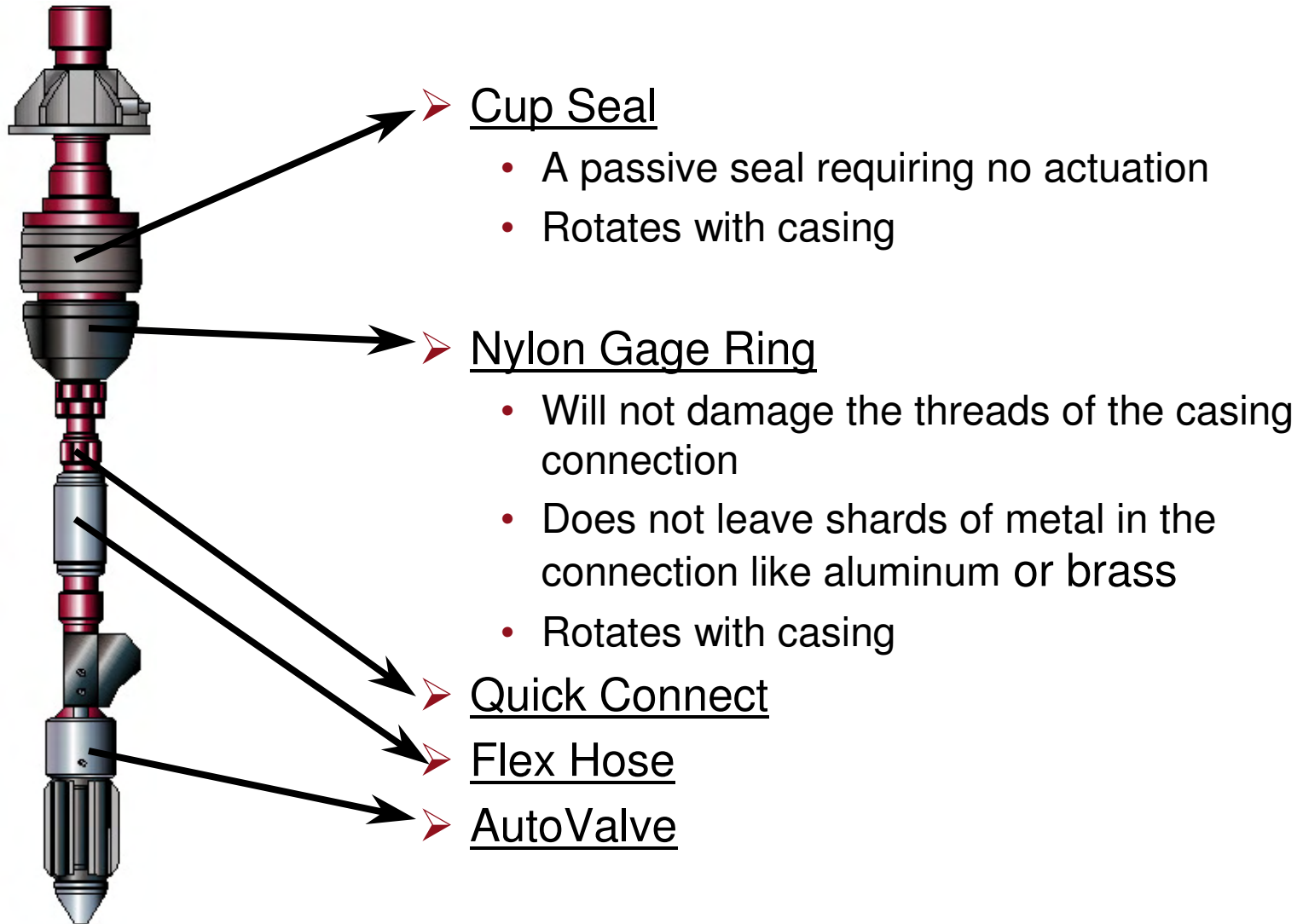
➤ Push Plate Sub

- Prevent slip type elevators from getting stuck on the casing.

➤ Spacers

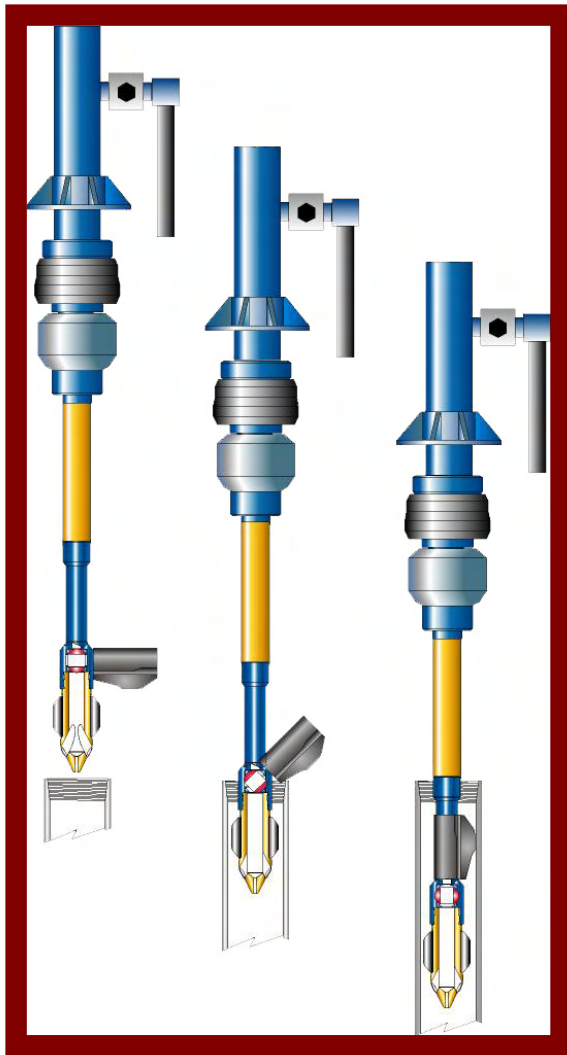
- Used to space out the seal unit for different bail lengths

DrawWorks, L.P. AutoFill Casing Fill-up and Circulating tool



❖ Cup Seal and Gage Rings are Free to rotate while casing is spinning.

DrawWorks, L.P. AutoFill Casing Fill-up and Circulating Tool

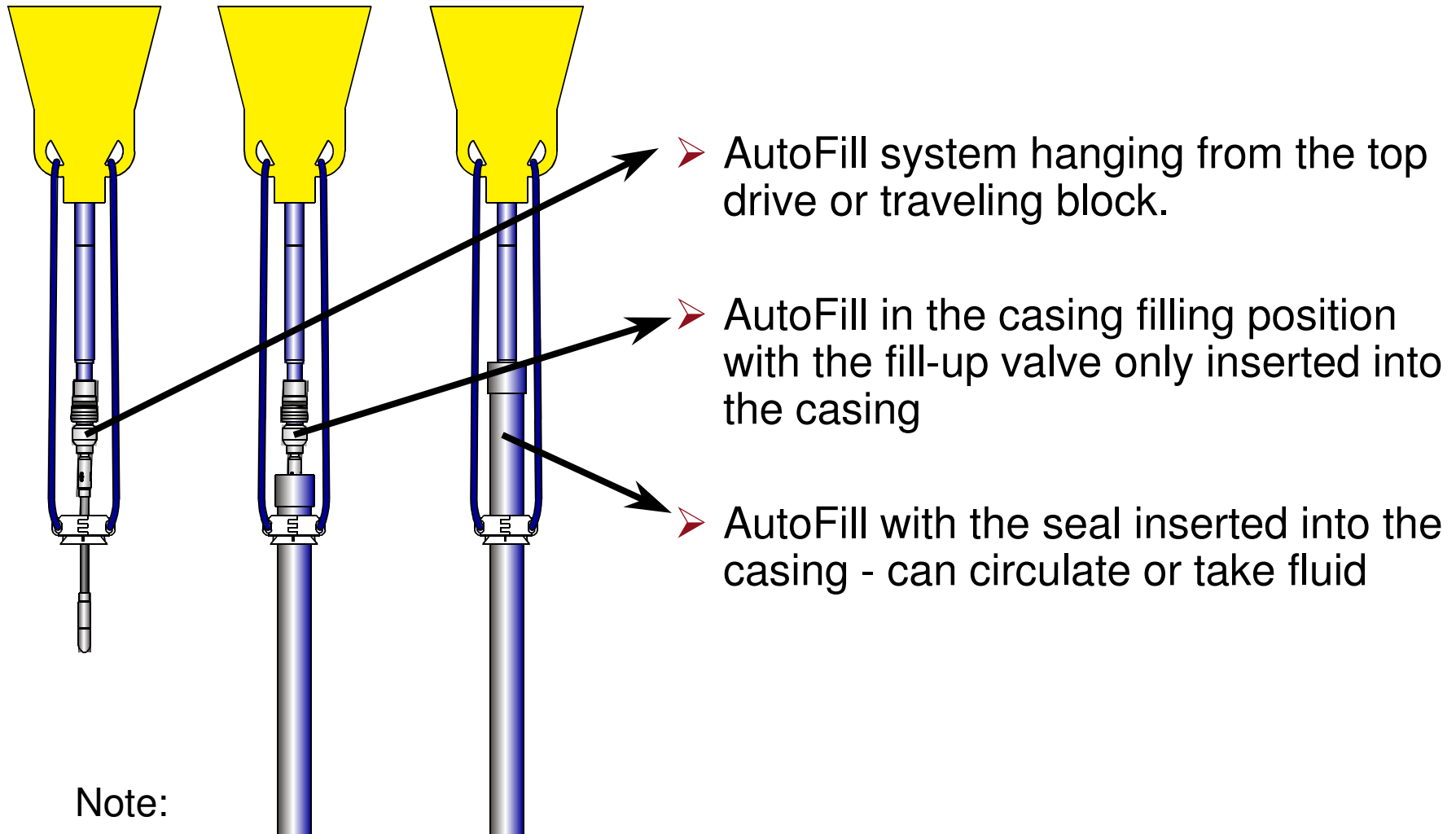


➤ AutoValve

- Simple and reliable
- Ball valve is not subject to erosion
- Full opening for fill-up, circulating and flow back
- Once removed from the casing it immediately closes

DrawWorks, L.P

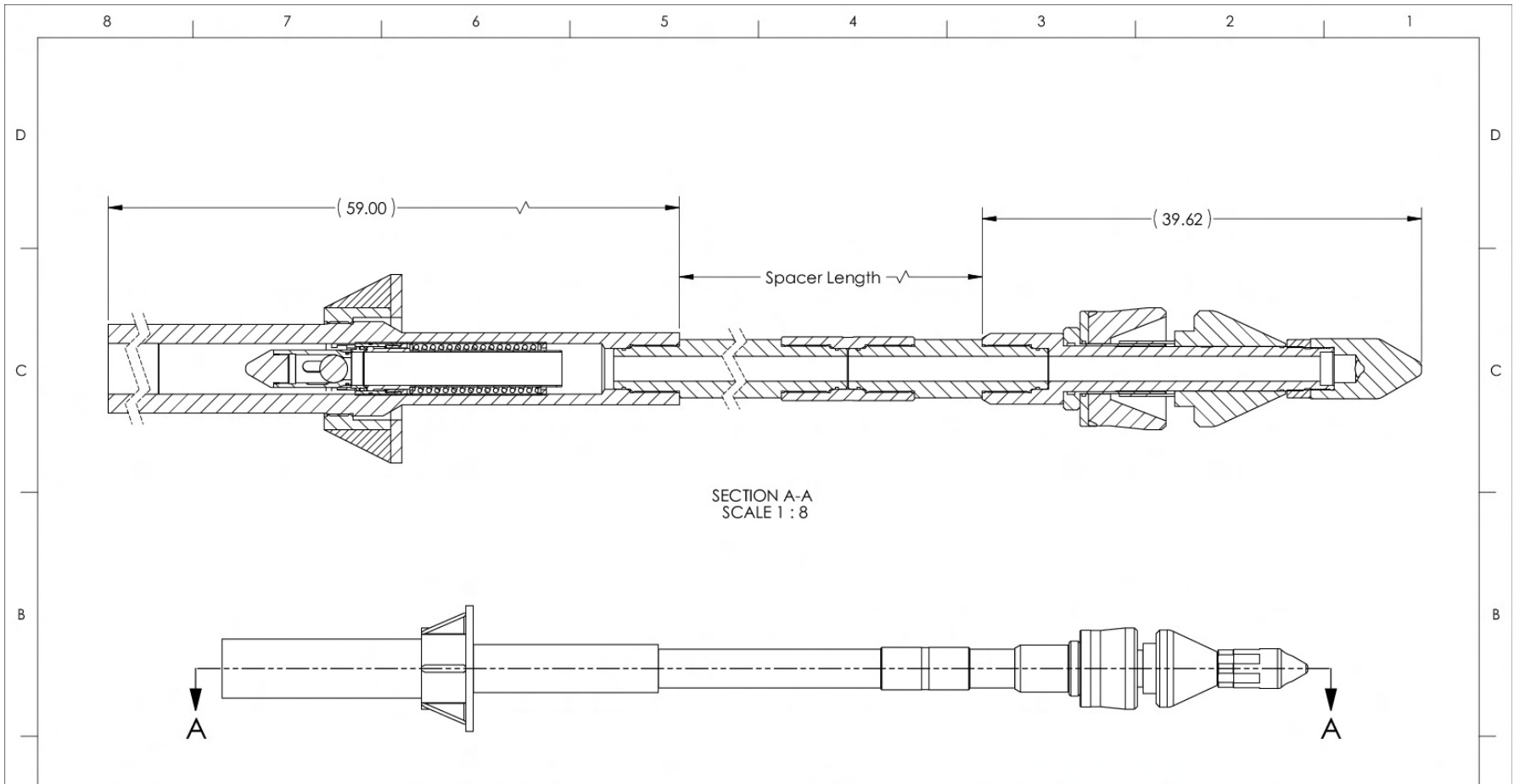
AutoFill Casing Fill-up and Circulating Tool




Note:

The seal unit will normally be spaced out so that it is in the elevators, we have shown it above the elevators for illustrative purposes only.

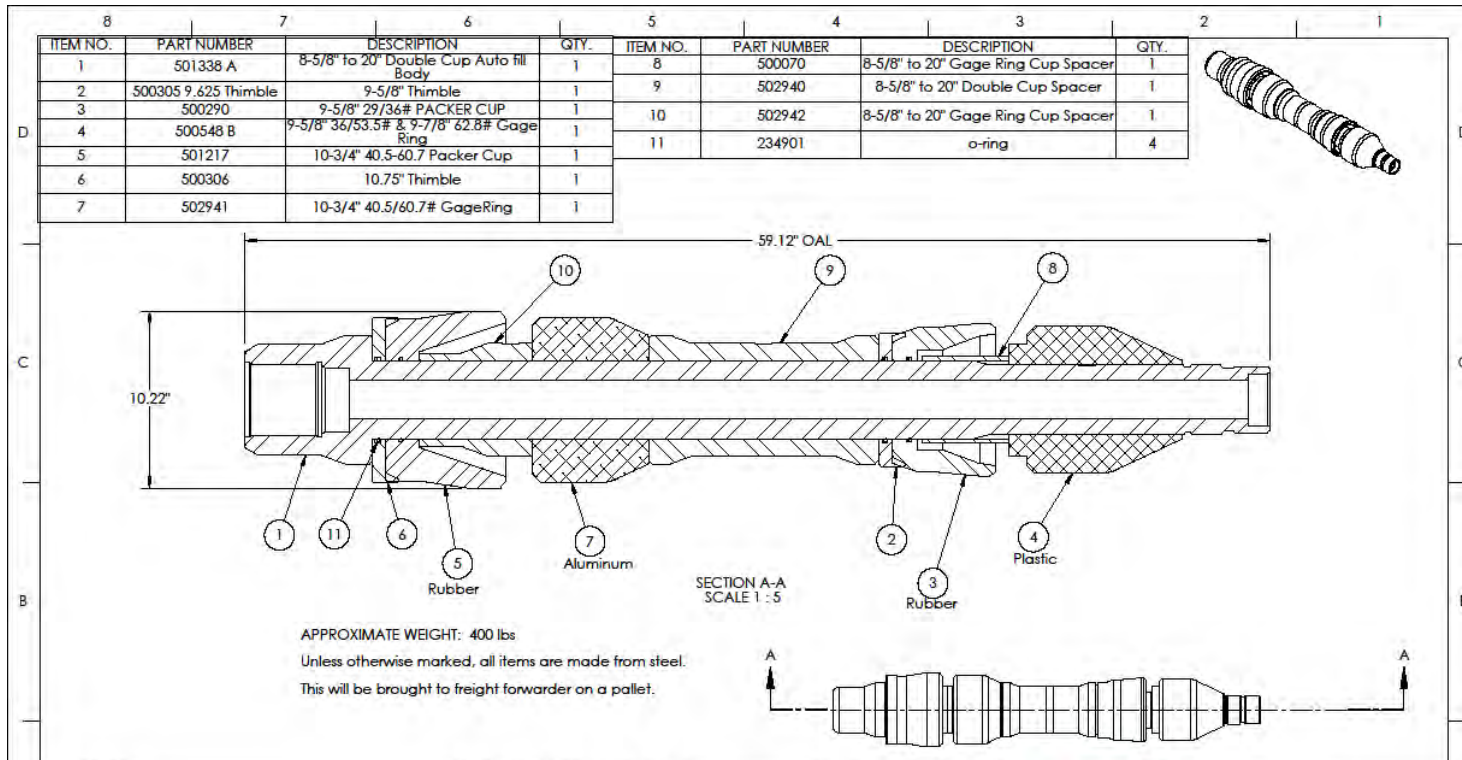
DrawWorks, L.P. Stab-Less AutoFill Tool



SECTION A-A
SCALE 1 : 8

				CRITICAL COMPONENT: <small>UNLESS OTHERWISE SPECIFIED</small> DO NOT SCALE FOR DIMENSIONS. ALL DIMENSIONS ARE IN INCHES. REMOVE ALL BURRS. BREAK ALL CORNERS. DEBurr ALL EDGES. UNNECESSARY SHARP EDGES (D&D), AP, OR .05/.05 DR.		MATERIAL: PROCESS SPECS:				TITLE: 7'-20" Stab-Less Auto Fill Tool	
				<small>DECIMAL TOLERANCES SURFACE FINISH CONCENTRICITY</small> X = ±.032 FRACTION ±1/32 MACHINED 250RMS OD - ID .010 TIR XX = ±0.15 ANGULAR ±0.50° STRAIGHT THDS. 125RMS ID - ID .010 TIR XXX = ±.005 PERPEND. ±0.25° TAPERED THDS. 125RMS OD - ID .015 TIR AS R./MACH. .025 TIR				<small>DPI SCALE 1:24 DWN. TH DATE 03/16/10</small> <small>PROC. NO. AutoRl CHK. DATE</small> <small>P/N APPD. DATE</small> <small>DWG. NO.</small>		<small>SHEET REV.</small> 1 of 1	
<small>© 2006 BY DRAWWORKS, L.P. - BOLING DEVELOPMENT GENERAL PARTNER</small> <small>THIS DOCUMENT IS CONFIDENTIAL AND IS THE PROPERTY OF DRAWWORKS, L.P. IT MUST NOT BE COPIED, OR REPRODUCED IN WHOLE OR IN PART IN ANY WAY WITHOUT THE EXPRESS WRITTEN CONSENT OF DW. THIS DOCUMENT ALSO IS AN UNPUBLISHED WORK OF DW. DW OWNS ALL RIGHTS TO THE WORK AND INTENDS TO MAINTAIN THE WORK CONFIDENTIAL AND AS A TRADE SECRET. DW MAY ALSO USE, TO PROTECT THIS WORK, AS AN UNPUBLISHED COPYRIGHT. THOSE HAVING ACCESS TO THE WORK MAY NOT COPY, USE, OR DISCLOSE THE INFORMATION IN THIS WORK, UNLESS EXPRESSLY AUTHORIZED BY DW TO DO SO.</small>				<small>SUPERSEDES</small> <small>NEXT ASSY</small> <small>CAD FILE</small>		<small>AutoRl w CRT Valve and push pole</small>		7-20 Tool			
DATE	REV.	DESCRIPTION	BY	CHK	APP.						

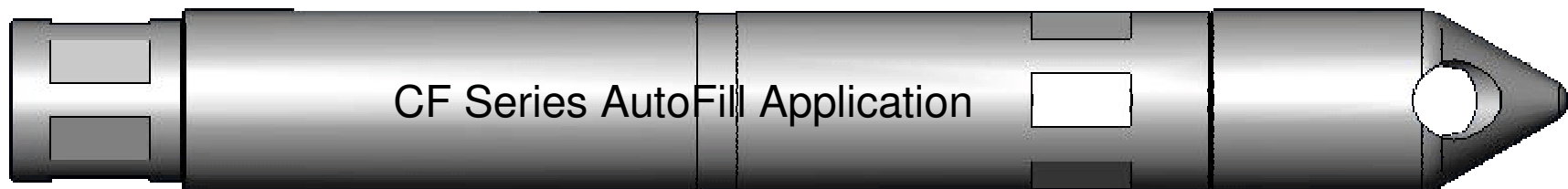
DrawWorks, L.P. Double-Cup Circulator Tool



DrawWorks, L.P.

CK & CF Series Mud Saver Valve

- Eliminates Mud loss
- Stab-Less Application
- AutoFill Application
- Kelly Valve Application
- Saves ½ Barrel of mud on each Kelly connection
- Cleaner/Safer Work Area and Prevents Pollution



NOV-CRT DW Valve Assembly

Features and Benefits

AutoFill Components

- Use existing inventory

Short Length

- Fits inside the NOV/CRT
- Replaces the NOV circulator and valve

Pressure operated valve

- Self Aligning Seat
- Simple system

Set screw safety back-off lock

- Simplifies tear-down and assembly

“C” series Valve

Floating Seat

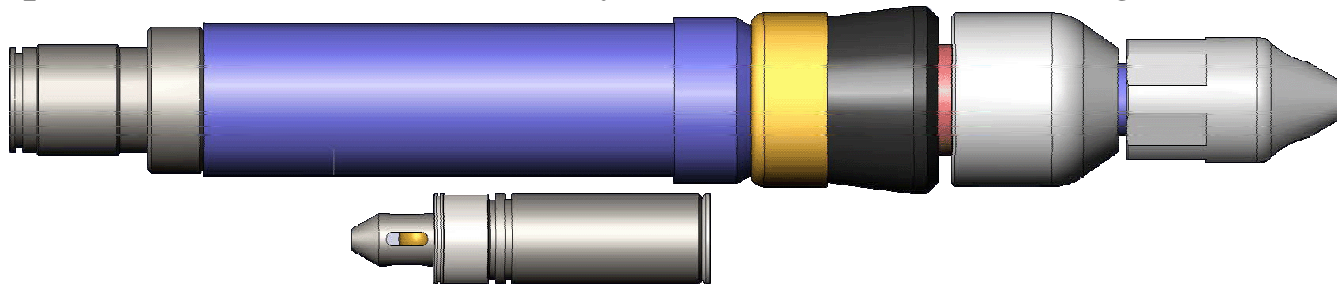
- Positive seal
- Large flow area
- Lower pressure drop
- Shorter length

Large Check Valve

- Handle flow back

Two Seat Choice

- Coated - less expensive
- Carbide - Longer life



DrawWorks, L.P.

AutoFill Casing Fill-up and Circulating Tool

Who is using our equipment?

Worldwide

- Tecon Oilfield Services
- Weatherford
- BJ Tubular services
- ITS Tubular Services
- NOV

Middle East

- Al Ghaihs Oilfield Services
- Premier Casing Serices
- Odfjell

In the US

- Offshore Energy Services
- Tesco Services
- Express Energy
- Premier
- Timco
- Allis-Chalmers