ES model "CF" Landing Nipple is a tubing nipple for use with Top No-Go locking devices only. It has a Polished Sealbore, Top No-Go shoulder, and a locking groove.
CF Nipple locates seals and retains flow control accessories that have a top no go locking device accesso- ries which are run and retrieved on slickline.

## Applications

Inserting blanking plugs for shutting in or testing
Setting a packer or testing tubing
Installing instrument hangers for temperature and pressure recorders
Velocity-type safety valves for shutting off flow

The ES "CF" Landing Nipple is a full bore, selective nipple that allows for the location of many wireline-run and retrieved Flow Control devices, such as:
Blanking Plugs
Check Valves (Standing Valves) Instrument Hangers
Bottom Hole Chokes

## Features and Benefits

Internal locking groove fits various other Flow Control tools

Selective locking devices allowmore than 1 CF Landing Nipplef the same sealbore diameter to be used in the same tubing string

Seal bore area packs off various Flow Control devices

Available in all metallurgical and Elastomers conforming to
NACEMR 0175 or H2S, and suitable for standard normal/H2S, CO 2 well services requirements.
Available in All API \& Premium thread connections


ES- "CF" Top No Go Landing Nipple specification guide

| Tubing size | Seal bore (In.) | Min. OD (In | Length (In.)* |
| :---: | :---: | :---: | :---: |
| 2-3/8" | 1.781 | 2.560 | 12-17 |
|  | 1.812 |  |  |
|  | 1.875 |  |  |
| 2-7/8" | 2.062 | 3.109 | 13-18 |
|  | 2.125 |  |  |
|  | 2.188 |  |  |
|  | 2.250 |  |  |
|  | 2.312 |  |  |
| 3-1/2" | 2.562 | 3.687 | 13-18 |
|  | 2.750 |  |  |
|  | 2.812 |  |  |
| 4-1/2" | 3.688 | 5.200 | 15-20 |
|  | 3.750 |  |  |
|  | 3.812 |  |  |

[^0]
## OTIS TYPE- "CXN" BOTTOM NO GO NIPPLE

ES model "CXN" Landing Nipple is a tubing nipple for use with "XN" Bottom No-Go locking devices only. It has a Polished Sealbore, Bottom No-Go shoulder, and a locking groove.
CXN Nipple locates seals and retains flow control accessories that have a bottom no go locking device accessories are run and retrieved on slickline.

## Applications

Inserting blanking plugs for shutting in or testing
Setting a packer or testing tubing
Installing instrument hangers for temperature and pressure recorders
Velocity-type safety valves for shutting off flow

The ES "CXN" Landing Nipple is a full bore, non-selective nipple that allows for the location of many wireline-run and retrieved Flow Control devices, such as: Blanking Plugs
Check Valves(Standing Valves)
Instrument Hangers
Bottom Hole Chokes

## Features and Benefits

Internal locking groove fits various other Flow Control tools
Seal bore area packs off various Flow Control devices

Available in all metallurgical and Elastomers conforming to NACE MR 0175 or H2S, and suitable for standard normal/H2S, CO2 well services requirements.

Availablein All API \& Premium thread connections


ES- "CX" Landing Nipple specification guide

| Tubing size <br> ID (In.) | Seal bore (In.) |  | Min. OD (In.) | No-Go |  | Length (In.)* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $2-3 / 8^{\prime \prime}$ | 1.875 | 3.063 | 1.791 | $12-17$ |  |  |
| $2-7 / 8^{\prime \prime}$ | 2.312 | 3.668 | 2.205 | $13-18$ |  |  |
| $3-1 / 2^{\prime \prime}$ | 2.750 | 4.500 | 2.635 | $15-20$ |  |  |
|  | 2.812 |  | 2.666 |  |  |  |
| $4-1 / 2^{\prime \prime}$ | 3.812 | 5.563 | 3.725 | $15-20$ |  |  |

Otis Type - "CR"
Selective Nipple

## OTISTYPE- "CR"SELECTIVENIPPLE

"CR" Landing Nipples are fully selective nipples, used to land, lock and seal Rtype locking mandrels with attached flow control devise in the production tubing string.
The "CR" Nipple is designed to be used in the heaviest weight, higher rated pressure tubing. It has a Polished Sealbore and a locking groove.
The internal profile of "CR" Landing Nipples includes a Non-selective pro-

## Applications

Inserting blanking plugs for shutting in or testing

Setting a packer or testing tubing
Installing instrument hangers for temperature anфressure recorders

Velocity-type safety valves for shutting off flow
file a locking recess and a polished sealbore. When installed, the locking dogs in the RN-type lock move out into the recess of the nipple, anchoring the lock and positioning the lock packing in the polished sealbore section of the nipple.
Blanking Plugs Standing
Valves Instrument
Hangers Bottom Hole
Chokes

## Features and Benefits

Internal locking groove fits various other Flow Control tools

Selective locking devices allow more than
1 CR Landing Nipple of the same sealbore diameter to be used in the same tubing string

Seal bore area packs off various Flow Control devices

Available in all metallurgical and
Elastomers conforming to NACE MR
0175 or H2S, and suitable for standard normal/H2S, CO2 well services requirements


Available in All API \& Premium thread connections

ES- "CR" Landing Nipple specification guide

| Tubing size | Seal bore (In.) | Min. OD (I | Length (In.) |
| :---: | :---: | :---: | :---: |
| 2-3/8" | 1.500 | 3.063 | 15-18 |
|  | 1.710 |  |  |
|  | 1.781 |  |  |
| 2-7/8" | 1.875 | 3.668 | 15-18 |
|  | 2.000 |  |  |
|  | 2.125 |  |  |
|  | 2.188 |  |  |
| 3-1/2" | 2.188 | 4.500 | 13-18 |
|  | 2.313 |  |  |
|  | 2.562 |  |  |
| 4-1/2" | 3.437 | 5.563 | 15-20 |
|  | 3.688 |  |  |
|  | 3.750 |  |  |
|  | 3.813 |  |  |

[^1]
## OTIS TYPE- "CRN"NON-SELECTIVE NIPPLE

"CRN" Landing Nipples are fully selective nipples, used to land, lock and seal CRN" Landing Nipples are fully selective nipples, used to land, lock and seal "RN" Bottom No-Go locking devices only. It has a Polished Sealbore, Bottom No-Go shoulder, and a locking groove
The "CR" Nipple is designed to be used in the heaviest weight, higher rated pressure tubing. It has a Polished Sealbore and a locking groove.

## Applications

Inserting blanking plugs for shutting in or testing

Setting a packer or testing tubing
Installing instrument hangers for temperature and pressure recorders
Velocity-type safety valves for shutting off flow

Available in All API \& Premium thread connections

The internal profile of "CRN" Landing Nipples includes a selective profile a locking recess and a polished seal- bore. When installed, the locking dogs in the RN-type lock move out into the recess of the nipple, anchoring the lock and positioning the lock packing in the polished sealbore section of the nipple.
Blanking Plugs
Standing Valves
Instrument Hangers
Bottom Hole Chokes
Features and Benefits
Internal locking groove fits various other Flow Control tools

Selective locking devices allow more than 1 CR Landing Nipple of the same sealbore diameter to be used in the same tubing string

Seal bore area packs off various Flow Control devices

Available in all metallurgical and Elastomers conforming to NACE MR 0175 or H2S, and suitable for stand ard normal/H2S, CO2 well services requirement.


ES- "CRN" Landing Nipple specification guide

| Tubing size | Seal bore (In.) | Min. OD (In.) | No-Go OD (In.) | Length (In.)* |
| :---: | :---: | :---: | :---: | :---: |
| 2-3/8" | 1.500 | 3.063 | 1.345 | 15-18 |
|  | 1.710 |  | 1.560 |  |
|  | 1.781 |  | 1.640 |  |
| 2-7/8" | 1.875 | 3.668 | 1.716 | 15-18 |
|  | 2.000 |  | 1.881 |  |
|  | 2.125 |  | 1.937 |  |
|  | 2.188 |  | 2.010 |  |
| 3-1/2" | 2.188 | 4.500 | 2.010 | 13-18 |
|  | 2.313 |  | 2.131 |  |
|  | 2.562 |  | 2.329 |  |
| 4-1/2" | 3.437 | 5.563 | 3.260 | 15-20 |
|  | 3.688 |  | 3.456 |  |
|  | 3.813 |  | 3.725 |  |

[^2]
## Lock Mandrels

## "CX", "CXN", "CR" \& "CRN" LOCKMANDRELS <br> (BLANKING PLUGS)

The ES Locking Mandrels are selective and Non Selective set lock mandrels designed to be landed down hole in a respective CX, CXN, CR, CRN Landing Nipple profile. The "CX" Lock is available with various sub surface plug assemblies and flow control accessories.

## Applications

Selected zones can be produced or shut in.
To pressure test tubing.
To isolate tubing for wellhead repair or removal
To set hydraulic actuated Packers.
Gauge hangers for bottomhole pressure/temperature surveys

Positive locator for straddle systems Plugging under pressure Almost
unlimited locations for setting and locking
subsurface flow controls

These Lock mandrels are runs with respective size model "CX" and "CR" Running Tools and can be retrieve by using model "GS"pulling Tool.

## Features and Benefits

Retractable locking keys
Locks designed to hold pressure from above or
below or from sudden reversals Extra
large ID for higher flow volumes Available in All API material grade.
Available in material conforming to NACEMR 0175 or H2S, CO2 well environment services requirements.

## ES- "Lock Mandrel specification guide

| Tubing size | Seal bore (In.) | Min. OD (In.) | Lock mandrel ID (In.) (CX and CXN type) | Lock mandrel ID (CR and CRN) |
| :---: | :---: | :---: | :---: | :---: |
| 2-3/8" | 1.500 | 3.063 | 1.00 | 0.62 |
|  | 1.710 |  |  | 0.75 |
|  | 1.781 |  |  | 0.88 |
| 2-7/8" | 1.875 | 3.668 | 1.38 | 0.88 |
|  | 2.000 |  |  |  |
|  | 2.125 |  |  |  |
|  | 2.188 |  |  | 1.12 |
| 3-1/2" | 2.188 | 4.500 | 1.75 | 1.12 |
|  | 2.313 |  |  |  |
|  | 2.562 |  |  | 1.38 |
| 4-1/2" | 3.437 | 5.563 | 2.62 | 1.94 |
|  | 3.688 |  |  | 2.38 |
|  | 3.750 |  |  | NA |

## "CX", "CXN", "CR"\& "CRN" STANDING

VALVES

The ES Standing Valves are selective and Non Selective set lock mandrels designed to be landed down hole in a respective CX, CXN, CR, CRN
LandingNippleprfile.ESstandingValve allows the flow from tubing string during run in after landing over respective landing nipple a

## Applications

To pressure test tubing.
To set hydraulic actuated Packers
Positive locator for straddle systems.
Almost unlimited locations for setting and locking subsurface flow controls
ball drops to seat over the Seat Housing of standing Valve it allows the string to pressurize to set the packer inject the necessary chemicals.
These Lock mandrels are runs with respective size model "CX" and "CR" Running Tools and can be retrieve by using model "GS"pulling Tool.

## Features and Benefits

Retractable locking keys
Locks designed to hold pressure from above or
below or from sudden reversals
Extra large ID for higher flow volumes Available in All API material grade.
Available in material conforming to
NACEMR 0175 or H2S, CO2 well environment services requirements.

ES- "Lock Mandrel specification guide

| Tubing size | Seal bore (In.) | Min OD (In.) | Lock Mandrel ID (In.) (CX and CXN type) | Lock mandrel (CR and CRN) |
| :---: | :---: | :---: | :---: | :---: |
| 2-3/8" | 1.500 | 3.063 | 1.00 | 0.62 |
|  | 1.710 |  |  | 0.75 |
|  | 1.781 |  |  | 0.88 |
| 2-7/8" | 1.875 | 3.668 | 1.38 | 0.88 |
|  | 2.000 |  |  |  |
|  | 2.125 |  |  |  |
|  | 2.188 |  |  | 1.12 |
| 3-1/2" | 2.188 | 4.500 | 1.75 | 1.12 |
|  | 2.313 |  |  |  |
|  | 2.562 |  |  | 1.38 |
| 4-1/2" | 3.437 | 5.563 | 2.62 | 1.94 |
|  | 3.688 |  |  | 2.38 |
|  | 3.750 |  |  | NA |
|  | 3.813 |  |  | 2.12 |



Equalizing Check Valves

## ES "CF-2 \& CR-2" EQUALIZING CHECK VALVES

The ES Model 'CF-2' and 'CR-2' Equalizing Check Valves are complete equipment units, without any Locking Device. They are utilized in the following Tubing Mounted Equipment:

CF-2: run in all Model ' $F$ ' Nipples and all Model 'L'Sliding Sleeves
CR-2: run in Bottom No-Go 'R' Nipples
Both models are run into a Nipple Profile and hold pressure from above only. The 'FB-2' model lands on the
top of a 'F' Nipple Profile seal bore. The 'RB2' model seats
on the Bottom No-Go Shoulder of a ' $\mathrm{R}^{\prime}$ Nipple a ' $\mathrm{C}-1$ ' Running Tool is used to run both valve assemblies.

Both models can be equalized prior to retrieval, by shifting open the Equalizing Mandrel Ports. Standard
PullingToolmodel"JDC"/"JUC"is utilized for retrieval of these valves.

## Applications

Can be used as a plug to pressure test tubing.
To set hydraulically actuated packer with the check valve positioned below the packer.

For gas lift operations.
To be used as a standing valve in wells which have


ES- "Lock Mandrel specification guide

| Tubing size monlel | Seal bore | Min. OD | To Run model | To retrieve |
| :---: | :---: | :---: | :---: | :---: |
|  | 1.781 | 1.865 | 2-3/8" |  |
| 2-3/8" | 1.812 | 1.865 |  |  |
|  | 1.875 | 1.905 |  |  |
| 2-7/8" | 2.250 | 2.302 | 2-7/8" |  |
|  | 2.312 | 2.364 |  |  |
| 3-1/2" | 2.750 | 2.802 | 3-1/2" |  |
|  | 2.812 | 2.865 |  |  |
|  | 3.668 | 3.740 | 4-1/2" |  |
| 4-1/2" | 3.750 | 3.802 |  |  |
|  | 3.812 | 3.875 |  |  |



## ES-NE NON ELASTOMERICSLIDINGSLEEVE

The Sliding Sleeve is a Downhole Tool normally screwed into the production tubing, allowing for communication between the tubing and the casing.

It is used to selectively produce zones in a multi-zone completion, stimulate and test zones, displace tubing or casing once the wellhead is installed, kill the well by circulation and allows for the circulation of treatment chemicals or agents.

The closing sleeve has replaceable, vee type upper and lower seals to ensure maximum sealing integrity for extended periods of time downhole. The upper sub is available in

## Applications

A specially designed diffuser ring made of high-strength thermoplas tic is critically spaced between the flow ports and the upper packing unit. This prevents damage to the upper packing unit during shifting by controlling the rush of fluid or gas, and lessens the likelihood of tool string damage by providing for slow equalization of high differentials.
Mill slots replace drill holes as flow ports on both the housing and the insert to allow more flow area, reduce erosion and allow higher torque and tensile strengt through the sleeve
selective/Non Selective and Otis (X, XN, R, RN)/Baker (F\&R) type Nipple profile machined into it. This feature provides a profile to locate and lock into place various flow control devices which may be required from time to time.

The Sliding Sleeve is shift down to open and closes with the B Shifting Tool. The Shifting Tool can be dressed to either release automatically or to shear a pin to release.

Downward jarring opens the sleeve and upward jarring closes it. The Sliding Sleeve is designed so that normal wireline operations will not open or close it inadvertently.

The threat of galling is further reduced by coating critical metallic components with proprietary surface treatments. Available in All API material grades Available in material conforming to NACEMR 0175 or H2S, CO2 well envi ronment services requirements.
Available in All API \& premium thread connections and Elastomers type
High chamfered smooth Equalizing Port does not damage the seals during the shiftingof Inner Sleeve

Top and Bottom Sub having High Finish seal Bore ID to accommodate isolation sleeve and other sealing devices


## ES Non Elastomeric Sliding Sleeve Technical specification guide

| Seal bore <br> pressure | Flow area | Flow area |  | Max OD | Thread |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

ES-CL Elastomeric
Sliding Sleeve

## ES-CLELASTOMERIC SLIDING SLEEVE

The "CL" Sliding Sleeve is a Downhole Tool normally screwed into the production tubing, allowing for communication between the tubing and the casing.

It is used to selectively produce zones in a multi-zone completion, stimulate and test zones, displace tubing or casing once the wellhead is installed, kill the well by circulation and allows for the circulation of treatment chemicals or agents.
The closing sleeve has replacea- ble, Bonded seal type upper and lower seals to ensure maximum sealing integrity for extended periods of time

## Features \& Benefits

Mill slots replace drill holes as flow ports on both the housing and the insert to allow more flow area, reduce erosion and allow higher torque and tensile strength through the sleeve

The threat of galling is further reduced by coating critical metallic components with proprietary sur face treatments.

Available in All API
material grades
Available in material con forming to NACE MR 0175 or H2S,
CO 2 well environ ment services requirements.
downhole. The upper sub is available in selective/Non Selective and Otis (X, XN, R, RN)/Baker (F\&R) type Nipple profile machined into it. This feature provides a profile to locate and lock into place various flow control devices which may be required from time to time.
The Sliding Sleeve is shift down to open and closes with the D-2 Shifting Tool. The Shifting Tool can be dressed to either release automatically or to shear a pin to release.

Downward jarring opens the sleeve and upward jarring closes it. The Sliding Sleeve is designed so that normal wireline operations will not open or close it inadvertently.

Available in All API \& premium thread connections and Elastomers type

Top and Bottom Sub having High Finish seal Bore ID to accommo date isolation sleeve and other sealing devices

Ports can be closed without leaving any obstructions
in the tubing once the shifting operation is completed
The circulation ports can be carburised to prevent the damage during flow.


ES model "L" Elastomeric Sliding Sleeve Technical specification guide

| Seal bore | Flow area | Flow area | Max OD | Thread | Shifting |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.625 | 0.919 | 2.073 | 2.625 | 2-3/8 | 1.625 " "D-2" | 9,000 |
| 1.812 | 2.355 | 2.762 | 3.063 | 2-3/8 | 1.812" "D-2" | 9,000 |
| 1.875 | 2.355 | 2.762 | 3.063 | 2-3/8 | 1.875 "D-2" | 9000 |
| 2.313 | 2.974 | 4.199 | 3.668 | 2-7/8 | 2.313 "D-2" |  |
| 2.750 | 7.212 | 5.940 | 4.281 | 3-1/2 | 2.750 "D-2" | 8000 |
| 2.812 |  | 6.211 | 4.281 |  | 2.812 "D-2" |  |
| 3.312 | 11.426 | 8.611 | 5.680 | 4-1/2 | 3.250 "D-2" | 7.500 |
| 3.813 |  | 11.413 | 5.680 |  | 3.813 "D-2" |  |
| 4.312 |  | 14.596 | 6.400 | 1/2 | 4.312 "D-2" | 6,500 |
| 4.562 |  | 16.337 | 7.500 |  | 4.562 "D-2" |  |

## SLIDING SLEEVE PACKOFF

The ES Sliding Sleeve Packoff is designed to be attached to a lock type that matches the integral landing in the sliding sleeve. When sliding Sleeve malfunctioning, leaks fluid between casing annulus and tubing when closed, a Packoff used to isolates this zone without pulling up the entire tubing string

Packoff assemblies are used to Sliding Sleeve ports and prevent migration fluids between tubing and casing annulus, as well as provide the path for flow production fluids to the surface.

ES Sliding Sleeve Packoff consist of a subassembly called Lock mandrel having Baker/Otis type lock which sets inside the matching Landing Nipple lock profile of Upper Sub. This also

## Features \& Benefits

Blanking off the ports in a Sliding Sleeve.
Shutting off flow from casing zone. Allowing flow from lower Zone.
Straddles and Packs off above and below flow ports
Pressure is equalized by a
Equalizing Plug before pulling out the tool.
Adaptable to most of Manufacturers lock.
Adaptable to most of Manufacturers Sliding Sleeves type.
consists of two seal stack unit suitable to well bore environment, the Upper seal unit seal inside the Upper sub of and Lower seal set inside the Bottom Sub of Sliding Sleeve.
Since the Sliding sleeve is hollow it, it will still allow flow up the tubing and provide the uniform path for the other Wireline job.
ES Sliding Sleeve Packoff consist of a Equalizing Plug/ Knockout plug which break by Equalizing Prong during pulling to equalize the pressure across the Sleeve at the begin.
Downward jarring set the lock mandrel by using "ESX" Running Tool run by Wireline/Slickline. The tool ids retrieved by "ESGS" Pulling Tool.

Available in All API material grades
Available in material conforming to
NACEMR 0175 or H2S, CO2 well environment services requirements. Available in All Elastomers type.
Validated to withstand 7,500 psi differential pressure and $300^{\circ} \mathrm{F}$ Temperature
High chamfered smooth Equalizing Port does not damage the seals during the shifting of Inner Sleeve

## ES Sliding Sleeve Pack Off Technical specification guide



| SSD size | Lock mandrel size | Max. Tool OD | Min. <br> Tool | Running/ Pulling tool | Pressure Rating (Psi) | Temperature |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-3/8" | 1.625 | 1.625 | 0.75 | 1.625 | 9,000 | $300^{\circ} \mathrm{F}$ |
|  | 1.875 | 1.875 | 1.00 | 1.875 | 9,000 |  |
| 2-7/8" | 2.313 | 2.313 | 1.38 | 2.313 |  |  |
| 3-1/2" | 2.750 | 2.750 | 1.75 | 2.750 | 8,000 |  |
|  | 2.812 | 2.812 |  | 2.812 |  |  |
| 4-1/2" | 3.312 | 3.312 | 2.12 | 3.250 | 7,500 |  |
|  | 3.813 | 3.813 | 2.62 | 3.813 |  |  |
| 1/2 | 4.312 | 4.312 |  | 4.312 | 7,500 |  |
|  | 4.562 | 4.562 | 3.12 | 4.562 |  |  |

NX-X

## Running Tool

## ES-X RUNNING TOOL

The X-Line Selective Running Tool is designed to install subsurface controls using a type X Locking Mandrel. The selective features of the $X$ Running Tool allow the operator to install the down hole device in a pre-determined. CX Landing Nipple by adjusting the tool into the selectiveposition. If the subsurface control is to be installed in the upper most landing nipple, the locking
mandrel may be run with the keys in the control or location position.
In addition to setting the X Locking Mandrel, the Running Tool may be used to locate WX Landing Nipples.

The R Selective Running Tool, similar in design, is available in a wide range of sizes to install Type R Locking Mandrels in heavy weight tubing's.

| Sizes | Fishing <br> Neck OD | Connection | Bottom <br> Thread | Length | Shear Pin | OD Dogs <br> Retracted | OD Dogs <br> Expanded | Fishing <br> Neck <br> Engages |
| :---: | :---: | :---: | :---: | :---: | :--- | :--- | :--- | :--- |
| 1.70 | 1.188 | $15 / 16-10$ | $3 / 8-16$ | 30.063 | $3 / 16 \times 1-1 / 8^{\prime \prime}$ | 1.640 | 1.760 | $1-1 / 16$ |
| 1.781 | 1.375 | $15 / 16-10$ | $1 / 2-13$ | 29.313 | $1 / 4 \times 1-1 / 2^{\prime \prime}$ | 1.750 | 1.828 | $1-3 / 4$ |
| 1.875 | 1.375 | $15 / 16-10$ | $1 / 2-13$ | 29.313 | $1 / 4 \times 1-1 / 2^{\prime \prime}$ | 1.750 | 1.937 | $1-3 / 4$ |
| 2.125 | 1.375 | $15 / 16-10$ | $1 / 2-13$ | 29.313 | $1 / 4 \times 1-1 / 2^{\prime \prime}$ | 1.750 | 2.165 | $1-3 / 4$ |


| Sizes | Fishing <br> Neck OD | Connection | Bottom <br> Thread | Length | Shear Pin | OD Dogs <br> Retracted | OD Dogs <br> Expanded | Fishing <br> Neck <br> Engages |
| :---: | :---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2.188 | $1-3 / 4$ | $15 / 16-10$ | $5 / 8-11$ | 29.313 | $1 / 4^{\prime \prime} \times 1-7 / 8^{\prime \prime}$ | 2.175 | 2.297 | 1.812 |
| 2.313 | $1-3 / 4$ | $15 / 16-10$ | $5 / 8-11$ | 29.313 | $1 / 4^{\prime \prime} \times 1-7 / 8^{\prime \prime}$ | 2.175 | 2.359 | 1.812 |
| 2.562 | $1-3 / 4$ | $15 / 16-10$ | $5 / 8-11$ | 30.250 | $1 / 4^{\prime \prime} \times 1-7 / 8^{\prime \prime}$ | 2.500 | 2.671 | 1.812 |

## Pulling Tool

## ES-GS PULLING TOOL

The "GS" Pulling Tool is a wireline service tool designed to retrieve flow control devices from well bore. The "GS" Pulling Tool is designed to engage an internal type fishing neck. The tool is available in a wide range of sizes, for standard or H 2 S service.

The "GS" Pulling Tool is designed to be released from the downhole device by downward jarring.

## ES GS Pulling Tool Technical Specification Guide

| Nominal Size (In.) | Prong conn. Box | Fishing neck I.D Guide (In.) | Max. OD (In.) | F/N O.D (In.) | Top Conn. | Reach (In.) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-1/4 | 3/8-16 | 0.880 | 1.160 | 1.000 | 5/8-11 UNC | 1.08 |
| $\begin{aligned} & 1-1 / 2-1- \\ & 3 / 4 \\ & \hline \end{aligned}$ | 1/2-13 | 1.060 | 1.470 | 1.187 | $\begin{aligned} & 15 / 16-10 \\ & \text { UN } \end{aligned}$ | 1.62 |
| 2 | 1/2-13 | 1.380 | 1.750 | 1.375 | $\begin{gathered} 15 / 16-10 \\ \text { UN } \end{gathered}$ | 1.62 |
| 2 | 1/2-13 | 1.380 | 1.810 | 1.375 | $\begin{gathered} 15 / 16-10 \\ \text { UN } \\ \hline \end{gathered}$ | 1.62 |
| 2-1/2 | 5/8-11 | 1.810 | 2.160 | 1.750 | $\begin{gathered} 15 / 16-10 \\ \text { UN } \end{gathered}$ | 1.62 |
| 2-1/2 | 5/8-11 | 1.810 | 2.160 | 1.750 | $\begin{gathered} 15 / 16-10 \\ \text { UN } \end{gathered}$ | 1.62 |
| 3 | 5/8-11 | 2.310 | 2.720 | 2.313 | $\begin{gathered} 1-1 / 16-10 \\ \text { UN } \\ \hline \end{gathered}$ | 1.62 |
| 3-1/2 | 1-3/8-12 | 2.620 | 3.110 | 2.313 | $\begin{gathered} 1-1 / 16-10 \\ \text { UN } \end{gathered}$ | 1.62 |
| 4 | 2-1/8-12 | 3.120 | 3.620 | 2.313 | $\begin{gathered} \hline 1-1 / 16-10 \\ \text { UN } \\ \hline \end{gathered}$ | 1.62 |
| 5 | 2-1/2-10 | 4.000 | 4.500 | 3.125 | $\begin{gathered} 1-1 / 16-10 \\ \text { UN } \end{gathered}$ | 1.82 |
| 6 | 2-3/4-10 | 4.750 | 5.560 | 3.125 | $\begin{gathered} 1-1 / 16-10 \\ \text { UN } \\ \hline \end{gathered}$ | 1.86 |
| 7 | 3-5/8-10 | 5.250 | 5.830 | 3.125 | $\begin{gathered} \hline 1-1 / 16-10 \\ \text { UN } \end{gathered}$ | 1.86 |
| 7 | 3-5/8-10 | 5.250 | 5.880 | 3.125 | $\begin{gathered} 1-1 / 16-10 \\ \text { UN } \\ \hline \end{gathered}$ | 1.86 |



## ES-JD AND JU PULLING TOOL

The "JD" Pulling Tool is a wireline service tool designed to remove retrievable subsurface devices with external fishing necks from well. This tool has collet-type dogs with large latching area. It is also available with different length cores which make the reach of the tool adaptable to retrieve subsurface devices with fishing necks of different lengths.
The "JD" Pulling Tool utilizes the "D" top sub which is made up to the skirt
of the tool. The dogs, which are mount- ed on the skirt, are inserted into the vertical openings in the skirt. The "JD" Series Pulling Tool can be released, if necessary from the retrievable device by downward jarring.
The "JU" utilizes the "U" top sub which is made up to the core of the tool. The "JU" can be released, if necessary from the subsurface device by continued upward jarring.

ES JD and JU Pulling Tool Technical Specification Guide

| Size | Type | To Engage Fishing Neck O.D | Reach | Max. O.D | Top Thread Connection |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $11 / 4{ }^{\prime \prime}$ | JDC | 875' | 1.937' | 1.281' | 15/16-10 |
| $13 / 8^{\prime \prime}$ | JDC | $1.000^{\prime \prime}$ | 1.875' | $1.375^{\prime \prime}$ | 15/16-10 |
| $11 / 2^{\prime \prime}$ | JDC | $1.187^{\prime \prime}$ | 1.093' | $1.422^{\prime \prime}$ | 15/16-10 |
| $11 / 2^{\prime \prime}$ | JDS | $1.187^{\prime \prime}$ | 1.843' | $1.422^{\prime \prime}$ | 15/16-10 |
| $11 / 2{ }^{\prime \prime}$ | JUC | 1.187' ${ }^{\prime \prime}$ | 1.093' | 1.422" | 15/16-10 |
| $11 / 2^{\prime \prime}$ | JUS | $1.187^{\prime \prime}$ | 1.843' | $1.422^{\prime \prime}$ | 15/16-10 |
| $15 / 8^{\prime \prime}$ | JDC | 1.187' ${ }^{\prime \prime}$ | 1.093' | $1.625^{\prime \prime}$ | 15/16-10 |
| $2 \prime$ | JDC | $1.375^{\prime \prime}$ | 1.437' | 1.859" | 15/16-10 |
| $2^{\prime \prime}$ | JDS | $1.375^{\prime \prime}$ | 2.125' | 1.859" | 15/16-10 |
| $2^{\prime \prime}$ | JUC | $1.375^{\prime \prime}$ | 1.437' | 1.859" | 15/16-10 |
| $2^{\prime \prime}$ | JUS | $1.375^{\prime \prime}$ | $2.125^{\prime \prime}$ | 1.859" | 15/16-10 |
| $21 / 2$ " | JDC | $1.750^{\prime \prime}$ | 1.312' | 2.250' | 15/16-10 |
| $21 / 2$ " | JDS | $1.750^{\prime \prime}$ | 2.187' | $2.250^{\prime \prime}$ | 15/16-10 |
| $21 / 2$ " | JUC | $1.750^{\prime \prime}$ | 1.312' ${ }^{\prime \prime}$ | $2.250^{\prime \prime}$ | 15/16-10 |
| $21 / 2$ " | JUS | $1.750^{\prime \prime}$ | $2.187^{\prime \prime}$ | $2.250^{\prime \prime}$ | 15/16-10 |
| 3 ' | JDC | 2.312' ${ }^{\prime \prime}$ | 1.437' ${ }^{\prime \prime}$ | $2.796^{\prime \prime}$ | 1 1/16-10 |
| 3 " | JDS | $2.312^{\prime \prime}$ | $2.125^{\prime \prime}$ | $2.796^{\prime \prime}$ | 1 1/16-10 |
| $3 \prime \prime$ | JUC | 2.312' ${ }^{\prime \prime}$ | 1.437' | $2.796^{\prime \prime}$ | 1 1/16-10 |
| 3 " | JUS | 2.312' ${ }^{\prime \prime}$ | $2.125^{\prime \prime}$ | $2.796^{\prime \prime}$ | 1 1/16-10 |
| 4 " | JDC | $3.125^{\prime \prime}$ | 2.312' | $3.750^{\prime \prime}$ | 1 1/16-10 |
| $4{ }^{\prime \prime}$ | JUC | $3.125^{\prime \prime}$ | 2.312' | $3.750^{\prime \prime}$ | 1 1/16-10 |


[^0]:    * Length may vary depending on thread size and type.

[^1]:    * Length may vary depending on thread size and type.

    Available in All API \& Premium thread connections on request

[^2]:    * Length may vary depending on thread size and type.

    Available in All API \& Premium thread connections on request

