PRODUCT CATALOGUE



Safety, Excellence & Quality with Integrity

Manufacture, Supply & Services of Oilfield Drilling, Cementing & Completion Equipment

Liner Hanger System | Packer System | Bridge Plugs | Floating Equipment | Centralizers

sales@gradwelloilfield.com

FLOW CONTROL EQUIPMENTS



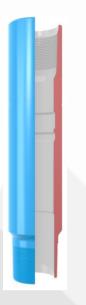
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SELECTIVE NIPPLE MODEL: GR-LNP-GX



GR-LNP-GX

"GX" Landing Nipples are fully selective nipples, used to land, lock and seal X-type locking mandrels with attached flow control devise in the production tubing string. The internal profile of GX Landing Nipples includes a selective profile a locking recess and a polished seal bore. When installed, the locking dogs in the X-type lock move out.

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.

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..

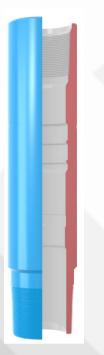
Features :

- Internal locking groove fits various other Flow Control tools.
- Selective locking devices allow more than 1 GX 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.

Tubing size	Seal bore (In.)	Min. OD (In.)	Length (In.)
2-3/8"	1.875	3.063	12-17
2-7/8"	2.312	3.668	13-18
3-1/2"	2.750 2.812	4.500	15-20
4-1/2"	3.812	5.563	15-20



NON-SELECTIVE NIPPLE MODEL: GR-LNP-GXN



GR-LNP-GXN

"GXN" Landing Nipples are fully selective nipples, used to land, lock and seal Xtype locking mandrels with attached flow control devise in the production tubing string. The internal profile of GXN Landing Nipples includes a selective profile a locking recess and a polished sealbore. When installed, the locking dogs in the Xtype 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.

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.

Features :

- Internal locking groove fits various other Flow Control tools.
- Selective locking devices allow more than 1 GXN Landing Nipple of the same sealbore diameter to be used in the same tubing string.
- Sealbore 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.

Tubing size	Seal bore (In.)	Min. OD (In.)	No-Go ID (In.)	Length (In.)
2-3/8"	1.875	3.063	1.796	12-17
2-7/8"	2.312	3.668	2.348	13-18
3-1/2"	2.750	4.500	2.210	15-20
	2.812			
4-1/2"	3.812	5.563	3.730	15-20



LANDING NIPPLE SELECTIVE TYPE MODEL: GR-LNP-GR

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

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.

GR-LNP-GR

The Gradwell "GR" 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 :

- 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.
- Sealbore 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.

Tubing size	Seal bore (In.)	Min. OD (In.)	No Go ID (In.)	Length (In.)	
	1.781		1.728		
2-3/8"	1.812	2.560	1.760	12-17	
	1.875		1.822		
	2.062		1.978		
2-7/8"	2.125	3.109	2.075	13-18	
	2.250	2.250		2.197	
	2.312		2.259		
	2.562				
3-1/2"	2.750	3.687	13-18	15-18	
	2.812				
	3.688		3.625		
4-1/2"	3.750	5.200	3.700	15-20	
	3.812		3.759		

* Length may vary depending on thread size and type. Available in All API & Premium thread connections on request.



NON-LANDING NIPPLE SELECTIVE TYPE MODEL: GR-LNP-GRN



"GRN" Landing Nipples are fully selective nipples, used to land, lock and seal GRN" 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 "GR" 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.

Specification guide :

- Installing instrument hangers for temperature and pressure recorders.
- Velocity-type safety valves for shutting off flow.

The internal profile of "GRN" 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 :

- 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 requirement.
- Available in All API & Premium thread connections.

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

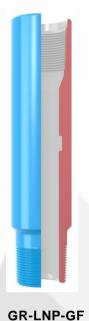
• Length may vary depending on thread size and type. Available in All API & Premium thread connections on. request

GR-LNP-GRN

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TOP NO GO NIPPLE MODEL: GR-LNP-GF



Gradwell model "GF" Landing Nipple is a tubing nipple for use with Top No-Go locking devices only. It has a Polished Seal bore, Top No-Go shoulder, and a locking groove.GF Nipple locates seals and retains flow control accessories that have a top no go locking device accessories which are run and retrieved on slick line.

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 Gradwell "GF" Landing Nipple is a full bore, selective nipple that allows for the location of many wire line-run and retrieved Flow Control devices, such as:

Blanking Plugs Check Valves (Standing Valves) Instrument Hangers Bottom Hole Chokes.

Features :

- Internal locking groove fits various other Flow Control tools.
- Selective locking devices allow more than 1 CF Landing Nipple of the same sealbore diameter to be used in the same tubing string.
- Sealbore 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.

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

Specification guide:

**Length may vary depending on thread size and type.



LOCK MANDRELS (BLANKING PLUGS) MODEL: GR-LM-R,GR-LM-X & GR-LM-RN,GR-LM-XN



The Gradwell Locking Mandrels are selective and Non Selective set lock mandrels designed to be landed down hole in a respective GX, GXN, GR, GRN Landing Nipple profile. The "GX" Lock is available with various sub surface plug assemblies and flow control accessories. These Lock mandrels are runs with respective size model "GX" and "GR" Running Tools and can be retrieve by using model "GS" pulling Tool.

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 bottom hole pressure/temperature surveys.
- > Positive locator for straddle systems.
- Plugging under pressure.
- Almost unlimited locations for setting and locking subsurface flow controls.

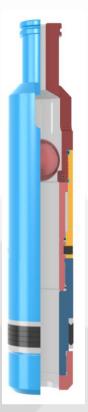
Features :

- 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 NACE MR 0175 or H2S, CO2 well environment services requirements

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



EQUALIZING CHECK VALVES MODEL: GR-ECV-F



The Gradwell Model 'GR-ECV-F' Equalizing Check Valves are complete equipment units, without any Locking Device. They are utilized in the following Tubing Mounted Equipment.

ECV-F: run in all Model 'F' Nipples and all Model 'L' Sliding Sleeves GR-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

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 down hole electric pumps

GR-ECV-F

Tubing size	Seal bore (In.)	Min. OD (In.)	To Run	To retrieve model "Pulling Tool"	
0.0/01	1.781	1.865			
2-3/8"	1.812	1.865	2-3/8	"	
	1.875	1.905			
0.7/07	2.250	2.302			
2-7/8"	2.312	2.364	2-7/8"		
	2.750	2.802			
3-1/2"	2.812	2.865	3-1/2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
4.4.00	3.668	3.740			
4-1/2"	3.750	3.802	4-1/2"		
	3.812	3.875			



RUNNING TOOL MODEL: GR-RTX

> 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 GX Landing Nipple by adjusting the tool into the selective position. If the sub surface 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 tubings.

Specification guide:

Sizes	1.710	1.781	1.875	2.125	
Fishing neck OD	1.188	1.375	1.375	1.375	
Connecti on	15/16-10	15/16- 10	15/16-10	15/16-10	
Bottom thread	3/8-16	1/2-13	1/2-13	1/2-13	
Length	30.063	29.313	29.313	29.313	
Shear Pin	3/16 x 11/8"	1/4x 1- 1/2"	1/4 x 1-1/2"	1/4x 1-1/2"	
OD Dogs retracted	1.640	1.750	1.750	2.063	
OD Dogs Expanded	1.760	1.828	1.937	2.165	
Fishing Neck Engages	1-1/16	1-3/4	1-3/4	1-3/4	

GR-RTX

Sizes	2.188	2.313	2.562
Fishing neck OD	1-3/4	1-3/4	1-3/4
Connection	15/16-10	15/16-10	15/16-10
Bottom thread	5/8-11	5/8-11	5/8-11
Length	29.313	29.313	30.250
Shear Pin	1/4" x 1-7/8"	1/4" x 1-7/8"	1/4" x 1-7/8"
OD Dogs retracted	2.175	2.175	2.500
OD Dogs Expanded	2.297	2.359	2.671
Fishing Neck Engages	1.812	1.812	1.812



PULLING TOOL MODEL: GR-PTGS

The "PTGS" Pulling Tool is a wire line service tool designed to retrieve flow control devices from well bore. The "PTGS" Pulling Tool is designed to engage an internal type fishing neck. The tool is available in a wide range of sizes, for standard or H2S service. The "PTGS" Pulling Tool is designed to be released from the down hole device by downward jarring.



Nominal	Prong	Fishing	Max.	F/N O.D.	Top Conn.	Reach
Size (in)	Conn.	Neck	Neck (in)			(in)
	Box	I.D. Guide (in)				
1-1/4	3/8 -16	0.880	1.160	1.000	5/8-11 UNC	1.08
-1/2-1-3/4	1/2-13	1.060	1.470	1.187	15/16-10 UN	1.62
2	1/2-13	1.380	1.750	1.375	15/16-10 UN	1.62
2	1/2-13	1.380	1.810	1.375	15/16-10 UN	1.62
2-1/2	5/8-11	1.810	2.160	1.750	15/16-10 UN	1.62
2-1/2	5/8-11	1.810	2.160	1.750	15/16-10 UN	1.62
3	5/8-11	2.310	2.720	2.313	1-1/16-10 UN	1.62
3-1/2	1-3/8-12	2.620	3.110	2.313	1-1/16-10 UN	1.62
4	2-1/8-12	3.120	3.620	2.313	1-1/16-10 UN	1.62
5	2-1/2-10	4.000	4.500	3.125	1-1/16-10 UN	1.82
6	2-3/4-10	4.750	5.560	3.125	1-1/16-10 UN	1.86
7	3-5/8-10	5.250	5.830	3.125	1-1/16-10 UN	1.86
7	3-5/8-10	5.250	5.880	3.125	1-1/16-10 UN	1.86



NON ELASTOMERIC SLIDING SLEEVE MODEL: GR-SSD



GR-SSD

The Sliding Sleeve is a Down hole 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, v type upper and lower seals to ensure maximum sealing integrity for extended periods of time down hole. The upper sub is available in selective/Non Selective and Otis (X, XN, R, RN)/Baker (F&R) type Nipple

Applications:

- A specially designed diffuser ring made of high-strength thermoplastic 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 strength through the sleeve.

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 wire line 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 NACE MR 0175 or H2S, CO2 well environment services requirements.
- Available in All API & premium thread connections and Elastomers type
- High chamfered smooth Equalizing Port does not damage the seals during the shifting of Inner Sleeve
- Top and Bottom Sub having High Finish seal Bore ID to accommodate isolation sleeve and other sealing devices.

Seal bore (Inch)	Flow area (Ports) Sq. In.	Flow Area (Min ID) Sq. In.	Max OD (Inch)	Thread connection	Shifting Tool	Pressure Rating (Psi)
1.625	0.919	2.073	2.625	2-3/8"	1.625 "B"	9,000
1.875	2.355	2.762	3.063	2-3/8"	1.875 "B"	
2.313	2.974	4.199	3.668	2-7/8"	2.313 "B"	9,000
2.750		5.940	4.281		2.750 "B"	
2.812	7.212	6.211	4.281	3-1/2"	2.812 "B"	8000
3.312		8.611	5.680		3.250"B"	
3.813	11.426	11.413	5.680	4-1/2"	3.813 "B"	7,500
4.312		14.596	6.400		4.312 "B"	
4.562	10.598	16.337	7.500	5-1/2"	4.562 "B"	6,500



SHIFTING TOOL MODEL: GR-BO



Gradwell Model "GR-BO" shifting tool is designed to selectively locate and shift most sliding sleeves and/or tubing-conveyed perforating (TCP) disconnect subs. This is accomplished by the tool's keys

engaging the inner sleeve; and, depending on the direction that the tool requires (up or down), the sleeve is shifted.

Model BO Shifting Tool

Gradwell Model "GR-BO" shifting tool is designed to selectively locate and shift sliding sleeves only to the down position. The tool is made selective by the lower locating section.

Application:

- Any application where selective actuation of sliding sleeves is needed.
- Actuating disconnect sub applications.
- Wells assisted by sucker-rod pumps.

Features:

- Selectively locates and shifts most sliding sleeves and/or TCP Disconnect subs.
- The Type "GR-BO" Shifting Tool is used to position the closing sleeve or sliding side doors to the open position or to the closed position.

Overall Length

Sliding Side Door ID	Fish Neck Size	O.D. Keys Expended	O.D. Keys Retracted	Threads	
1.500	1.187	1.69	1.49	15/16-10UN	12.44
1.625	1.187	1.89	1.62	15/16-10UN	12.75
1.710	1.187	-	1.69	15/16-10UN	-
1.781	1.375	2.07	1.75	15/16-10UN	12.50
1.875	1.375	2.11	1.84	15/16-10UN	13.30
2.125	1.375	2.35	1.97	15/16-10UN	13.30
2.313	1.750	2.59	2.16	15/16-10UN	13.94
2.562	1.750	3.00	2.53	15/16-10UN	13.94
2.750	2.313	2.9	2.73	1 -1/16-10UN	14.19

3.01

4.13

4.09

2.72

3.66

3.12

1-1/16-10UN

1-1/16-10UN

1-1/16-10UN

14.19

15.75

13.88

Specification guide:

2.313

3.125

3.125

2.813

3.688

3.813





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