



PURPOSE

The X Lock is a selective lock which can be installed in the chosen X landing nipple in a series of X nipples. This lock is used in the standard weight tubing. It uses keys to employ a unified packing mandrel and profile in the landing nipples which allow it to hold the pressure distinctions from either below or above depending on the equalizing assembly chosen.

ASSEMBLY PARTS

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|--------------------|-----------------------|
| 1. Fish Neck | 5. Key Spring |
| 2. Expander Sleeve | 6. Packing Mandrel |
| 3. Key Retainer | 7. Male Backup Ring |
| 4. Key | 8. Female Backup Ring |

DESCRIPTION

The X Lock mandrels with the flow control components are designed for the X seating nipples installed in standard weight tubing. These lock mandrels, similar in design, are selective. This is made possible by their running tools.

The lock mandrels may be installed in any one of multiple seating nipples installed in the tubing string of comparable size.

Once the desired nipple has been located in the tubing string these mandrels are mechanically locked. This is done by driving the expander sleeve behind the keys, holding the mandrel in a locked position.

Running tool required is X-line.

Pulling tool required is GS or GR.

OPERATION

The X Lock mandrels can be ran selective to land in a specific profile in the tubing completion string. They can be ran in the non-selective position when setting in the upper X profile in the tubing completion string.

Both the running positions are built into the running tool which has a set of locating dogs to selectively run and set the lock mandrels in the lower nipples in the string.

The running tool is changed to a non-selective position once the desired selective nipple has been located. This is done by lowering the running tool with the lock mandrel through the nipple profile and then pulling back up through. The X running tool procedures are explained in the X Running Tool operation in the running tools section.

PRECAUTIONS

Be sure the key springs are the right tension and form to hold the keys fully loaded for running in a controlled position and held tight to the packing mandrel when the lock mandrel is ran selective. This prevents the keys from hanging up when passing through upper nipples.

Ensure the ratchet rings on the expander sleeve and inner keys are not excessively worn.

(Sizes on next page)

Nominal Size		1.50"	1.625"	1.875"	2.313"
Assembly Number		0802X150A0	0802X162A0	0802X187A0	0802X231A0
Item	Part Name				
1	Fish Neck	0802X15001	0802X16201	0802X20001	0802X25001
2	Expander Sleeve	0802X15002	0802X15002	0802X20002	0802X25002
3	Key Retainer	0802X15003	0802X16203	0802X20003	0802X25003
4	X Key	0802X15004	0802X16204	0802X20004	0802X25004
5	Key Spring	0802X15005	0802X15005	0802X20005	0802X20005
6	Packing Mandrel	0802X15006	0802X16206	0802X20006	0802X25006
7	Male Backup Ring	0802BUR15002	0802BUR16202	0802BUR18702	0802BUR23102
8	Female Backup Ring	0802BUR15001	0802BUR16201	0802BUR18701	0802BUR23101
Fishneck I.D.		1.062"	1.062"	1.375"	1.812"
Maximum O.D.		1.465"	1.580"	1.835"	2.275"

Nominal Size		2.75"	2.813"	3.813"
Assembly Number		0802X275A0	0802X281A0	0802X381A0
Item	Part Name			
1	Fish Neck	0802X30001	0802X30001	0802X40001
2	Expander Sleeve	0802X30002	0802X30002	0802X40002
3	Key Retainer	0802X27503	0802X28103	0802X40003
4	X Key	0802X27504	0802X28104	0802X40004
5	Key Spring	0802X30005	0802X30005	0802X40005
6	Packing Mandrel	0802X30006	0802X30006	0802X40006
7	Male Backup Ring	0802BUR27502	0802BUR28102	0802BUR38102
8	Female Backup Ring	0802BUR27501	0802BUR28101	0802BUR38101
Fishneck I.D.		2.31"	2.31"	3.125"
Maximum O.D.		2.72"	2.78"	3.75"