



SECTION I: TOOL STRING

2021

REBCO

INDEX of SECTION I: TOOL STRING

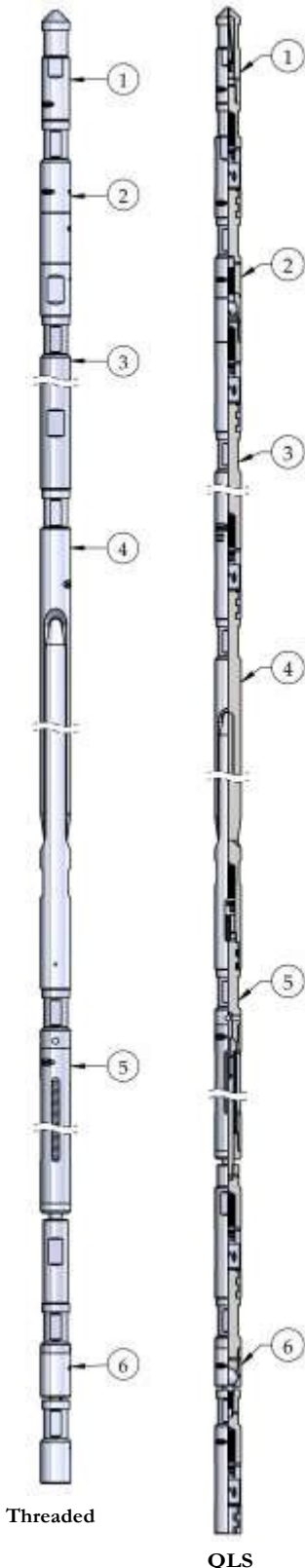
PRODUCT DESCRIPTION	Product Code	Page
TOOL STRING	100-104	I-0-23
A - ROPE SOCKETS:	100	I-1-7
'AO', 'AD', 'AS'	100	2,3
'BO', 'BD', 'BS'	100	4,5
'CO', 'CD', 'CS'	100	6
'CGO'	100	7
'D', 'DD', 'DS'	100	7
'GO'	100	7
'HO', 'HD'	100	8
'RC'	100	7
'SA'	100	7
B - SWIVEL JOINTS:	104	I-9-10
'HO', 'HD'	104	9,10
C - STEMS:	101	I-1116
'A', 'AD'	101	12,13
'BO', 'BD'	101	14
'EO', 'ED', 'ES'	101	15
'TO', 'TD', 'TS'	101	16
D - JARS:	102	I-17-21
'AO', 'AD'	102	17
'BO', 'BD'	102	18
'CO', 'CD'	102	19
'DO', 'DD'	102	20
'SO', 'SD'	102	21
E - ACCELERATORS:	102	I-22
'EO', 'ED'	102	22
F - KNUCKLE JOINTS:	103	I-23
'AO', 'AD'	103	23

Wireline Tool String is made up of set Tools (Work String) to do specific Wireline operations down-hole. The Tools are attached to the Wire by means of **Rope Socket**. Below the Rope Socket a **Swivel Joint** is placed to avoid "torsion" or twisting of the Wire. In order to overcome the friction of the Stuffing Box packing and well pressures, **Stem** is used as weight to lower the tool string down hole. The weight of the Stem is also used to generate impact force when performing jarring action. The **Jars** enable the impact of the tool string in either direction, up or down, against any encountered obstruction down hole. To intensify an impact force to the tool string, **Accelerator** can be used. Finally, to obtain the flexibility to the tool string, a **Knuckle Joint** is placed above the selected tool to do a specific function as needed.

The following pages list a selection of Tools which are used in a Typical Tool String; chosen by the Operator to suit the work to be performed.

Rebco can supply Tool Strings from 3/8" to 2 1/2" diameters, with **Threaded Connections** as well as **QLS** (Quick Lock System), **Rebco** Type **'RQLS'** and/or Type **'RQLD'** Connections.

TYPICAL TOOL STRING:



1. Rope Socket - Product Code 100

- Provides a means of connecting the tool string to the end of the Wireline.
- Selection of Rope socket Type is related to the Size of Wire and type of work to be done.

2. Swivel Joint - Product Code 104

- Minimizes the twisting of Wire when running and operating the Tool String down hole.

3. Stem (Weight Bar) - Product Code 101

- Provides the weight to overcome the friction, pressures, and fluid viscosity acting on the Tool String.
- Provides the weight required for effective Jarring impact when necessary.

4. Jars - Product Code 102

- Provide downward or upward impact. The manipulation of the Wireline by the Operator, the force of the impact is proportional to the weight of the Stem used.

5. Accelerator - Product Code 102

- Provides additional stored energy of the Jar which increases the impact force.
- **NOTE:** The Operator determines the position of the Accelerator in the Tool String for maximum effect desired.

6. Knuckle Joint - Product Code 103

- Provides the flexibility to the Tool String.
- The number of Knuckle Joints in the Tool String is determined by the Operator; to suit the type of work to be done.

To select a Tool String which suits your requirements, see **Table 1**.

Table 1: RebcO Wireline Tool String

TOOL STRING OD		THREADED CONNECTION	QLS CONNECTION	MAX OD FISHING NECK	
inches	mm			inches	mm
3/8	9.52	1/4" - 20 UNC	NONE	NONE	
1/2	12.70	3/8" - 16 UNC		.687	17.46
3/4	19.05	1/2" - 13 UNC		.750	19.05
1	25.40	5/8" - 11 UNC		1.000	25.40
1 1/4	31.75	15/16" - 10 UNS	RQLS	1.187	30.18
1 1/2	38.10		RQLS and RQLD	1.375	34.93
1 3/4	44.45			RQLD	1.750
1 7/8	47.63	1 1/16" - 10 UNS	2.313		58.75
2	50.80				
2 1/8	53.98				
2 1/4	57.15				
2 1/2	63.50	1 9/16" - 10 UNS			

QLS - QUICK LOCK SYSTEM

RQLS - Single Shoulder, Light Duty

RQLD - Double Shoulder, Heavy Duty



SECTION I: TOOL STRING

2021

REBCO

Product Code: 100

Rebco ROPE SOCKETS provide means for connecting the Wireline to the Tool String.

Rebco offers variety of Rope Socket Types (Table - Availability), for specific applications and Wire types.

Alloy Material is used to manufacture **Rebco ROPE SOCKETS**. Materials suitable for specific well conditions are available.

Type of Rope Sockets: Availability Table

Thread	TYPE		ASSEMBLY PART NUMBER	DESCRIPTION	WIRE TYPE				
	QLS *				Single Strand	Multi Strand	Single Conductor	Swabbing	Capsulated Line
	Single	Double							
		'AD'	1000003-	Spring, Disc, Support	X	None			
	'AS'		1000014-						
'AO'			1000020-						
		'BD'	1000103-	Cone and Sleeve	X	None			
	'BS'		1000114-						
'BO'			1000120-						
		'CD'	1000203-	Releasing Slips	None	X	None		
	'CS'		1000214-						
'CO'			1000220-						
		'CGD'	100020503-	Releasing Slips with Swivel Bottom	None	X	None		
	'CGS'		100020514-						
'CGO'			100020520-						
	'D'		10003-	Dummy	N/A				
	'DS'		1000314-						
		'DD'	1000303-						
'GO'			1000520-	Single Conductor	None		X	None	
		'HD'	1000603-	Heavy Duty	X	X	None		
	'HS'		1000614-						
'HO'			1000620-						
'RC'			1001302-	Clamp	X	X	None		X
'SA'			1001400-	1/2" to 9/16" Line	None			X	None
		'SD'	1001403-						
	'SS'		1001414-						

*QLS - Quick Lock System

'RQLS' Single

'RQLD' Double, Heavy Duty

X - Available

Note: When ordering, specify **Wire Type** and **Size**, and Material required if critical.

WIRE SIZE SELECTION TABLE:

WIRE SIZE	
'A'	Decimal
0	.105" - .108"
1	.140"
2	.160"
3	.150"
4	.187" (3/16")
5	.218" (7/32")

WIRE SIZE	
'A'	Decimal
6	.250" (1/4")
7	.312" (5/16")
8	.092"
9	.125"
10	Blank
11	.062" - .082"



SECTION I: TOOL STRING

2021

REBCO

Type 'AO' Rope Sockets: 3/8" – 2 1/2"

Rebco Type 'AO' Rope Sockets are recommended to be used with .066" to .105" diameter Single Strand Wire.

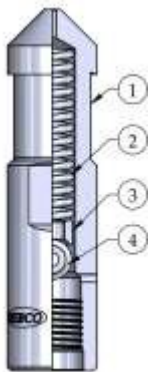
The Wireline should be passed through the Body, Spring and Support, before being wrapped tightly around the groove of the Disc.

NOMINAL SIZE	3/8"	1/2"	5/8"	3/4"	7/8"
ASSEMBLY NUMBER	10000200370	10000200500	10000200620	10000200750	10000200870

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	SPRING	1	NONE	NONE	NONE		
3 *	SPRING SUPPORT	1	NONE	NONE	NONE		
4 *	SPOOL	1	NONE	NONE	NONE		
REDRESS KIT (* Included as part of Kit)			NONE	NONE	NONE		

ENGINEERING DATA:

FISHING NECK OD	.375	.500"	.500"	.687"	.750"
BOX THREAD CONNECTION	1/4" - 20	3/8" - 16	3/8" - 16	1/2" - 13	5/8" - 11
MAXIMUM OD	.38"	.50"	.63"	.75"	.88"
LENGTH	4.06"	4.50"	4.50"	3.12"	3.12"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	.5 (.22)	.6 (.27)	.7 (.32)	1.2 (.54)	1.2 (.54)



NOMINAL SIZE	1"	1 1/4"	1 1/2"	1 3/4"	1 7/8"
ASSEMBLY NUMBER	10000201000	10000201250	10000201500	10000201750	10000201870

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	SPRING	1					
3 *	SPRING SUPPORT	1					
4 *	SPOOL	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

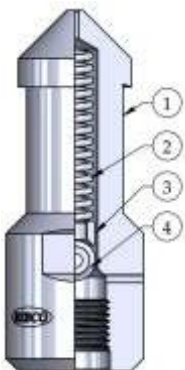
FISHING NECK OD	1.000"	1.187"	1.375"	1.750"	1.750"
BOX THREAD CONNECTION	5/8" - 11	15/16" - 10	15/16" - 10	1 1/16" - 10	1 1/16" - 10
MAXIMUM OD	1.00"	1.25"	1.38"	1.75"	1.88"
LENGTH	6.88"	5.56"	5.56"	5.56"	5.56"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	1.2 (.54)	1.2 (.54)	1.6 (.73)	2.8 (1.27)	2.8 (1.27)

NOMINAL SIZE	2"	2 1/8"	2 1/4"	2 1/2"
ASSEMBLY NUMBER	10000202000	10000202120	10000202250	10000202500

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	BODY	1				
2 *	SPRING	1				
3 *	SPRING SUPPORT	1				
4 *	SPOOL	1				
REDRESS KIT (* Included as part of Kit)						

ENGINEERING DATA:

FISHING NECK OD	1.750"	1.750"	1.750"	2.313"
BOX THREAD CONNECTION	1 1/16" - 10	1 1/16" - 10	1 1/16" - 10	1 9/16" - 10
MAXIMUM OD	2.00"	2.12"	2.25"	2.50"
LENGTH	5.56"	5.56"	5.56"	6.50"
MATERIAL	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	3.0 (1.36)	3.4 (1.54)	4.1 (1.86)	4.9 (2.22)



Note: 3/8" and 1/2" Type 'AO' Rope Sockets are offered with Set Screws Only



SECTION I: TOOL STRING

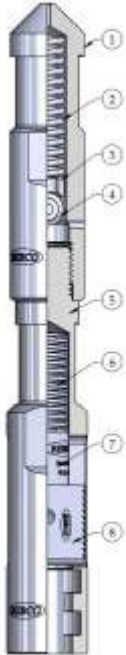
2021

REBCO

Type 'AD' Rope Sockets: 1 1/2" – 2 1/2"

Rebco Type 'AD' Rope Sockets are recommended to be used with .066" to .125" diameter Single Strand Wire.

Type 'AD' Rope Sockets is made up of Type 'AO' Rope Socket Assembly and 'RQLD' Bottom Sub-Assembly.

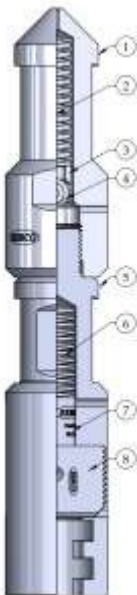


NOMINAL SIZE	1 1/2"	1 3/4"	1 7/8"
ASSEMBLY NUMBER	10000031500	10000031750	10000031870

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1			
2 *	SPRING	1			
3 *	SPRING SUPPORT	1			
4 *	SPOOL	1			
REDRESS KIT (* Included as part of Kit)					
SUB-ASSEMBLY - 'RQLD' FEMALE			10403201500	10403201750	10403201870
5	BODY - Female	1			
6	SPRING	1			
7	GUIDE	1			
8	LOCK	1			

ENGINEERING DATA:

FISHING NECK OD	1.375"	1.750"	1.750"
BOX CONNECTION	'RQLD'	'RQLD'	'RQLD'
MAXIMUM OD	1.38"	1.75"	1.88"
LENGTH	12.16"	12.16"	12.16"
MATERIAL	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	5.1 (2.31)	5.8 (2.63)	6.6 (2.99)



NOMINAL SIZE	2"	2 1/8"	2 1/2"
ASSEMBLY NUMBER	10000032000	10000032120	10000032500

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1			
2 *	SPRING	1			
3 *	SPRING SUPPORT	1			
4 *	SPOOL	1			
REDRESS KIT (* Included as part of Kit)					
SUB-ASSEMBLY - 'RQLD' FEMALE			10403202000	10403202120	10403202500
5	BODY - Female	1			
6	SPRING	1			
7	GUIDE	1			
8	LOCK	1			

ENGINEERING DATA:

FISHING NECK OD	1.750"	1.750"	2.313"
BOX CONNECTION	'RQLD'	'RQLD'	'RQLD'
MAXIMUM OD	2.00"	2.12"	2.50"
LENGTH	12.16"	12.16"	12.16"
MATERIAL	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	6.0 (2.72)	7.7 (3.49)	11.2 (5.08)



SECTION I: TOOL STRING

2021

REBCO

Type 'BO' Rope Socket Assembly: 3/4" – 2 1/2"

Rebco Type 'BO' Rope Socket (Single Strand) is used to attach the wire to the tool string.

The wire should be passed through the Body and the Sleeve, wrap the wire around the groove of the Cone; tighten the Set Screw. Draw on Wire to pull the Sleeve into the Body.

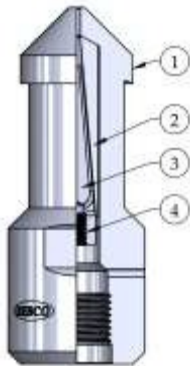


NOMINAL SIZE	3/4"	1"	1 1/4"	1 1/2"	1 3/4"
ASSEMBLY NUMBER	10001200750	10001201000	10001201250	10001201500	10001201750

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	SLEEVE	1					
3 *	CONE	1					
4 *	SET SCREW	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

FISHING NECK OD	.687"	1.000"	1.187"	1.375"	1.750"
BOX THREAD CONNECTION	1/2" - 13	5/8" - 11	15/16" - 10	15/16" - 10	1 1/16" - 10
MAXIMUM OD	.75"	1.00"	1.25"	1.38"	1.75"
LENGTH	3.12"	6.88"	5.56"	5.56"	5.56"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	.8 (.36)	1.0 (.45)	1.2 (.54)	1.6 (.73)	2.8 (1.27)



NOMINAL SIZE	1 7/8"	2 1/8"	2 1/4"	2 1/2"	2 1/2"
ASSEMBLY NUMBER	10001201870	10001202120	10001202250	10001202500	10001202501

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	SLEEVE	1					
3 *	CONE	1					
4 *	SET SCREW	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

FISHING NECK OD	1.750"	1.750"	1.750"	2.313"	2.313"
BOX THREAD CONNECTION	1 1/16" - 10	1 1/16" - 10	1 1/16" - 10	1 9/16" - 10	1 1/16" - 10
MAXIMUM OD	1.88"	2.12"	2.25"	2.50"	2.50"
LENGTH	5.56"	5.56"	5.56"	6.50"	6.50"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	2.8 (1.27)	3.4 (1.54)	5.8 (2.63)	6.2 (2.81)	6.2 (2.81)

Note: Specify Wire Size when ordering.
See Selection Table for Wire Sizes



SECTION I: TOOL STRING

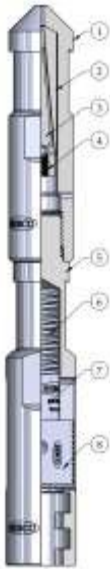
2021

REBCO

Type 'BD' Rope Sockets: 1 1/2" – 2 1/2"

Rebco Type 'BD' Rope Sockets are recommended to be used with up to .125" diameter Single Strand Wire.

Type 'BD' Rope Sockets is made up of Type 'BO' Rope Socket Assembly and 'RQLD' Bottom Sub-Assembly.

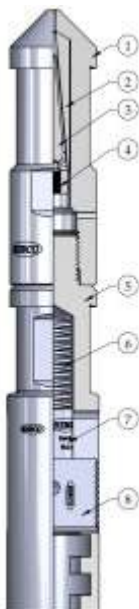


NOMINAL SIZE	1 1/2"	1 3/4"	1 7/8"
ASSEMBLY NUMBER	10001031500	10001031750	10001031870

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1			
2 *	SLEEVE	1			
3 *	CONE	1			
4 *	SET SCREW	1			
REDRESS KIT (* Included as part of Kit)					
SUB-ASSEMBLY - 'RQLD' FEMALE			10403201500	10403201750	10403201870
5	BODY - Female	1			
6	SPRING	1			
7	GUIDE	1			
8	LOCK	1			

ENGINEERING DATA:

FISHING NECK OD	1.375"	1.750"	1.750"
BOX CONNECTION	'RQLD'	'RQLD'	'RQLD'
MAXIMUM OD	1.38"	1.75"	1.88"
LENGTH	12.16"	12.16"	12.16"
MATERIAL	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	5.1 (2.31)	5.5 (2.49)	6.6 (2.99)



NOMINAL SIZE	2 1/8"	2 1/2"
ASSEMBLY NUMBER	10001032120	10001032500

DET	PART NAME	QTY	PART NO	PART NO
1	BODY	1		
2 *	SLEEVE	1		
3 *	CONE	1		
4 *	SET SCREW	1		
REDRESS KIT (* Included as part of Kit)				
SUB-ASSEMBLY - 'RQLD' FEMALE			10403202120	10403202500
5	BODY - Female	1		
6	SPRING	1		
7	GUIDE	1		
8	LOCK	1		

ENGINEERING DATA:

FISHING NECK OD	1.750"	2.313"
BOX CONNECTION	'RQLD'	'RQLD'
MAXIMUM OD	2.12"	2.50"
LENGTH	12.16"	12.16"
MATERIAL	Alloy	Alloy
WEIGHT lbs (kg)	7.5 (3.40)	12.5 (5.67)



SECTION I: TOOL STRING

2021

REBCO

Type 'CO' Rope Sockets: 1 1/4" – 2 1/2"

Rebco Type 'CO' Rope Sockets are designed for use with small stranded lines, up to 5/16" diameter.

Type 'CO' Rope Sockets is made up of Body, Bottom Sub, Carriage, Slips and Set Screw.

The Slips are designed to cause the line to break under severe loading at a specific percentage of the full line tensile strength.

If during the downhole operations the Tool String gets stuck, the operator is assured that the line will break at the Rope Socket, rather than up-hole, allowing retrieval of the Wireline.

Wire Size and Slips (80 %, most common), need to be specified at the time of order.

Type 'CD' Rope Sockets are available - with 'QLS' Rebco 'RQLD' bottom connection.



NOMINAL SIZE	1 1/4"	1 1/2"	1 3/4"
ASSEMBLY NUMBER *	1000220125_	1000220150_	1000220175_

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1			
2 *	SLIPS (80 %)	2			
3 *	CARRIAGE	1			
4 *	SET SCREW	1			
5	BOTTOM SUB	1			
REDRESS KIT (* Included as part of Kit)					

ENGINEERING DATA:

FISHING NECK OD	1.375"	1.375"	1.750"
BOX CONNECTION	15/16" - 10	15/16" - 10	1 1/16" - 10
MAXIMUM OD	1.25"	1.50"	1.75"
LENGTH	8.50"	8.50"	8.50"
MATERIAL	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	3.6 (1.63)	4.0 (1.81)	4.7 (2.13)

* Assembly Number is determined by Wire Size, See Wire Size Chart



NOMINAL SIZE	1 7/8"	2 1/8"	2 1/2"
ASSEMBLY NUMBER *	1000220187_	1000220212_	1000220250_

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1			
2 *	SLIPS (80 %)	2			
3 *	CARRIAGE	1			
4 *	SET SCREW	1			
5	BOTTOM SUB	1			
REDRESS KIT (* Included as part of Kit)					

ENGINEERING DATA:

FISHING NECK OD	1.750"	1.750"	2.313"
BOX CONNECTION	1 1/16" - 10	1 1/16" - 10	1 1/16" - 10
MAXIMUM OD	1.88"	2.12"	2.50"
LENGTH	8.50"	8.50"	8.50"
MATERIAL	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	4.8 (2.18)	5.9 (2.68)	10.3 (4.67)

* Assembly Number is determined by Wire Size, See Wire Size Chart



SECTION I: TOOL STRING

2021

REBCO

Type 'CGO' Rope Socket Assembly: 1 1/2" - 1 7/8"

Rebco Type 'CGO' Rope Sockets are designed for use with small stranded lines, up to 1/4" diameter. Similar in design as Rebco Type 'CO' Rope Sockets, the Tool has an additional swivel bottom.

Type 'D' Dummy Rope Socket Assembly: 1 1/4" - 2 1/2"

Rebco Type 'D' Dummy Rope Sockets are available with threaded or QLS Connections.

The advantage of this tool is that it can be attached to other types of tools with Pin connection for variety of Wireline applications.



NOM SIZE	CONNECTION				ENGINEERING			
	THREADED	PART NUMBER	QLS	PART NUMBER	LENGTH		MAX OD	FN
					THREAD	QLS		
1 1/4"	15/16" - 10	100035	'RQLS'	10003145	5.56"	6.6"	1.25"	1.187"
1 1/2"	15/16" - 10	100036	'RQLD'	10003036	5.56"	6.6"	1.50"	1.375"
1 3/4"	1 1/16" - 10	100037	'RQLD'	10003037	5.56"	6.6"	1.75"	1.750"
1 7/8"	1 1/16" - 10	1000315	'RQLD'	100030315	5.56"	6.6"	1.88"	1.750"
2 1/8"	1 1/16" - 10	1000324	'RQLD'	100030324	5.56"	6.6"	2.12"	1.750"
2 1/2"	1 9/16" - 10	1000325	'RQLD'	100030325	6.50"	6.6"	2.50"	2.313"

Sizes not listed are available.

Additional Types of Rope Sockets available:

Type 'GO' Rope Socket Assembly: 1000520_
Single Conductor Cable Head

Type 'RC' Rope Socket Assembly: 1001302_
For Capsulated Line

Type 'SA' Rope Socket Assembly: 1001400_
Swabbing Rope Sockets for Babbitt fill



'GO'



'RC'



'SA'



SECTION I: TOOL STRING

2021

REBCO

Type 'HO' Heavy Duty Rope Socket Assembly – Threaded Connection: 1 1/2” – 2 1/2”

Rebco Type 'HO' and Type 'HD' Heavy Duty Rope Socket is designed for heavy duty Wireline work.

The wire should be passed through the Body and the Clamp Sub Assembly. The unique design will trap the Wire; held in place with Socket Screws.

The diameter of the Wire to be used determines the Assembly Number. To select the Wire Diameter, see the Selection Table.



NOMINAL SIZE	1 1/2”	1 3/4”	1 7/8”	2 1/8”	2 1/2”
ASSEMBLY NUMBER	10006201500_	10006201750_	10006201870_	10006202120_	10006202500_

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	CLAMP SUB-ASSEMBLY	1					
3	BOTTOM SUB	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

MAXIMUM OD	1.50”	1.75”	1.88”	2.12”	2.50”
FISHING NECK OD	1.375”	1.750”	1.750”	1.750”	2.313”
LENGTH	13.1”	14.75”	14.75”	14.75”	14.75”
BOTTOM CONNECTION	15/16” - 10	1 1/16” - 10	1 1/16” - 10	1 1/16” - 10	1 1/16” - 10
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	5.7 (2.60)	9.7 (4.4)	9.9 (4.50)	11.7 (5.31)	13.8 (6.26)

Type 'HD' Heavy Duty Rope Socket Assembly – 'QLS' Connection: 1 1/2” – 2 1/2”

Rebco Type 'HD' Heavy Duty Rope Socket is with 'RQLD' Bottom Sub.



NOMINAL SIZE	1 1/2”	1 3/4”	1 7/8”	2 1/8”	2 1/2”
ASSEMBLY NUMBER	10006031500_	10006031750_	10006031870_	10006032120_	10006032500_

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	BODY	1					
2 *	CLAMP SUB-ASSEMBLY	1					
BOTTOM SUB SUB-ASSEMBLY			10006031500	10006031750	10006031870	10006032120	10006032500
3	BOTTOM SUB	1					
4	SPRING	1					
5	GUIDE	1					
6	LOCK	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

MAXIMUM OD	1.50”	1.75”	1.88”	2.12”	2.50”
FISHING NECK OD	1.375”	1.750”	1.750”	1.750”	2.313”
LENGTH	17.45”	19.1”	19.1”	19.1”	19.1”
BOTTOM CONNECTION	'RQLD'	'RQLD'	'RQLD'	'RQLD'	'RQLD'
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	8.6 (3.76)	13.6 (6.17)	13.6 (6.17)	15.7 (7.12)	19.3 (8.75)



SECTION I: TOOL STRING

2021

REBCO

Product Code: 104

Type 'HO' Swivel Joint Assembly: 1" – 2 1/2"

Rebco Type 'HO' Swivel Joint was designed to minimize the twisting of the Wireline when running the Tools down hole.

Type 'HO' Swivel Joint is with Threaded Connection.



NOMINAL SIZE	1"	1 1/4"	1 1/2"	1 3/4"	1 7/8"
ASSEMBLY NUMBER	10406201000	10406201250	10406201500	10406201750	10406201870

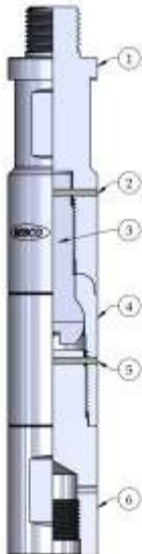
DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	TOP SUB	1					
2 *	PIN	1					
3	BALL CONNECTOR	1					
4	BALL SUB	1					
5 *	PIN	1					
6	BOTTOM SUB	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

FISHING NECK OD	.750"	1.187"	1.375"	1.750"	1.750"
PIN-BOX THREAD CONNECTION	5/8" - 11	15/16" - 10	15/16" - 10	1 1/16" - 10	1 1/16" - 10
MAXIMUM OD	1.00"	1.25"	1.50"	1.75"	1.88"
LENGTH	6.46"	10.88"	10.88"	10.85"	10.85"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	.9 (.41)	4.0 (1.81)	4.3 (1.95)	7.3 (3.31)	7.5 (3.45)

ACCESSORY

WRENCH for BALL CONNECTOR	1670011	1670010	1670010	1670010	1670010
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NOMINAL SIZE	2"	2 1/8"	2 1/2"	2 1/2"
ASSEMBLY NUMBER	10406202000	10406202120	10406202500	10406202501

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	TOP SUB	1				
2 *	PIN	1				
3	BALL CONNECTOR	1				
4	BALL SUB	1				
5 *	PIN	1				
6	BOTTOM SUB	1				
REDRESS KIT (* Included as part of Kit)						

ENGINEERING DATA:

FISHING NECK OD	1.750"	1.750"	2.313"	2.313"
PIN-BOX THREAD CONNECTION	1 1/16" - 10	1 1/16" - 10	1 1/16" - 10	1 9/16" - 10
MAXIMUM OD	2.00"	2.12"	2.50"	2.50"
LENGTH	10.85"	10.85"	11.25"	11.25"
MATERIAL	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	7.9 (3.58)	8.4 (3.81)	10.3 (4.67)	10.1 (4.58)

ACCESSORY

WRENCH for BALL CONNECTOR	1670010	1670010	1670010	1670010
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SECTION I: TOOL STRING

2021

REBCO

Type 'HD' Swivel Joint Assembly: 1 1/2" – 2 1/2"

Rebco Type 'HD' Swivel Joint was designed to minimize the twisting of the Wireline when running the Tools down hole.

Type 'HD' Swivel Joint is with 'QLS' - 'RQLD' Connection.



NOMINAL SIZE	1 1/2"	1 3/4"	1 7/8"	2 1/8"	2 1/2"
ASSEMBLY NUMBER	10406031500	10406031750	10406031870	10406032120	10406032500

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO	PART NO
1	TOP SUB	1					
2 *	PIN	1					
3	BALL CONNECTOR	1					
4	BALL SUB	1					
5 *	PIN	1					
BOTTOM SUB SUB-ASSEMBLY			10406031500	10406031750	10406031870	10406032120	10406032500
6	SPRING	1					
7	GUIDE	1					
8	LOCK	1					
9	BOTTOM SUB	1					
REDRESS KIT (* Included as part of Kit)							

ENGINEERING DATA:

FISHING NECK OD	1.375"	1.750"	1.750"	1.750"	2.313"
'QLS' CONNECTION	'RQLD'	'RQLD'	'RQLD'	'RQLD'	'RQLD'
MAXIMUM OD	1.50"	1.75"	1.88"	2.12"	2.50"
LENGTH	14.53"	14.75"	14.75"	14.75"	16.5"
MATERIAL	Alloy	Alloy	Alloy	Alloy	Alloy
WEIGHT lbs (kg)	5.6 (2.54)	8.0 (3.63)	8.2 (3.72)	10.2 (4.65)	17.2 (7.80)

ACCESSORY

WRENCH for BALL CONNECTOR	1670011	1670010	1670010	1670010	1670010
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ACCESSORY: Wrench for the Ball Connector

See **PRODUCT CODE 167**



SECTION I: TOOL STRING

2021

REBCO

Product Code: 101

Rebco STEMS (Weight Bar): provide added weight to the Wireline Tool String, to counteract the wellbore pressure and effectiveness of the impact delivered by Jars (**Product Code 102**).

Rebco offers variety of Stem Types (Table - Availability), for specific applications.

Alloy Material is used to manufacture **Rebco STEMS**. Materials suitable for specific Well conditions are available.

Type of STEMS: Availability Table

Thread	TYPE		ASSEMBLY PART NUMBER	DESCRIPTION
	QLS *			
	Single	Double		
		'AD'	1010003-	Solid Bar
	'AS'		1010014-	
'A'			10100-	Lead Filled
		'BD'	1010103-	
	'BS'		1010114-	Roller Stem
'BO'			1010120-	
		'ED'	1010203-	Tungsten Filled
	'ES'		1010214-	
'EO'			1010220-	
		'TD'	1011503-	
	'TS'		1011514-	
'TO'			1011520-	

- QLS** - Quick Lock System
 - **'RQLS'** Single Shoulder
 - **'RQLD'** Double Shoulder, Heavy Duty

Rebco - Helpful Hint: How to determine the amount of Stem Weight needed?

EXAMPLE: 1 1/2" Diameter Stem

As a general **"Rule of thumb"** a minimum of five (5 ft.) of Stem (29.2 lbs) is used for pressure of 1,000 psi and less. Use an additional two (2 ft.) of Stem (11.0 lbs) for each additional 1,000 psi of well pressure.

FORMULA: Reasonably accurate for determining the weight per FOOT of given

- Stem size is: $\frac{D^2 \times L}{3} = \text{lbs/ft.}$
- Weight in lbs/ft. = $10.68r^2$
 - r^2 is the radius of the bar in inches
 - the density of steel is taken as 490.06 lbs/cu. ft.
 - To convert from **lbs/ft.** to **kg/m** multiply by **1.487**

Density/Weight Comparison of Metals used to manufacture Stem

METAL	Density Lbs/ft ³	WEIGHT		Example 1 1/2" X 5 ft.
		Kgs/m ³	Lbs/ft ³	
Steel	490.06	7,850	489.84	29.2 lbs
Lead Fill	708	11,340	707.62	35.8 lbs
Tungsten Fill	976	19,600	1,223.04	58.15 lbs



SECTION I: TOOL STRING

2021

REBCO

Type 'A' Stem (Weight Bar): 3/8" – 2 1/2"

Rebco Type 'A' Solid Bar Stems are with Threaded Connections – (1 1/4" - 2 1/2" Sucker Rod Type) 3/8" and 1/2" Diameter Stem is used for Velocity String Type completions

Note: All Rebco Tools have machined Flats for safer use.



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA			
		LENGTH	THREAD CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)
101000372	3/8"	24"	1/4" - 20 UNC	None	.75 (.34)
101000373		36"			1.13 (.51)
101000375		60"			1.18 (.85)
101000502	1/2"	24"	3/8" - 16 UNC	None	.67 (.34)
101000503		36"			2.01 (.91)
101000505		60"			3.35 (1.52)
101000752	3/4"	24"	1/2" - 13 UNC	.687"	3.0 (1.36)
101000753		36"			2.01 (.91)
101000755		60"			3.35 (1.52)
101001002	1"	24"	5/8" - 11 UNC	.750"	5.3 (2.42)
101001003		36"			7.8 (3.54)
101001005		60"			12.0 (5.44)
101001252	1 1/4"	24"	15/16" - 10 UNS	1.187"	7.8 (3.54)
101001253		36"			12.0 (5.44)
101001255		60"			20.4 (9.25)
101001502	1 1/2"	24"	15/16" - 10 UNS	1.375"	11.0 (4.99)
101001503		36"			17.0 (7.71)
101001505		60"			29.2 (13.24)
101001752	1 3/4"	24"	1 1/16" - 10 UNS	1.750"	17.5 (7.94)
101001753		36"			26.8 (12.16)
101001755		60"			46.0 (20.87)
101001872	1 7/8"	24"	1 1/16" - 10 UNS	1.750"	18.8 (8.52)
101001873		36"			28.2 (12.78)
101001875		60"			47.0 (21.29)
101002122	2 1/8"	24"	1 9/16" - 10 UNS	2.313"	24.1 (10.94)
101002123		36"			36.2 (16.41)
101002125		60"			53.4 (24.22)
101002502	2 1/2"	24"	1 9/16" - 10 UNS	2.313"	33.4 (15.14)
101002503		36"			50.1 (22.71)
101002505		60"			83.5 (37.85)
101002512		24"			33.4 (15.14)
101002513		36"			50.1 (22.71)
101002515		60"			83.5 (37.85)

Alloy material is used to manufacture RebcO Stems; for severe conditions more suitable materials are available.



SECTION I: TOOL STRING

2021

REBCO

Type 'AD' Stem (Weight Bar): 1 1/2" – 2 1/2"

Rebco Type 'AD' Stems are with integral QLS (Quick Lock System) Connections - Rebco Type 'RQLD'



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA					
		LENGTH	'QLS' CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)		
10100031502	1 1/2"	24"	'RQLD'	1.375"	11.0 (4.99)		
10100031503		36"			17.0 (7.71)		
10100031505		60"			29.2 (13.24)		
10100031752	1 3/4"	24"		'RQLD'	1.750"	17.5 (7.94)	
10100031753		36"				26.8 (12.16)	
10100031755		60"				46.0 (20.87)	
10100031872	24"	18.8 (8.52)					
10100031873	1 7/8"	36"				28.2 (12.78)	
10100031875		60"				47.0 (21.29)	
10100032122		24"			24.1 (10.94)		
10100032123	2 1/8"	36"			'RQLD'	2.313"	36.2 (16.41)
10100032125		60"					53.4 (24.22)
10100032502		24"	28.2 (12.80)				
10100032503	2 1/2"	36"	44.8 (20.35)				
10100032505		60"	78.1 (35.40)				

Parts: To service integral 'QLS' Connections
- Rebco Type 'RQLS' and 'RQLD'

QLS SIZE	PART NAME		
	SPRING	GUIDE	LOCK
	PART NUMBER	PART NUMBER	PART NUMBER
1 1/4"	9000191	104014	104015
1 1/2"	900016	1040111	1040110
1 3/4"			1040122
1 7/8"			1040115
2 1/8"			1040128
2 1/2"			1040131

ACCESSORIES: Useful Tools to service integral 'QLS' Connections
- Rebco Type 'RQLS' and 'RQLD'

QLS SIZE	DESCRIPTION			
	INSTALLATION TOOL		RELEASE TOOL	
1 1/4"	PART NUMBER	1040142	PART NUMBER	1040119
1 1/2" – 2 1/8"		1040118		
2 1/2"		104011		

For more detailed description of QLS see SECTION VII.



SECTION I: TOOL STRING

2021

REBCO

Type 'BO' Lead Filled Stem (Weight Bar): 1 1/4" – 2 1/2"

Rebco Type 'BO' Lead Filled Stems are with Threaded Connections – (Sucker Rod Type)



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA					
		LENGTH	THREAD CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)		
10101201252	1 1/4"	24"	15/16" - 10	1.187"	12.6 (5.72)		
10101201253		36"			20.2 (9.16)		
10101201255		60"			25.4 (5.72)		
10101201502	1 1/2"	24"		1 1/16" - 10	1.375"	12.6 (4.99)	
10101201503		36"				20.2 (9.16)	
10101201505		60"				35.8 (16.24)	
10101201752	1 3/4"	24"	1 1/16" - 10		1.750"	18.0 (8.16)	
10101201753		36"				29.6 (13.43)	
10101201755		60"				53.0 (24.04)	
10101201872	1 7/8"	24"		1 1/16" - 10		1.750"	20.0 (9.07)
10101201873		36"					31.6 (14.33)
10101201875		60"					55.0 (24.95)
10101202122	2 1/8"	24"	1 9/16" - 10		2.313"		31.0 (14.06)
10101202123		36"					34.0 (15.42)
10101202125		60"					63.0 (28.58)
10101202502	2 1/2"	24"		1 9/16" - 10		2.313"	41.0 (18.6)
10101202503		36"					61.5 (27.9)
10101202505		60"					102.5 (46.49)
10101202512		24"	41.3 (18.7)				
10101202513		36"	61.8 (28.0)				
10101202515		60"			102.8 (46.6)		

Type 'BD' Lead Filled Stem (Weight Bar): 1 1/2" – 2 1/2"

Rebco Type 'BD' Lead Filled Stems are with integral QLS (Quick Lock System)

- Rebco Type 'RQLD'



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA					
		LENGTH	'QLS' CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)		
10101031502	1 1/2"	24"	'RQLD'	1.375"	14.6 (6.62)		
10101031503		36"			22.2 (10.07)		
10101031505		60"			37.8 (17.15)		
10101031752	1 3/4"	24"		'RQLD'	1.750"	20.0 (9.07)	
10101031753		36"				31.6 (14.33)	
10101031755		60"				55.0 (24.95)	
10101031872	1 7/8"	24"	'RQLD'			1.750"	22.1 (10.02)
10101031873		36"					33.7 (15.29)
10101031875		60"					57.1 (25.9)
10101032122	2 1/8"	24"		'RQLD'	2.313"		34.29 (15.55)
10101032123		36"					37.8 (17.15)
10101032125		60"					66.6 (30.21)
10101032502	2 1/2"	24"	1 9/16" - 10			2.313"	46.0 (20.87)
10101032503		36"					66.5 (30.16)
10101032505		60"					107.5 (48.76)



SECTION I: TOOL STRING

2021

REBCO

Type 'EO' Roller Stem (Weight Bar): **1 1/4" – 2 1/2"**

Rebco Type 'EO' Roller Stems are with Threaded Connections – (Sucker Rod Type)



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA							
		LENGTH	THREAD CONNECTIONS	FISHING NECK	NO * ROLLERS	ROLLER OD *			
10104201252	1 1/4"	24"	15/16" - 10	1.187"	2	1.50"			
10104201253		36"			3				
10104201255		60"			4				
10104201502	1 1/2"	24"		1 1/16" - 10	1.375"	2	1.75"		
10104201503		36"				3			
10104201505		60"				4			
10104201752	1 3/4"	24"	1 1/16" - 10		1.750"	2	2.20"		
10104201753		36"				3			
10104201755		60"				4			
10104201872	1 7/8"	24"		1 1/16" - 10		1.750"		2	2.20"
10104201873		36"						3	
10104201875		60"						4	
10104202122	2 1/8"	24"	1 1/16" - 10		1.750"		2	2.75"	
10104202123		36"					3		
10104202125		60"					4		
10104202502	2 1/2"	24"		1 1/16" - 10		2.313"	2		3.25"
10104202503		36"					3		
10104202505		60"					4		

Type 'ED' Roller Stem (Weight Bar): **1 1/2" – 2 1/2"**

Rebco Type 'ED' Roller Stems are with integral QLS (Quick Lock System)

- Rebco Type 'RQLD'

ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA							
		LENGTH	'QLS' CONNECTIONS	FISHING NECK	NO * ROLLERS	ROLLER OD *			
10104031502	1 1/2"	24"	'RQLD'	1.375"	2	1.75"			
10104031503		36"			3				
10104031505		60"			4				
10104031752	1 3/4"	24"		'RQLD'	1.750"	2	2.20"		
10104031753		36"				3			
10104031755		60"				4			
10104031872	1 7/8"	24"	'RQLD'			1.750"		2	2.20"
10104031873		36"						3	
10104031875		60"						4	
10104032122	2 1/8"	24"		'RQLD'	1.750"		2	2.75"	
10104032123		36"					3		
10104032125		60"					4		
10104032502	2 1/2"	24"	'RQLD'			2.313"	2		3.25"
10104032503		36"					3		
10104032505		60"					4		

* Material, OD of Rollers, No. of Rollers and Configuration can be changed to suit. Please specify





SECTION I: TOOL STRING

2021

REBCO

Type 'TO' Tungsten Filled Stem (Weight Bar): 1 1/4" – 2 1/2"

Rebco Type 'TO' Tungsten Filled Stems are with Threaded Connections – (Sucker Rod Type)



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA			
		LENGTH	THREAD CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)
10115201252	1 1/4"	24"	15/16" - 10	1.187"	15.4 (7.05)
10115201253		36"			23.9 (10.85)
10115201255		60"			40.63 (18.43)
10115201502	1 1/2"	24"		1.375"	21.91 (9.94)
10115201503		36"			33.86 (15.36)
10115201505		60"			58.15 (26.38)
10115201752	1 3/4"	24"	1.750"		34.85 (15.81)
10115201753		36"			53.37 (24.21)
10115201755		60"			91.61 (41.56)
10115201872	1 7/8"	24"		1 1/16" - 10	37.44 (16.98)
10115201873		36"			56.16 (25.48)
10115201875		60"			93.61 (42.46)
10115202122	2 1/8"	24"	2.313"		48 (21.77)
10115202123		36"			72.1 (32.7)
10115202125		60"			93.61 (42.46)
10115202502	2 1/2"	24"		1 9/16" - 10	66.52 (30.17)
10115202503		36"			99.78 (45.26)
10115202505		60"			166.3 (75.43)
10115202512		24"	66.52 (30.17)		
10115202513		36"	99.78 (45.26)		
10115202515		60"		167 (75.74)	

Type 'TD' Tungsten Filled Stem (Weight Bar): 1 1/2" – 2 1/2"

Rebco Type 'TD' Tungsten Filled Stems are with QLS (Quick Lock System)
- Rebco Type 'RQLD'



ASSEMBLY PART NUMBER	NOMINAL SIZE (OD)	ENGINEERING DATA			
		LENGTH	'QLS' CONNECTIONS	FISHING NECK	WEIGHT lbs (kgs)
10115031502	1 1/2"	24"	'RQLD'	1.375"	21.91 (9.94)
10115031503		36"			33.86 (15.36)
10115031505		60"			58.15 (26.38)
10115031752	1 3/4"	24"		1.750"	34.85 (15.81)
10115031753		36"			53.37 (24.21)
10115031755		60"			91.61 (41.56)
10115031872	1 7/8"	24"	2.313"		37.44 (16.98)
10115031873		36"			56.16 (25.48)
10115031875		60"			93.61 (42.46)
10115032122	2 1/8"	24"		2.313"	48 (21.77)
10115032123		36"			72.1 (32.7)
10115032125		60"			93.61 (42.46)
10115032502	2 1/2"	24"	1 9/16" - 10		66.52 (30.17)
10115032503		36"			99.78 (45.26)
10115032505		60"			166.3 (75.43)



SECTION I: TOOL STRING

2021

REBCO

Product Code: 102

Rebco JARS are the main work Tools of a Wireline Tool String; it is through their proper manipulation that all wire line sub-surface operations are possible.

Type 'AO', 'AD' and 'AS' Link Jar Assembly: 3/4" – 2 1/2"

- Rebco** offers three types of Link Jars:
1. Type 'AO' - Threaded Connections
 2. Type 'AD' - 'QLS' Connections with 'RQLD'
 3. Type 'AS' - QLS' Connections with 'RQLS'

Link Jars consist of two interlocking steel links with a Fishing Neck and Pin-Box connection. The interlocking steel links can be extended or collapsed by manipulating the Wireline at the surface to produce upward or downward jarring. The intensity of jarring impact depends on the weight of the Wireline Stem (**PRODUCT CODE 101**) installed above the Jar, and the stroke of the Jar as well as the wellbore conditions.



MAX OD	STROKE	ASSEMBLY NO		FN OD	CONNECTION		LENGTH		WEIGHT Lbs (kgs)
		THREADED	'QLS'		THREAD	'QLS'	CLOSED	OPEN	
3/4"	6.0"	10200200756	NONE	.687"	1/2" - 13	NONE	14.0"	26.0"	3.3 (1.50)
	10.0"	10200200751					18.0"	38.0"	4.5 (2.04)
1"	7.0"	10200201007	NONE	1.000"	5/8" - 11	NONE	14.2"	28.5"	8.0 (3.63)
	10.0"	10200201001					18.2"	38.4"	8.8 (3.99)
	14.0"	10200201014					26.0"	42.0"	15.6 (7.08)
1 1/4"	20.0"	10200201252	10200141252	1.187"	15/16" - 10	'RQLS'	43.54"	62.87"	16.4 (7.44)
	30.0"	10200201253	10200141253				53.54"	82.87"	20.0 (9.07)
1 1/2"	20.0"	10200201502	10200031502	1.375"	15/16" - 10	'RQLD'	43.54"	62.87"	17.6 (8.0)
	30.0"	10200201503	10200031503				53.54"	82.87"	21.2 (9.6)
1 3/4"	20.0"	10200201752	10200031752	1.750"	1 1/16" - 10	'RQLD'	43.50"	62.74"	29.2 (13.24)
	30.0"	10200201753	10200031753				53.50"	82.74"	34.0 (16.60)
1 7/8"	20.0"	10200201872	10200031872	1.750"	1 1/16" - 10	'RQLD'	43.50"	62.74"	29.4 (13.35)
	30.0"	10200201873	10200031873				53.50"	82.74"	34.0 (15.4)
2 1/8"	20.0"	10200202122	10200032122	1.750"	1 1/16" - 10	'RQLD'	43.54"	62.63"	33.0 (14.99)
	30.0"	10200202123	10200032123				53.54"	82.63"	43.3 (19.65)
2 1/2"	20.0"	10200202502	10200032502	2.313"	1 1/16" - 10	'RQLD'	45.50"	62.49"	51.7 (23.45)
		10200202512							
	30.0"	10200202503	10200032503		1 1/16" - 10	'RQLD'	55.50"	82.49"	64.9 (29.45)
		10200202513							

Parts: To service integral QLS Connections
- **Rebco** Type 'RQLS' and 'RQLD'

QLS SIZE	PART NAME		
	SPRING - 1	GUIDE - 2	LOCK - 3
	PART NUMBER	PART NUMBER	PART NUMBER
1 1/4"	9000191	104014	104015
1 1/2"	900016	1040111	1040110
1 3/4"			1040122
1 7/8"			1040115
2 1/8"			1040128
2 1/2"			1040131



SECTION I: TOOL STRING

2021

REBCO

Type 'BO' and 'BD' Hydraulic Jar Assembly: 1 1/4" – 2 1/8"

Rebco Hydraulic Jar is used to apply high impact force. The closed hydraulic system within the jar makes it possible for the jarring impact to be controlled. The intensity of the impact is proportionate to the full force on the Wireline and to the weight of Stem. To activate the jars for next jarring impact, setting down the weight of the tool string, the internal metering of the hydraulic fluid sets the jars for activating force.

Hydraulic fluid can be substituted to suit the needs of the operator; **caution:** should prevail to achieve the same end result.



Type 'BO' - Threaded Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING					
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)	
1 1/4"	10201201250	1.25"	15/16" - 10	1.187"	29.0"	10.0 (4.54)	
1 1/2"	10201201500	1.50"	15/16" - 10	1.375"	29.5"	10.2 (4.63)	
1 3/4"	10201201750	1.75"	1 1/16" - 10	1.750"	32.64"	20.0 (9.07)	
1 7/8"	10201201870	1.88"				21.6 (9.8)	
2 1/8"	10201202120	2.12"		2.313"	36.75"	36.6 (16.6)	30.0 (13.61)
2 1/2"	10201202500	2.50"					1 9/16" - 10
	10201202501						

Type 'BD' - QLS Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/4"	10201141250	1.25"	'RQLS'	1.187"	30.63"	11.0 (4.99)
1 1/2"	10201031500	1.50"	'RQLD'	1.375"	31.12"	14.5 (6.58)
1 3/4"	10201031750	1.75"		1.750"	34.27"	17.5 (7.94)
1 7/8"	10201031870	1.88"		1.750"	17.9 (8.12)	
2 1/8"	10201032120	2.12"		37.75"	21.7 (9.84)	
2 1/2"	10201032500	2.50"		2.313"	38.38"	40.5 (18.37)

Type 'BO' and Type 'BD' Hydraulic Jar - Re Dress (Service) Kits:

NOM SIZE	SERVICE KIT	
	Type 'BOK'	Type 'BDK' *
1 1/4"	102012024125	102011424125
1 1/2"	102012024150	102010324150
1 3/4"	102012024175	102010324175
1 7/8"	102012024187	102010324187
2 1/8"	102012024212	102010324212
2 1/2"	102012024250	102010324250

* **NOTE:** Type 'BDK' also includes QLS Parts



SECTION I: TOOL STRING

2021

REBCO

Type 'CO' and 'CD' Knuckle Jar Assembly: 1 1/4" – 2 1/2"

Rebco Knuckle Jar is similar in design to the Knuckle Joint (Product Code 103), the difference being is that the Knuckle Jar in addition to its flexibility is used as a Tubular Jar (Product Code 102).

Typically, Knuckle Jar is used with **BHP** work and light duty Wireline applications.

Rebco offers Knuckle Jars with 2", 4", 6", and 8" Stroke and double Fishing Neck.

Rebco Type 'CO' Knuckle Jar



Closed



Open



ASSEMBLY NUMBER	MAX OD	STROKE LENGTH (Inches)	ENGINEERING DATA					
			FISHING NECK	THREAD CONNECTION	LENGTH (Inches)		WEIGHT	
					Closed	Open	lbs	kgs
10202201252	1 1/4"	2	1.187"	15/16" - 10	12.8	14	3.34	1.51
10202201254		4			14.8	18	3.8	1.7
10202201256		6			16.8	22	4.42	2.0
10202201258		8			18.8	26	4.96	2.25
10202201502	1 1/2"	2	1.375"	15/16" - 10	12.25	14	4.41	2
10202201504		4			14.25	18	5.1	2.3
10202201506		6			16.37	22	5.8	2.65
10202201508		8			18.37	26	6.61	3
10202201752	1 3/4"	2	1.750"	1 1/16" - 10	12.96	14.96	7.39	3.35
10202201754		4			14.96	18.96	8.6	3.93
10202201756		6			16.96	22.96	9.4	4.3
10202201758		8			18.96	26.96	10.81	4.9
10202201872	1 7/8"	2	1.750"	1 1/16" - 10	12.96	14.96	7.39	3.35
10202201874		4			14.96	18.96	8.6	3.93
10202201876		6			16.96	22.96	9.4	4.3
10202201878		8			18.96	26.96	10.81	4.9
10202202124	2 1/8"	4	1.750"	1 1/16" - 10	14.96	18.96	9.13	4.14
10202202126		6			16.96	22.96	10.35	4.69
10202202504	2 1/2"	4	2.313"	1 1/16" - 10	15.44	19.44	10.65	4.83
10202202506		6			17.44	23.44	12.03	5.46
10202202514		4		1 9/16" - 10	15.84	19.84	10.7	4.85
10202202516		6			17.84	23.84	12.1	5.49

ASSEMBLY NUMBER	MAX OD	STROKE LENGTH (Inches)	ENGINEERING DATA					
			FISHING NECK	CONNECTION	LENGTH (Inches)		WEIGHT	
					Closed	Open	lbs	kgs
10202031504	1 1/2"	4	1.375"	'RQLD'	19.75	23.38	6.6	3
10202031506		6			21.75	27.38	7.18	3.26
10202031874	1 7/8"	4	1.750"	'RQLD'	19.75	23.75	10.6	4.8
10202031876		6			21.75	27.75	11.75	5.33
10202032124	2 1/8"	4	1.750"	'RQLD'	19.94	23.94	12.96	5.88
10202032126		6			21.94	27.94	14.26	6.47
10202032504	2 1/2"	4	2.313"	'RQLD'	20.44	24.44	20.03	9.1
10202032506		6			22.44	28.44	22	9.98

Rebco Type 'CS' Knuckle Jar with 'RQLS' connection is available

Rebco Type 'CD' Knuckle Jar



SECTION I: TOOL STRING

2021

REBCO

Type 'DO' and 'DD' Tubular Jar Assembly: 1/2" – 2 1/2"

Rebco Tubular Jar consists of a perforated tube for fluid by-pass, and a mandrel connected to the fishing neck. A telescoping mandrel is extended or collapsed within the tube by manipulating the Wireline at the surface, thus jarring action is produced. As in Type 'AO' Link Jars, the intensity of jarring impact depends on the weight of Stem and wellbore conditions.

Rebco offers Tubular Jars with various Stroke lengths, Tool String Connections, and added feature of the double Fishing Neck.

Type 'DO' - Threaded Connection



NOM SIZE	STROKE	ASSEMBLY NUMBER	ENGINEERING					
			MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)	
1/2"	6"	10203200500	.50"	3/8" - 16	NONE	13.5"	.6 (.27)	
3/4"	6.0"	10203200750	.75"	1/2" - 13	.687"	14.0"	1.2 (.54)	
	10.0"	10203200751				18.0"	1.54 (.7)	
1"	6.0"	10203201000	1.00"	5/8" - 11	.750"	14.2"	2.1 (.95)	
	10.0"	10203201001				18.0"	2.7 (1.25)	
	14.0"	10203201002				26.0"	3.9 (1.77)	
1 1/4"	20.0"	10203201252	1.25"	15/16" - 10	1.187"	32.12"	8.2 (3.70)	
	30.0"	10203201253				42.12"	10.75 (4.88)	
1 1/2"	20.0"	10203201502	1.50"	15/16" - 10	1.375"	35.48"	13.2 (6.0)	
	24.0"	10203201524				39.48"	15.8 (7.18)	
	30.0"	10203201503				45.48"	19.8 (8.98)	
1 3/4"	20.0"	10203201752	1.75"	1 1/16" - 10	1.750"	35.48"	17.0 (7.7)	
	30.0"	10203201753				45.48"	21.8 (9.90)	
1 7/8"	20.0"	10203201872	1.88"	1 1/16" - 10	1.750"	36.52"	18.8 (8.53)	
	24.0"	10203201824				40.52"	21.07 (9.56)	
	30.0"	10203201873				46.52"	24.19 (10.97)	
2 1/8"	20.0"	10203202122	2.12"	1 1/16" - 10	1.750"	43.54"	33.0 (14.99)	
	30.0"	10203202123				53.54"	43.3 (19.65)	
2 1/2"	20.0"	10203202502	2.50"	1 9/16" - 10	2.313"	34.22"	34.0 (15.42)	
		10203202512				44.22"	42.37 (19.40)	
	10203202503	1 1/16" - 10				2.313"	34.22"	34.0 (15.42)
	10203202513	1 9/16" - 10						



Type 'DD' - QLS Connection

NOM SIZE	STROKE	ASSEMBLY NUMBER	ENGINEERING				
			MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/4"	20.0"	10203141252	1.25"	'RQLS'	1.187"	33.88"	10.2 (4.63)
	30.0"	10203031253				43.87"	13.75 (6.24)
1 1/2"	20.0"	10203031502	1.50"	'RQLD'	1.375"	38.48"	16.2 (7.35)
	24.0"	10203031524				42.48"	18.8 (8.53)
	30.0"	10203031503				48.48"	22.8 (10.34)
1 3/4"	20.0"	10203031752	1.75"	'RQLD'	1.750"	37.23"	20.0 (9.07)
	30.0"	10203031753				47.25"	24.8 (11.25)
1 7/8"	20.0"	10203031872	1.88"	'RQLD'	1.750"	38.27"	21.8 (9.89)
	24.0"	10203031824				42.28"	24.07 (10.92)
	30.0"	10203031873				46.52"	27.19 (12.33)
2 1/8"	20.0"	10203032122	2.12"	'RQLD'	1.750"	48.27"	36.0 (16.33)
	30.0"	10203032123				55.29"	46.3 (21.0)
2 1/2"	20.0"	10203032502	2.50"	'RQLD'	2.313"	38.13"	37.4 (16.96)
	10203032512						



SECTION I: TOOL STRING

2021

REBCO

Type 'SO' and 'SD' Spring Jar Assembly: 1 1/2" – 2 1/2"

Rebco Spring Jar is a telescoping up-stroke Jar installed below the Stem. The impact force can be predetermined at surface by the Operator with the Calibration Unit shown below.

Rebco offers Spring Jars with Threaded or **QLS** Connections.



Type 'SO' - Threaded Connection

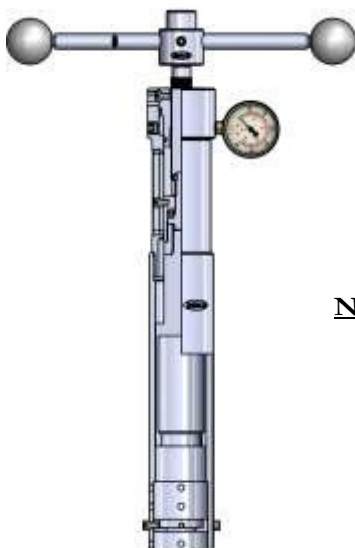
NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/2"	10214201500	1.50"	15/16" - 10	1.375"	35.68"	14.20 (6.94)
1 3/4"	10214201750	1.75"	1 1/16" - 10	1.750"	37.55"	19.28 (8.75)
1 7/8"	10214201870	1.88"				22.45 (10.18)
2 1/8"	10214202120	2.12"				29.56 (13.41)
2 1/2"	10214202500	2.50"	1 9/16" - 10	2.313"	38.65"	43.36 (21.97)
	10214202501				38.90"	

Type 'SD' - QLS Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/2"	10214031500	1.50"	'RQLD'	1.375"	42.38"	16.01 (7.26)
1 3/4"	10214031750	1.75"		22.21 (10.07)		
1 7/8"	10214031870	1.88"		25.75 (11.68)		
2 1/8"	10214032120	2.12"		33.83 (15.35)		
2 1/2"	10214032500	2.50"		44.00"	48.43 (21.97)	

ACCESSORIES: Shown Tools are necessary to set the Jars for desired Impact. Tools are priced separately. Order by **PART NUMBER** shown.

Calibration Unit



TOOL	SIZE	PART NUMBER
CALIBRATION UNIT	1 1/2" - 2 1/8"	10202161
	2 1/2"	10202162
ADJUSTMENT WRENCH	1 1/2"	1021433
	1 3/4" - 2 1/8"	1021434
	2 1/2"	1021451
RELEASE WRENCH	1 1/2"	1021413
	1 3/4" - 2 1/8"	1021435
		1021449
	2 1/2"	1021450

Adjustment Wrench



NOTE: See **Rebco** 'DOM' (Design and Operating Manual) for proper Service and Setting of **Rebco** Type 'SO' and Type 'SD' Jars.



Release Wrench



SECTION I: TOOL STRING

2021

REBCO

Product Code: 22

Type 'EO' and 'ED' Accelerator Assembly: 1 1/2" – 2 1/2"

Rebco Accelerator is designed to be used with various Jars. The Accelerator assists in maintaining a constant pull as the Jars open, and upon release, the impact is intensified.

Rebco offers Accelerator with Threaded and **QLS** Connections.



Type 'EO' - Threaded Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/2"	10204201500	1.50"	15/16" - 10	1.375"	22.66"	7.0 (3.18)
1 3/4"	10204201750	1.75"	1 1/16" - 10	1.750"		14.0 (6.35)
1 7/8"	10204201870	1.88"			27.44"	14.2 (6.45)
2 1/8"	10204202120	2.12"		18.0 (8.20)		
2 1/2"	10204202500	2.50"	1 9/16" - 10	2.313"	27.95"	24.8 (11.25)
	10204202501					



Type 'ED' - QLS Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/2"	10204031500	1.50"	'RQLD'	1.375"	27.45"	7.9 (3.58)
1 3/4"	10204031750	1.75"		15.4 (6.99)		
1 7/8"	10204031870	1.88"		32.36"	15.6 (7.08)	
2 1/8"	10204032120	2.12"			19.3 (8.75)	
2 1/2"	10204032500	2.50"			31.2 (14.2)	



SECTION I: TOOL STRING

2021

REBCO

Product Code: 23

Type 'AO' and 'AD' Knuckle Joint Assembly: 3/8" – 2 1/2"

Rebco Knuckle Joint has a ball type swivel joint to provide flexibility in the Wireline Tool String. Normally, it is used on the end of the Wireline Tool String to allow for angular movement between the tool string and the Running or Pulling Tool.

Rebco offers Knuckle Joints with Threaded and **QLS** Connections, and Double Fishing Neck.

Type 'AO' - Threaded Connection



NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
3/8"	10300200375	.38"	1/4" - 20	NONE	4.0"	.05 (.02)
1/2"	10300200500	.50"	3/8" - 16	NONE	3.81"	.2 (.10)
3/4"	10300200750	.75"	1/2" - 13	.687"	6.19"	.5 (.25)
7/8"	10300200875	.88"		.750"		.7 (.3)
1"	10300201000	1.00"	5/8" - 11	1.187"	7.23"	1.0 (.45)
1 1/4"	10300201250	1.25"	15/16" - 10			1.375"
1 1/2"	10300201500	1.50"		1 1/16" - 10	1.750"	11.12"
1 3/4"	10300201750	1.75"	5.7 (2.60)			
1 7/8"	10300201870	1.88"	6.4 (2.90)			
2 1/8"	10300202120	2.12"	7.1 (3.20)			
2 1/2"	10300202500	2.50"	1 9/16" - 10	2.313"	11.44"	15.4 (6.99)
	10300202501					11.84"

Type 'AD' - QLS Connection

NOM SIZE	ASSEMBLY NUMBER	ENGINEERING				
		MAX OD	CONNECTION	FISHING NECK	LENGTH	WEIGHT Lbs (kgs)
1 1/2"	10300031500	1.50"	'RQLD'	1.375"	15.94"	5.3 (2.40)
1 3/4"	10300031750	1.75"		1.750"	10.12"	8.4 (3.81)
1 7/8"	10300031870	1.88"		15.94"	10.3 (4.67)	
2 1/8"	10300032120	2.12"		2.313"	16.44"	16.1 (7.30)
2 1/2"	10300032500	2.50"				

Rebco Type 'AS' Knuckle Joint with 'RQLS' connection is available

