



SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

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EQUALIZING SUB-ASSEMBLIES provide means of equalizing pressure across Sub-Surface Controls such as Locking Mandrels and Tubing Mandrels.



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A - Equalizing Sub-Assemblies Types:

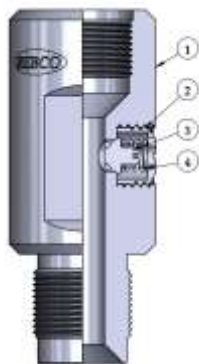
Product Code: 20

Type 'ROTB' and 'ROTH' Equalizing Sub: 2" - 3"

Rebco Type 'ROTB' and 'ROTH' Equalizing Subs are to be used with Sub-Surface Controls such as Locking Mandrels. Both Equalizing Subs are identical except the ID is larger in Type 'ROTH' Equalizing Sub.

These Sub-Assemblies are designed to allow pressure differentials to be equalized across the Lock Mandrels and Flow controls before attempting to retrieve them.

NOTE: These types of Equalizing Subs require running/pulling equalizing prongs.



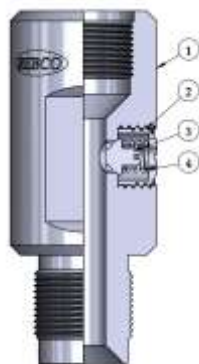
Type 'ROTB'

NOMINAL SIZE	2"	2 1/2"	3"
ASSEMBLY NUMBER	2001202000	2001202500	2001203000

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1	20013	20014	20015
2	ORIFICE PLATE	1	20012	20012	20012
3	VALVE	1	20011	20011	20011
4	SPRING	1	9000106	9000106	9000106

ENGINEERING DATA:

MAXIMUM OD	1.75"	2.12"	2.62"
MINIMUM ID	.53"	.72"	1.16"
EFFECTIVE AREA THRU ORIFICE PLATE	.003"	.003"	.003"
BOX THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
PIN THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
LENGTH	4.25"	4.25"	4.25"
WEIGHT lbs (kg)	2.0 (.91)	2.75 (1.25)	3.50 (1.59)
MATERIAL	Stainless	Stainless	Stainless



Type 'ROTH'

NOMINAL SIZE	2"	2 1/2"	3"
ASSEMBLY NUMBER	2006202000	2006202500	2006203000

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1	200614	200615	200616
2	ORIFICE PLATE	1	20069	20069	20069
3	VALVE	1	200610	200610	200610
4	SPRING	1	9000235	9000235	9000235

ENGINEERING DATA:

MAXIMUM OD	1.75"	2.12"	2.62"
MINIMUM ID	.69"	.87"	1.50"
EFFECTIVE AREA THRU ORIFICE PLATE	.006"	.006"	.006"
BOX THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
PIN THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
LENGTH	4.25"	4.25"	4.25"
WEIGHT lbs (kg)	2.0 (.91)	2.75 (1.25)	3.50 (1.59)
MATERIAL	Stainless	Stainless	Stainless

NOTE: Equalizing Subs are available in variety of Materials, suitable for down-hole conditions.



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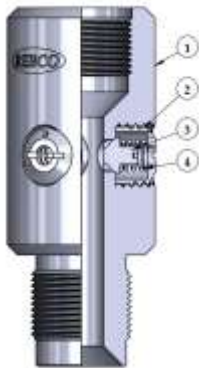
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Type 'ROTF' Equalizing Sub: 2" – 3"

Rebco Type 'ROTF' Equalizing Subs are to be used with Sub-Surface Controls such as Locking Mandrels. Type 'ROTF' Equalizing Subs can be supplied with 2 or 3 Orifice Ports.

These Sub-Assemblies are designed to allow pressure differentials to be equalized across the Lock Mandrels and Flow controls before attempting to retrieve them.

NOTE: These types of Equalizing Subs require running/pulling equalizing prongs.



Type 'ROTF'

NOMINAL SIZE	2"	2 1/2"	3"
ASSEMBLY NUMBER	2025202000	2025202500	2025203000

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	BODY	1	20251	20252	20253
2	ORIFICE PLATE	3	20012	20012	20012
3	VALVE	3	20011	20011	20011
4	SPRING	3	9000106	9000106	9000106

ENGINEERING DATA:

MAXIMUM OD	1.74"	2.12"	2.62"
MINIMUM ID	.53"	.72"	1.16"
EFFECTIVE AREA THRU ORIFICE PLATE	.011"	.011"	.011"
BOX THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
PIN THREAD CONNECTION	1 3/16" - 14	1 9/16" - 12	2" - 12
LENGTH	4.25"	4.25"	4.25"
WEIGHT lbs (kg)	2.0 (.91)	2.75 (1.25)	3.50 (1.59)
MATERIAL	Stainless	Stainless	Stainless

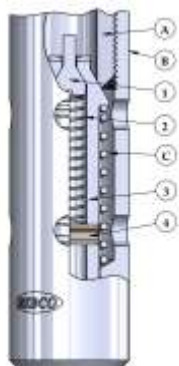
Product Code: 21

Type 'ROTC' Plug Bean Sub-Assembly: 2" – 3"

Rebco Type 'ROTC' Plug Bean Sub-Assembly is to be used with Sub-Surface Controls such as Locking Mandrels and Tubing Mandrels.

The Plug holds pressure from below only and provide the means of pumping through the Plug.

NOTE: DET A is not included in the Sub-Assembly; to be specified when ordering.



NOMINAL SIZE	2"	2 1/2"	3"
SUB-ASSEMBLY NUMBER	2102202000	2102202500	2102203000

DET	PART NAME	QTY	PART NO	PART NO	PART NO
A	ADAPTER CROSS OVER		To be specified (Lock Mandrel used with)		
B	TYPE 'A' BEAN CAGE	1	21002	21003	21004
C	SPRING	1	900091	9000108	9000109
1	SECONDARY VALVE	1	21023500	21023500	21023500
2	SPRING	1	9000110	9000110	9000110
3	HOUSING	1	2102100	2102400	2102600
4	PIN	1	18840407501	18840408751	18840412501

ENGINEERING DATA:

MAXIMUM OD - (DET 3) HOUSING	1.00"	1.25"	1.62"
BEAN CAGE (DET B) BOX THREAD	1 3/16" - 14	1 9/16" - 12	2" - 12
MATERIAL	Stainless	Stainless	Stainless



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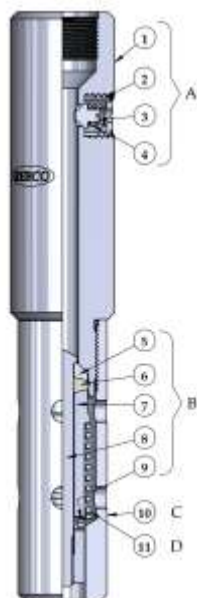
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Product Code: 21

Type 'ROTD' Bean Plug Sub-Assembly: 2" – 3"

Rebco Type 'ROTD' Bean Plug Sub-Assembly is to be used with Sub-Surface Controls such as Locking Mandrels and Tubing Mandrels.

The Plug holds pressure from below only and provide the means of pumping through the Plug.



NOMINAL SIZE		2"	2 1/2"	3"	
SUB-ASSEMBLY NUMBER (DET - A,B,C,D)		2103202000	2103202500	2103203000	
DET	PART NAME	QTY	PART NO	PART NO	PART NO
A	'ROTD' EQUALIZING SUB	1	20032000	20032500	20033000
1	BODY	1	20031	20032	20033
2	ORIFICE PLATE	1	2001200	2001200	2001200
3	VALVE	1	20011	20011	20011
4	SPRING	1	9000106	9000106	9000106
B	'D' PLUG BEAN	1	2103203	2103204	2103205
5	PACKING ADAPTER	1	21033	21036	21039
6*	PACKING	1	91153	91154	91158
7	BODY	1	21031	21034	21037
8	CORE	1	21032	21035	21038
9*	SET SCREW	1	18558210250	18558210250	18558210375
C - 10	BEAN CAGE	1	21002	210023	21004
D - 11	SPRING	1	900091	9000108	9000109
Redress Kit (* Included as Part of Kit) A - D			21032024200	21032024250	21032024300

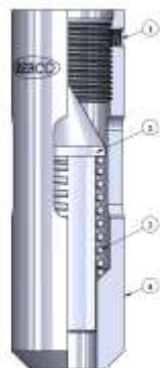
ENGINEERING DATA:

	2"	2 1/2"	3"
MAXIMUM OD	1.75"	2.12"	2.62"
ID	.53"	.72"	1.16"
BODY (DET A - 1) BOX THREAD	1 3/16" - 14	1 9/16" - 12	2" - 12
MATERIAL	Stainless	Stainless	Stainless
WEIGHT - lbs (kgs)	4.8 (2.2)	7.6 (3.5)	12.7 (5.7)

Product Code: 22

Type 'ROTT' Input Safety Valve Bottom Sub-Assembly: 2" – 3"

Rebco Type 'ROTT' Input Safety Valve Sub-Assembly bottom is to be used with Injection Safety Valves. Spring loaded bottom valve holds pressure from below only and provide the means of pumping through the Plug.



NOMINAL SIZE		2"	2 1/2"	3"	
SUB-ASSEMBLY NUMBER		2215202030	2215202530	2215203030	
DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	SET SCREW	1	18558210250	18558210250	18558210250
2	VALVE	1	22159	221511	221513
3	SPRING	1	900091	9000108	9000109
4	CAGE	1	221510	221512	221514

ENGINEERING DATA:

	2"	2 1/2"	3"
MAXIMUM OD	1.50"	1.87"	2.38"
CAGE BOX THREAD	1 3/16" - 14	1 9/16" - 12	2" - 12
MATERIAL	Stainless/Alloy	Stainless/Alloy	Stainless/Alloy



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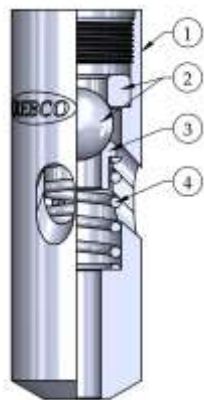
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Product Code: 21

Type 'ROTXR' Pump-Through Bottom Sub-Assembly:



Rebco Type 'ROTXR' Pump-Through Bottom Sub-Assemblies are to be used with Lock Mandrels and Equalizing Valves (Valve type) according to the Nominal Size and Profile of the Landing Nipple.

Spring loaded Ball and Seat bottom holds pressure from below only and provide the means of pumping through the Plug. See [Section XVIII](#) - Pump-Through Plugs.

NOTE: When ordering Specify Lock Mandrel Size and Type to be used with, and Material to suit Down-hole conditions/requirement.

For Part Numbers and Engineering Data see [Section XVI](#) - PLUG CHOKES

DET	PART NAME	QTY
1	CAGE	1
2	BALL & SEAT SUB-ASSEMBLY	1 Set
3	SPRING RETAINER	1
4	SPRING	1

Product Code: 21

Type 'BB' Circulating Bottom Sub-Assembly: 1.78" - 2.81"



Rebco Type 'BB' Circulating Bottom Sub-Assemblies for use in Type 'BF' Landing Nipple are to be used with Lock Mandrels (See [Section XIV](#)) Type 'ROTS', 'ROTW', 'ROTG', and 'ROTM' with 'API' Cross Over Mandrel or Packing Mandrel and Type 'BB' Seal Unit according to the Nominal Size.

Rebco Type 'BB' Circulating Bottom Sub-Assemblies for use in Type 'BR' Landing Nipple are to be used with Lock Mandrels (See [Section XIV](#)) Type 'ROTZ', and 'ROTK' with 'API' Cross Over Mandrel or Packing Mandrel and Type 'BB' Seal Unit according to the Nominal Size.

Circulating Bottom Sub-Assembly holds pressure from below while allowing circulation from above. It can be held open to bypass fluid while running and pulling.

NOTE: When ordering Specify Lock Mandrel Size and Type to be used with, and Material to suit Down-hole conditions/requirement.

For Part Numbers and Engineering Data see [Section XVI](#) - PLUG CHOKES

DET	PART NAME	QTY
1	SEAL UNIT	1 Set
2	API Cross Over Mandrel	1
3	CIRCULATING VALVE	1
4	VALVE STEM	1
5	SPRING	1
6	RETAINER	1
7	SPRING	1
8	Type 'A' or 'B' CAGE	1

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This Document describes the ROT Equipment; the intent is to relate the information to the user; there are no guarantees stated or implied as to the results and function of the Equipment.



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Product Code: 21

Type '**BT**' Circulating Choke Bottom Sub-Assembly: **1.78" - 2.81"**

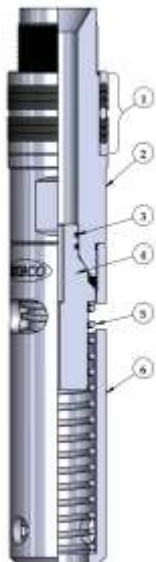
Rebco Type '**BT**' Circulating Choke Bottom Sub-Assemblies for use in Type '**BF**' Landing Nipple are to be used with Lock Mandrels (See Section XIV) Type '**ROTW**', with '**API**' Cross Over Mandrel or Packing Mandrel and Type '**BB**' Seal Unit according to the Nominal Size.

Rebco Type '**BT**' Circulating Choke Bottom Sub-Assemblies for use in Type '**BR**' Landing Nipple are to be used with Lock Mandrels (See Section XIV) Type '**ROTZ**', with '**API**' Cross Over Mandrel or Packing Mandrel and Type '**BB**' Seal Unit according to the Nominal Size.

Circulating Choke Bottom Sub-Assembly restricts fluid flow in the tubing string. It permits circulation from above. The Flow Beans can be ordered to specific ID size by increments of 1/64".

NOTE: When ordering Specify Lock Mandrel Size and Type to be used with, and Material to suit Down-hole conditions/requirement.

For Part Numbers and Engineering Data see Section XVI - PLUG CHOKES



DET	PART NAME	QTY
1	SEAL UNIT	1 Set
2	API Cross Over Mandrel	1
3	'O' RING SEAL	2
4	Type ' BT ' BEAN	1
5	SPRING	1
6	Type ' B ' CAGE	1

NOTE: There are other Types of Bottoms available: Type '**BR**', '**BP**', please inquire.

B. Accessories: Used with Equalizing Sub-Assemblies

Beans: Available in 1/64" orifice Increments

Type '**B**' CageType '**A**' Cage

'API' Cross-Over Mandrel

Type '**AO**'Type '**BT**'Type '**K**
Equalizing Shear Plug



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Product Code: 20

Type 'ROTR' Equalizing Valve Sub-Assembly: 1.500" – 3.813"

Rebco Type 'ROTR' Equalizing Sub-Assembly is to be used with Type 'ROTR' and Type 'ROTRN' Lock Mandrels.

These Sub-Assemblies are designed to allow pressure differentials to be equalized across the Lock Mandrels and Flow controls before attempting to retrieve them from respective Landing Nipples.



NOMINAL SIZE	1.500"	1.710"	1.781"	1.875"
ASSEMBLY NUMBER	20132015030	20132017130	20132017830	20132018730

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	201315030	201317130	201317830	201318730
2 *	BACK UP RING	4	911201101515	911201101915	911201102315	911201102315
3 *	'O' RING SEAL	2	911221101506	911221101906	911221102306	911221102306
4	VALVE	1	241879	241863	201865	201865
5	VALVE CAP	1	201349	201349	201321	201321
REDRESS KIT (* Included as part of Kit)			20132024150	20132024171	20132024178	20132024178

ENGINEERING DATA:

MAXIMUM OD – No-Go	1.495"	1.705"	1.776"	1.870"
BOX THREAD CONNECTION	1 1/8" - 16	1 1/8" - 16	1 3/8" - 14	1 3/8" - 14
PIN THREAD CONNECTION	1 1/8" - 16	1 1/8" - 16	1 3/8" - 14	1 3/8" - 14
LENGTH	8.12"	8.12"	8.12"	8.12"
WEIGHT lbs (kg)	2.3 (1.04)	2.4 (1.09)	2.8 (1.27)	2.9 (1.32)
MATERIAL*	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy

To be used with Lock Mandrel	Type 'ROTR'	10132015030	10132017130	10132017830	10132018730
	Type 'ROTRN'	10131015030	10131017130	10131017830	10131018730
Sub-Assembly without Cap (DET 5)		20132015031	20132017131	20132017831	20132018731



NOMINAL SIZE	2.000"	2.125"	2.188"	2.313"
ASSEMBLY NUMBER	20132020030	20132021230	20132021830	20132023130

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	201320031	201321231	201321831	201323131
2 *	BACK UP RING	4	911201102315	911201102315	911201102815	911201102815
3 *	'O' RING SEAL	2	911221102306	911221102306	911221102806	911221102806
4	VALVE	1	201865	201865	201868	201868
5	VALVE CAP	1	201321	201321	201315	201315
REDRESS KIT (* Included as part of Kit)			20132024178	20132024178	20132024218	20132024218

ENGINEERING DATA:

MAXIMUM OD – No-Go	1.995"	2.120"	2.183"	2.308"
BOX THREAD CONNECTION	1 3/8" - 14	1 3/8" - 14	1 3/4" - 12	1 3/4" - 12
PIN THREAD CONNECTION	1 3/8" - 14	1 3/8" - 14	1 3/4" - 12	1 3/4" - 12
LENGTH	8.12"	8.12"	8.12"	8.12"
WEIGHT lbs (kg)	3.0 (1.36)	3.1 (1.40)	4.0 (1.85)	4.2 (1.90)
MATERIAL*	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy

To be used with Lock Mandrel	Type 'ROTR'	10132020030	10132021230	10132021830	10132023130
	Type 'ROTRN'	10131020030	10131021230	10131021830	10131023130
Sub-Assembly without Cap (DET 5)		20132020031	20132021231	20132021831	20132023131

*Norm Alloy (NACE MR-01-75, 1980 Rev.)



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Type 'ROTR' Equalizing Valve Sub-Assembly: Continued



NOMINAL SIZE	2.562"	2.750"	2.813"	2.875"
ASSEMBLY NUMBER	20132025630	20132027530	20132028130	20132028730

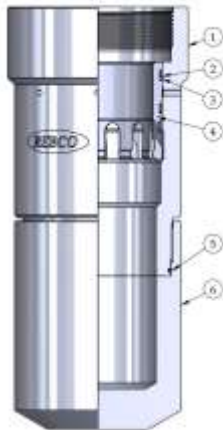
DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	201325630	201327530	201328130	201328730
2 *	'O' RING SEAL	2	911221103006	911221103206	911221103206	911221103206
3 *	BACK UP RING	4	911201103015	911201103215	911201103215	911201103215
4	VALVE	1	201325	201319	201319	201319
5 *	'O' RING SEAL	1	911221103106	911221103306	911221103306	911221103306
6	VALVE CAP	1	201320	201327	201327	201327
REDRESS KIT (* Included as part of Kit)			20132024256	20132024275	20132024275	20132024275

ENGINEERING DATA:

MAXIMUM OD – No-Go	2.557"	2.745"	2.808"	2.869"
BOX THREAD CONNECTION	2" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB
PIN THREAD CONNECTION	2" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB
LENGTH	8.12"	9.12"	9.12"	9.12"
WEIGHT lbs (kg)	5.7 (2.60)	6.2 (2.80)	6.2 (2.80)	6.2 (2.80)
MATERIAL*	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy

To be used with Lock Mandrel	Type 'ROTR'	10132025630	10132027530	10132028130	10132028730
	Type 'ROTRN'	10131025630	10131027530	10131028130	10131028730
Sub-Assembly without Cap (DET 6)		20132025631	20132027531	20132028131	20132028731

NOMINAL SIZE	3.437"	3.688"	3.813"
ASSEMBLY NUMBER	20132034330	20132036830	20132038130



DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	201333430	201328	201338130
2 *	'O' RING SEAL	2	911221103406	911221103706	911221103706
3 *	BACK UP RING	4	911201103415	911201103715	911201103715
4	VALVE	1	201342	201333	201342
5 *	'O' RING SEAL	1	911221103706	911221104006	911221103706
6	VALVE CAP	1	201336	201360	201336
REDRESS KIT (* Included as part of Kit)			20132024343	20132024368	20132024381

ENGINEERING DATA:

MAXIMUM OD – No-Go	3.431"	3.682"	3.807"	
BOX THREAD CONNECTION	2 3/4" - 12 SLB	3 1/16" - 12 SLB	3 1/16" - 12 SLB	
PIN THREAD CONNECTION	2 3/4" - 12 SLB	3 1/16" - 12 SLB	2 3/4" - 12 SLB	
LENGTH	8.63"	8.63"	8.63"	
WEIGHT lbs (kg)	10.6 (4.81)	11.0 (4.99)	12.0 (5.44)	
MATERIAL*	Norm Alloy	Norm Alloy	Norm Alloy	
To be used with Lock Mandrel	Type 'ROTR'	18132034330	18132036830	18132038130
	Type 'ROTRN'	18131034330	18131036830	18131038130
Sub-Assembly without Cap (DET 6)		20132034331	20132036831	20132038131

*Norm Alloy (NACE MR-01-75, 1980 Rev.)

NOTE: Equalizing Sub-Assemblies are available in variety of Materials, suitable for down-hole conditions.



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Product Code: 24

Type 'ROTPR' Equalizing Prong and Valve Sub-Assembly: 1.781" – 4.813"

Rebco Type 'ROTPR' Equalizing Prong and Valve Sub-Assembly, when attached to Type 'ROTR' and/or 'ROTRN' Lock Mandrel Assembly, converts the Lock Mandrel to a Plug Choke, with equalizing device, capable of holding pressure differentials from above or below.



NIPPLE SEAL BORE	1.781"	1.875"	2.000"	2.125"
SUB-ASSEMBLY NUMBER	24111317830	24111318730	24111320030	24111321230

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	EQUALIZING PRONG	1	2411298	2411298	2411298	2411298
2	HOUSING (NO-GO)	1	241317830	241318730	241320030	241321230
3	FEMALE ADAPTER	2	10141891	10141891	10141891	10141891
4 *	'V' PACKING	12	1862142	1862142	1862142	1862142
5	MALE ADAPTER	2	10141892	10141892	10141892	10141892
6	DOUBLE FEMALE ADAPTER	1	10141895	10141895	10141895	10141895
7	PACKING NUT	1	1018896	1018896	1018896	1018896
8	VALVE CAP	1	20136	20136	20136	20136
REDRESS KIT (* Included as part of Kit)			24111324178	24111324178	24111324178	24111324178

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	1.776"	1.870"	1.995"	2.120"
BOX THREAD CONNECTION	1 3/8" - 14	1 3/8" - 14	1 3/8" - 14	1 3/8" - 14
PRONG FISHING NECK SIZE	1.187"	1.187"	1.187"	1.187"
PRONG LENGTH	22.4"	22.4"	22.4"	22.4"
LENGTH	24.71"	24.71"	24.71"	24.71"
'V' PACKING OD	.818"	.818"	.818"	.818"
PRONG RUNNING / PULLING TOOL	4014011500	4014011500	4014011500	4014011500
MATERIAL *	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy
WEIGHT lbs (kg)	6.2 (2.81)	8.8 (3.99)	9.0 (4.08)	9.1 (4.13)



NIPPLE SEAL BORE	2.188"	2.313"	2.562"	2.750"
SUB-ASSEMBLY NUMBER	24111321830	24111323130	24111325630	24111327530

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	EQUALIZING PRONG	1	241313	241313	2411263	2413181
2	HOUSING (NO-GO)	1	241321830	241323130	241325630	241327530
3	FEMALE ADAPTER	2	1014837	1014837	1014582	1014582
4 *	'V' PACKING	12	1862112	1862112	1862111	1862111
5	MALE ADAPTER	2	1014835	1014835	1014581	1014581
6	DOUBLE FEMALE ADAPTER	1	10141813	10141813	10141814	10181627
7 *	'O' RING SEAL	1	None	None	911221103106	911221103106
8	PACKING NUT	1	1018709	1018709	10181135	10181135
9	VALVE CAP	1	201315	201315	201320	201320
12 *	PORT PLUGS (Not Shown)	3	None	None	18556210250	18556210250
REDRESS KIT (* Included as part of Kit)			24111824218	24111824218	24111324256	24111324275

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	2.183"	2.308"	2.557"	2.745"
BOX THREAD CONNECTION	1 3/4" - 12	1 3/4" - 12	2" - 12 SLB	2 1/4" - 12 SLB
PRONG FISHING NECK SIZE	1.375"	1.375"	1.375"	1.375"
PRONG LENGTH	24.75"	24.75"	23.46"	25.0"
LENGTH	27.34"	27.34"	25.74"	28.0"
'V' PACKING OD	.937"	.937"	1.250"	1.250"
PRONG RUNNING / PULLING TOOL	4014012000	4014012000	4014012000	4014012000
MATERIAL *	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy
WEIGHT lbs (kg)	8.5 (3.85)	8.7 (3.95)	16.9 (7.6)	17.8 (8.07)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

JP042613

REBCO

Type 'ROTPR' Equalizing Prong and Valve Sub-Assembly: Continued



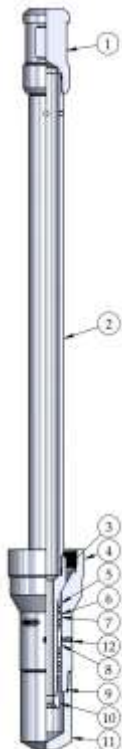
NIPPLE SEAL BORE	2.813"	2.875"	3.437"
SUB-ASSEMBLY NUMBER	24111328130	24111328730	24111334330

DET	PART NAME	QTY	PART NO	PART NO	PART NO
1	EQUALIZING PRONG	1	2413181	2413181	24113433
2	HOUSING (NO-GO)	1	241328130	241328730	241334330
3	FEMALE ADAPTER	2	1014582	1014582	10182082
4 *	'V' PACKING	12	1862111	1862111	1862110
5	MALE ADAPTER	2	1014581	1014581	10182081
6	DOUBLE FEMALE ADAPTER	1	10181627	10181627	10181627
7 *	'O' RING SEAL	1	911221103106	911221103106	911221103306
8	PACKING NUT	1	10181135	10181135	101841
9	VALVE CAP	1	201320	201320	201327
NS *	PORT PLUGS (Not Shown)	3	18556210250	18556210250	18556210250
REDRESS KIT (* Included as part of Kit)			24111324275	24111324275	24111824312

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	2.808"	2.870"	3.431"
BOX THREAD CONNECTION	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 3/4" - 12 SLB
PRONG FISHING NECK SIZE	1.375"	1.375"	1.750"
PRONG LENGTH	25.0"	25.0"	36.0"
LENGTH	28.0"	28.0"	38.5"
'V' PACKING OD	1.250"	1.250"	1.500"
PRONG RUNNING / PULLING TOOL	4014012000	4014012000	4014012500
MATERIAL *	Norm Alloy *	Norm Alloy *	Norm Alloy *
WEIGHT lbs (kg)	17.9 (8.12)	18.0 (8.16)	19.3 (8.75)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



NIPPLE SEAL BORE	3.688"	3.813"	4.125"	4.313"
SUB-ASSEMBLY NUMBER	24111336830	24111338130	24111341230	24111343130

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	FISHING NECK	1	24111952	24111952	24111952	24111952
2	PRONG EXTENSION	1	24111002	24111002	24111002	24111002
3	PACKING PRONG	1	24111955	24111956	24111959	24111953
4	HOUSING (NO-GO)	1	241336830	241338130	241341230	241343130
5	FEMALE ADAPTER	2	10182082	10182082	1014517	1014517
6 *	'V' PACKING	12	1862110	1862110	186214	186214
7	MALE ADAPTER	2	10182081	10182081	1014223	1014223
8	DOUBLE FEMALE ADAPTER	1	10181627	10181627	24111004	24111004
9 *	'O' RING SEAL	1	911221103306	911221103306	911221103906	911221104106
10	PACKING NUT	1	101841	101841	24111957	24111957
11	VALVE CAP	1	201327	201327	201360	201360
12 *	PORT PLUGS (SS)	3	18556220250	18556220250	18558220375	18558220375
REDRESS KIT (* Included as part of Kit)			24111824368	24111824368	24111824400	24111824400

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	3.682"	3.807"	4.119"	4.307"
BOX THREAD CONNECTION	3 1/16" - 12 SLB	3 1/16" - 12 SLB	3 1/4" - 12 SLB	3 1/4" - 12 SLB
PRONG FISHING NECK SIZE	2.313"	2.313"	2.313"	2.313"
PRONG LENGTH	34.84"	34.84"	34.84"	34.84"
LENGTH	37.15"	37.38"	38.1"	38.83"
'V' PACKING OD	1.500"	1.500"	2.313"	2.313"
PRONG RUNNING / PULLING TOOL	4014013000	4014013000	4014013000	4014013000
MATERIAL *	Norm Alloy *	Norm Alloy *	Norm Alloy *	Norm Alloy *
WEIGHT lbs (kg)	26.2 (11.9)	26.6 (12.1)	38.8 (17.6)	40.1 (18.19)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

JP042613

REBCO

Type 'ROTPR' Equalizing Prong and Valve Sub-Assembly: Continued



NIPPLE SEAL BORE	4.562"	4.813"
SUB-ASSEMBLY NUMBER	24111345630	24111348130

DET	PART NAME	QTY	PART NO	PART NO
1	FISHING NECK	1	2411911	2411911
2	PRONG EXTENSION	1	24111002	24111002
3	PACKING PRONG	1	24111954	24111954
4	HOUSING (NO-GO)	1	241345630	241348130
5	FEMALE ADAPTER	2	1014517	1014517
6 *	'V' PACKING	12	186214	186214
7	MALE ADAPTER	2	1014223	1014223
8	DOUBLE FEMALE ADAPTER	1	24111004	24111004
9 *	'O' RING SEAL	1	911221104106	911221104106
10	PACKING NUT	1	24111957	24111957
11	VALVE CAP	1	201363	201363
12 *	PORT PLUGS (SS)	3	18558220375	18558220375
REDRESS KIT (* Included as part of Kit)			24111324456	24111324456

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	4.556"	4.808"
BOX THREAD CONNECTION	3 3/4" – 12 SLB	4" – 12 SLB
PRONG FISHING NECK SIZE	3.125"	3.125"
PRONG LENGTH	38.98"	38.98"
LENGTH	42.52"	42.52"
'V' PACKING OD	2.313"	2.313"
PRONG RUNNING / PULLING TOOL	4014014000	4014014000
MATERIAL *	Norm Alloy *	Norm Alloy *
WEIGHT lbs (kg)	43.0 (19.4)	45.6 (20.9)



NIPPLE SEAL BORE	5.875"
SUB-ASSEMBLY NUMBER	24111358730

DET	PART NAME	QTY	PART NO
1	FISHING NECK	1	2411911
2	PRONG EXTENSION	1	2411923
3	PACKING PRONG	1	2411910
4	FEMALE ADAPTER	2	10181624
5	MALE ADAPTER	2	10181626
6 *	EQUALIZING PORT - SS	3	18556210250
7	DOUBLE FEMALE ADAPTER	1	10181627
8 *	'V' PACKING	12	1862110
9	PACKING NUT	1	10181630
10	HOUSING (NO-GO)	1	24111008
REDRESS KIT (* Included as part of Kit)			24111324587

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	5.870"
BOX THREAD CONNECTION	5 1/16" – 8 SLB
PRONG FISHING NECK SIZE	3.125"
PRONG LENGTH	52.62"
LENGTH	32.84"
'V' PACKING OD	1.500"
PRONG RUNNING / PULLING TOOL	4014014000
MATERIAL *	Norm Alloy *
WEIGHT lbs (kg)	54.1 (24.5)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



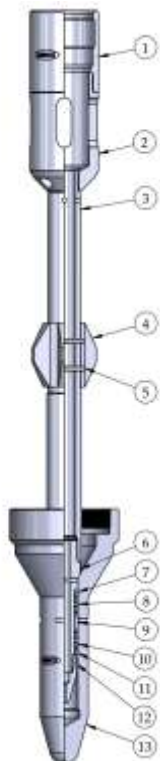
SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

JP042613

REBCO

Type 'ROTPR' Equalizing Prong and Valve Sub-Assembly: Continued



NIPPLE SEAL BORE	5.963"
SUB-ASSEMBLY NUMBER	24111359630

DET	PART NAME	QTY	PART NO
1	FISHING NECK	1	1018326
2	CAGE	1	2411915
3	EXTENSION	1	2411950
4	CENTRALIZER	1	2411914
5 *	RETAINER PIN	2	911142020
6	PACKING PRONG	1	2411910
7	UPPER FEMALE ADAPTER	1	10181624
8	MALE ADAPTER	2	10181626
9	DOUBLE FEMALE ADAPTER	1	10181627
10 *	'V' PACKING	12	1862110
11	LOWER FEMALE ADAPTER	1	10181625
12	PACKING NUT	1	10181630
13	HOUSING (NO-GO)	1	241859630
REDRESS KIT (* Included as part of Kit)			24111324596

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	5.958"
BOX THREAD CONNECTION	5 1/16" – 8 SLB
PRONG FISHING NECK SIZE	3.12"
PRONG LENGTH	38.98"
LENGTH	42.52"
'V' PACKING OD	2.313"
PRONG RUNNING/PULLING TOOL (Type 'ROTGS')	40051436804
MATERIAL *	Norm Alloy *
WEIGHT lbs (kg)	53.8 (24.2)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

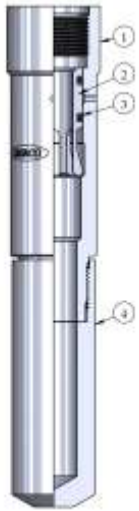
JP042613

REBCO

Type 'ROTX' Equalizing Valve Sub-Assembly: 1.500" – 4.562"

Rebco Type 'ROTX' Equalizing Sub-Assembly is to be used with Type 'ROTX' and Type 'ROTXN' Lock Mandrels.

These Sub-Assemblies are designed to allow pressure differentials to be equalized across the Lock Mandrels and Flow controls before attempting to retrieve them from respective Landing Nipples.



NOMINAL SIZE	1.500"	1.625"	1.875"	2.313"
ASSEMBLY NUMBER	20182015030	20182016230	20182018730	20182023130

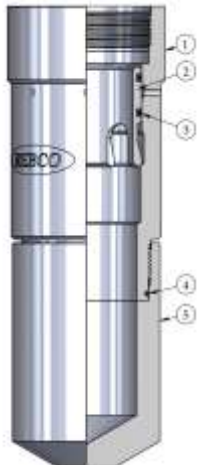
DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	100635	100634	100636	201878
2	VALVE	1	241846	241846	241844	241845
3 *	'O' RING SEAL	2	911221111606	911221111606	911221112006	911221112506
4	VALVE CAP	1	201349	201349	201321	201315
REDRESS KIT (* Included as part of Kit)			20182024150	20182024162	20182024187	20182024231

ENGINEERING DATA:

MAXIMUM OD – No-Go	1.495"	1.620"	1.870"	2.307"
BOX THREAD CONNECTION	1 1/8" - 16	1 1/8" - 16	1 3/8" - 14	1 3/4" - 12
PIN THREAD CONNECTION	1 1/8" - 16	1 1/8" - 16	1 3/8" - 14	1 3/4" - 12
LENGTH	8.12"	8.12"	8.12"	8.25"
WEIGHT lbs (kg)	2.9 (1.32)	2.6 (1.18)	3.1 (1.41)	4.4 (2.0)
MATERIAL*	Norm Alloy*	Norm Alloy*	Norm Alloy*	Norm Alloy*

To be used with Lock Mandrel	Type 'ROTX'	10182015030	10182016230	10182018730	10182023130
	Type 'ROTXN'	10181015030	10181016230	10181018730	10181023130
Sub-Assembly without End Cap(DET4)		20182015031	20182016231	20182018731	20182023131

*Norm Alloy (NACE MR-01-75, 1980 Rev.)



NOMINAL SIZE	2.750"	2.813"	2.875"	3.313"
ASSEMBLY NUMBER	20182027530	20182028130	20182028730	20182033130

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	VALVE HOUSING	1	201827531	201828131	201828731	201833131
2	VALVE	1	201895	201895	201895	100630
3 *	'O' RING SEAL	2	911221113106	911221113106	911221113106	911221122706
4 *	'O' RING SEAL	1	911221103306	911221103306	911221103306	911221103706
5	VALVE CAP	1	201327	201327	201327	201334
REDRESS KIT (* Included as part of Kit)			20182024275	20182024275	20182024275	20182024331

ENGINEERING DATA:

MAXIMUM OD – No-Go	2.745"	2.808"	2.870"	3.307"
BOX THREAD CONNECTION	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 3/4" - 12 SLB
PIN THREAD CONNECTION	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 1/4" - 12 SLB	2 3/4" - 12 SLB
LENGTH	8.02"	8.02"	8.02"	8.02"
WEIGHT lbs (kg)	6.2 (2.80)	6.3 (2.85)	6.4 (2.90)	4.9 (2.22)
MATERIAL*	Norm Alloy*	Norm Alloy*	Norm Alloy*	Norm Alloy*

To be used with Lock Mandrel	Type 'ROTX'	10182027530	10182028130	10182028730	18182033130
	Type 'ROTXN'	10181027530	10181028130	10181028730	18181033130
Sub-Assembly without End Cap(DET4)		20182027531	20182028131	20182028731	20182033131

*Norm Alloy (NACE MR-01-75, 1980 Rev.)



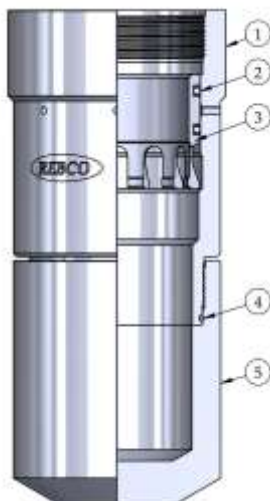
SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

JP042613

REBCO

Type 'ROTX' Equalizing Valve Sub-Assembly: 1.500" – 4.562" Continued



NOMINAL SIZE	3.813"	4.562"
ASSEMBLY NUMBER	20182038130	20182045630

DET	PART NAME	QTY	PART NO	PART NO
1	VALVE HOUSING	1	201838131	201845631
2 *	'O' RING SEAL	2	911221123106	911221123806
3	VALVE	1	201873	200633
4 *	'O' RING SEAL	1	91122103906	911221104406
5	VALVE CAP	1	201360	201366
REDRESS KIT (* Included as part of Kit)			20182024381	20182024456

ENGINEERING DATA:

MAXIMUM OD – No-Go	3.807"	4.556"
BOX THREAD CONNECTION	3 1/16" - 12 SLB	4" - 12 SLB
PIN THREAD CONNECTION	3 1/16" - 12 SLB	4" - 12 SLB
LENGTH	8.63"	10.42"
WEIGHT lbs (kg)	11.8 (5.35)	20.5 (9.30)
MATERIAL*	Norm Alloy*	Norm Alloy*

To be used with Lock Mandrel	Type 'ROTX'	18182038130	18182045630
	Type 'ROTXN'	18181038130	18181045630
Sub-Assembly without End Cap (DET5)		20182038131	20182045631

*Norm Alloy (NACE MR-01-75, 1980 Rev.)

Note: Type 'ROTX' Equalizing Sub-Assemblies are available in variety of Materials.

Lock Mandrels - see [PRODUCT CODE 10, 17 and 18](#)



SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

JP042613

REBCO

Product Code: 24

Type 'ROTPX' Equalizing Prong and Valve Sub-Assembly: 1.500" – 4.562"

Rebco Type 'ROTPX' Equalizing Prong and Valve Sub-Assembly, when attached to Type 'ROTX' and/or 'ROTXN' Lock Mandrel Assembly, converts the Lock Mandrel to a Plug Choke, with equalizing device, capable of holding pressure differentials from above or below.



NIPPLE SEAL BORE	1.500"	1.625"	1.875"	2.313"
SUB-ASSEMBLY NUMBER	24111815031	24111816231	24111818731	24111823131

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	EQUALIZING PRONG	1	2411195	2411195	2411256	2411263
2	HOUSING (NO-GO)	1	241815031	1018943	241818731	241823131
3	FEMALE ADAPTER	2	9121150	9121150	10141837	1014582
4 *	'V' PACKING	12	1862141	1862141	1862112	1862111
5	MALE ADAPTER	2	9121151	9121151	1014835	1014581
6	DOUBLE FEMALE ADAPTER	1	9121152	9121152	10141813	10141814
7	PACKING NUT	1	9121153	9121153	1018709	1018144
8	VALVE CAP	1	201349	201349	201321	201315
REDRESS KIT (* Included as part of Kit)			24111824150	24111824150	24111824187	24111824231

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	1.495"	1.620"	1.870"	2.307"
BOX THREAD CONNECTION	1 1/8" - 16	1 1/8" - 16	1 3/8" - 14	1 3/4" - 12
PRONG FISHING NECK SIZE	1.000"	1.000"	1.375"	1.375"
PRONG LENGTH	26.0"	26.0"	23.38"	23.46"
LENGTH	29.87"	29.87"	26.46"	26.56"
'V' PACKING OD	.630"	.630"	.938"	1.250"
PRONG RUNNING / PULLING TOOL	400703021375	400703021375	4014012000	4014012000
MATERIAL *	Norm Alloy	Norm Alloy	Norm Alloy	Norm Alloy
WEIGHT lbs (kg)	6.0 (2.72)	6.2 (2.81)	8.8 (3.99)	13.1 (5.94)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



NIPPLE SEAL BORE	2.750"	2.813"	2.875"	3.313"
SUB-ASSEMBLY NUMBER	24111827530	24111828130	24111828730	24111833130

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	EQUALIZING PRONG	1	2411265	2411265	2411265	2411265
2	HOUSING (NO-GO)	1	241827530	241828130	241828730	241833130
3	FEMALE ADAPTER	2	10182082	10182082	10182082	10182082
4 *	'V' PACKING	12	1862110	1862110	1862110	1862110
5	MALE ADAPTER	2	10182081	10182081	10182081	10182081
6	DOUBLE FEMALE ADAPTER	1	10181627	10181627	10181627	10181627
7 *	'O' RING SEAL	1	911221103306	911221103306	911221103306	911221103706
8	PACKING NUT	1	101841	101841	101841	101841
9	VALVE CAP	1	201327	201327	201327	201334
NS *	PORT PLUGS (SS)	3	18556210250	18556210250	18556210250	18556210250
REDRESS KIT (* Included as part of Kit)			24111824275	24111824275	24111824275	24111824331

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	2.745"	2.808"	2.870"	3.307"
BOX THREAD CONNECTION	2 1/4" – 12 SLB	2 1/4" – 12 SLB	2 1/4" – 12 SLB	2 3/4" – 12 SLB
PRONG FISHING NECK SIZE	1.375"	1.375"	1.375"	1.375"
PRONG LENGTH	25.18"	25.18"	25.18"	25.18"
LENGTH	28.13"	28.13"	28.13"	28.13"
'V' PACKING OD	1.500"	1.500"	1.500"	1.500"
PRONG RUNNING / PULLING TOOL	4014012000	4014012000	4014012000	4014012000
MATERIAL *	Norm Alloy *	Norm Alloy *	Norm Alloy *	Norm Alloy *
WEIGHT lbs (kg)	21.4 (9.6)	21.6 (9.8)	21.9 (9.9)	22.4 (10.16)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)



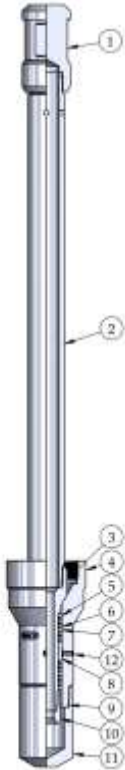
SECTION XV: EQUALIZING SUB-ASSEMBLIES

2013

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REBCO

Type 'ROTPX' Equalizing Prong and Valve Sub-Assembly: Continued



NIPPLE SEAL BORE	3.688"	3.813"	4.313"	4.562"
SUB-ASSEMBLY NUMBER	24111836830	24111838130	24111843130	24111845630

DET	PART NAME	QTY	PART NO	PART NO	PART NO	PART NO
1	FISHING NECK	1	24111952	24111952	2411911	2411911
2	PRONG EXTENSION	1	24111002	24111002	24111002	24111002
3	PACKING PRONG	1	24111955	24111955	24111953	24111954
4	HOUSING (NO-GO)	1	241336830	241838130	241843130	241845630
5	FEMALE ADAPTER	2	10182082	10182082	1014517	1014517
6 *	'V' PACKING	12	1862110	1862110	186214	186214
7	MALE ADAPTER	2	10182081	10182081	1014223	1014223
8	DOUBLE FEMALE ADAPTER	1	10181627	10181627	24111004	24111004
9 *	'O' RING SEAL	1	911221103306	911221103306	911221103906	911221104406
10	PACKING NUT	1	101841	101841	24111957	24111957
11	VALVE CAP	1	201327	201327	201360	201366
12 *	PORT PLUGS (SS)	3	18556220250	18556220250	18556220250	18558220375
REDRESS KIT (* Included as part of Kit)			24111824368	24111824381	24111824431	24111824456

ENGINEERING DATA:

MAXIMUM OD (NO-GO)	3.682"	3.807"	4.307"	4.556"
BOX THREAD CONNECTION	3 1/16" - 12 SLB	3 1/16" - 12 SLB	3 1/4" - 12 SLB	3 3/4" - 12 SLB
PRONG FISHING NECK SIZE	2.313"	2.313"	3.125"	3.125"
PRONG LENGTH	34.84"	34.84"	39.04"	39.04"
LENGTH	37.15"	36.95"	41.2"	41.23"
'V' PACKING OD	1.500"	1.500"	2.313"	2.313"
PRONG RUNNING / PULLING TOOL	4014013000	4014013000	4014014000	4014014000
MATERIAL *	Norm Alloy *	Norm Alloy *	Norm Alloy *	Norm Alloy *
WEIGHT lbs (kg)	26.2 (11.9)	26.6 (12.1)	42.1 (19.1)	55.6 (25.22)

* Norm Alloy is suitable for H₂S Service (NACE MR-01-75, Latest Revision)

Equalizing Sub-Assemblies are available in variety of Materials to suit Well Conditions.