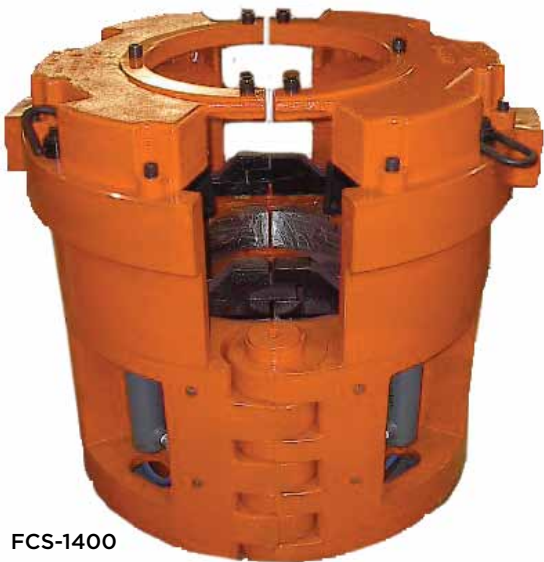


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FCS FLUSH CASING SPIDERS



FCS-1400

The FCS Flush Mounted Casing Spiders are a family of tools specifically designed for casing handling operations.

All FCS tools mount inside the rotary and eliminate the need for special rig floor platforms when running casing.

GENERAL DETAILS

- The FCS tools fit into the rotary table and generally mount flush with the rotary table top.
- The FCS is designed to fit NATL and LTI rotaries. Adapter rings are required for OILWELL, WIRTH, EMSCO & IDECO rotaries.
- FCS slips are 4 segments, designed to handle casing sizes 30" - 4 1/2".
- Slips are hydraulically actuated, with power up and power down features.
- Hydraulic operation 5 gpm (min.) at 2500 psi.
- The FCS can be removed from the pipe and rotary table with pipe in the hole.
- Pipe guides are installed in the top cover.
- FCS-1400 uses standard 500 ton Elevator/Spider slips.
- Air powered option available for FCS-1400

FCS POWER SLIP SPECIFICATIONS

DESCRIPTION	FCS-3000	FCS-2000	FCS-1400
Rotary Table Size	49 1/2" & Larger	37 1/2" & Larger	37 1/2" & Larger
Rated Capacity	500 Ton	500 Ton	500 Ton
Tubular Size Range	30" - 22"	20" - 16"	14" - 4 1/2"
Quick Change Slip Assemblies	Yes	Yes	Yes
Manifold & Plumbing	Included	Included	Included
Rotary Table Adaptor Rings	Optional	Optional	Optional
Hydraulic Requirements	5 gpm, 2500psi	5 gpm, 2500psi	5 gpm, 2500psi
Hydraulic Power Supplies - Air or Electric Drive	Optional	Optional	Optional
Slip Set / Release Indicator System	Optional	Optional	Optional
Air Operated	-	-	Optional

HYDRAULIC POWER SUPPLIES & ACCESSORIES FCS, FG & HYDRAULIC PSL SYSTEMS

SPECIFICATION	PART #	QTY. REQ'D PER TOOL
Air / Hydraulic Power Supply, Skid Mounted 125 PSI AIR, 5gpm 2500psi Hydraulic	22255	1
Pedestal Control Console, 2 Station, Air Over Hydraulic	22239	1
Pedestal Control Console, 1 Station, Hydraulic	22238	A/R
Pedestal Control Console, 1 Station, Air	22241	1
Hydraulic Hose Assy. 1/2" X 25' (4 Hoses Bundled)	22251	1
Hydraulic Hose Assy. 3/4" X 100'	22250	1
Hydraulic Hose Assy. 1/2" x 25' (2 Hoses Bundled)	22251-2	1
Air Hose Assy. 1/4" X 100'	22252	1
Manifold Pigtail Hose 1/2" X 1'	22232	1
Adapter for 37 1/2" OILWELL/WIRTH to NATIONAL	20172	A/R
Adapter for 37 1/2" IDECO to NATIONAL	20167	A/R
Adapter for 37 1/2" EMSCO to NATIONAL	20168	A/R

FLEX-GRIP POWER SLIP SYSTEMS

The FG Flex-Grip Power Slip Systems are a family of “flush” mounted power slips, designed for drilling and/or rental operations.

The most recent addition to the family is the FG-5 which fits into 27 1/2” rotary tables and handles 10 3/4” - 2 3/8” pipe sizes. A hydraulic pipe centering device is available for the FG-5.



FG-5



FG-6

GENERAL DETAILS

- The FG systems fit into the rotary table and generally mount flush with the rotary table top.
- FG slips are 4 segment designed for handling drill pipe, casing, drill collars and tubing.
- The FG-6 tool is designed to handle completion/workover riser pipe with umbilicals and clamps.
- Slips are hydraulically actuated, with power up and power down features.
- Hydraulic operation 5 gpm, 2500 psi.
- All FG Tools can be equipped with a hydraulic pipe centering device.
- All FG Tools can be equipped with slip-set/slip release indicator systems.
- All FG Tools can be removed from the pipe and rotary with pipe in the hole.

FLEX-GRIP POWER SLIP SPECIFICATIONS

SPECIFICATION	FG 2A	FG 3A	FG 5	FG 6
Rotary Table Size	37 1/2" & Larger	49 1/2" & Larger	27 1/2" & Larger	37 1/2" & Larger
Rated Capacity - Body	500 Ton	750 Ton	350 Ton	500 Ton
Rated Capacity - Slips	500 Ton	500 or 750 Ton	350 Ton	350 Ton
Tubular Size Range	14" - 2 3/8"	20" - 2 3/8"	10 3/4" - 2 3/8"	4 1/2" - 10 3/4" w/o Riser
Clearance through body (slips removed)	22 3/4"	30"	14 1/2"	27 1/2"
Quick-change Slip Assemblies	Yes	Yes	Yes	Yes
Insert Carrier Range	9 5/8" & Smaller	9 5/8" & Smaller	N/A	N/A
Manifold & Plumbing	Included	Included	Included	Included
Wear Guide Assembly (for use with top drives)	Optional	Optional	Optional	N/A
"Pipe Cat" Centering and Alignment Tool	Optional	Optional	Optional	Available
Rotary Table Adapter Rings	Optional	Optional	Optional	Optional
Hydraulic Requirements (min)	5gpm, 2500psi	5gpm, 2500psi	5gpm, 2500psi	5gpm, 2500psi
Hydraulic Power Supplies - Air or Electric drive	Optional	Optional	Optional	Optional
Slip-Set / Slip release indicator system	Optional	Optional	Optional	Optional
Air Powered	—	—	—	—

POWER SLIP LIFTER SYSTEMS

Den-Con Power Slip Lifter Systems (PSLS) are suited for handling 2 3/8" - 30" pipe sizes. The PSLs eliminates the back breaking and dangerous operations of using manual slips for running drill pipe, drill collars, casing and tubing.



37 1/2" SUCB2



PSL-1338 w/ 27 1/2" SPB Master Bushing

GENERAL DETAILS

- All PSLs's use standard manual slips modified to attach to the PSLs.
- All series of PSLs may utilize pneumatic or hydraulic power. (Specify when ordering)
- PSLs's firmly attach to the master bushing or casing bushing.
- PSL-1 designed for Pin Drive Master Bushings.
- PSL-3 designed for Square Drive Master Bushings.
- PSL-4 for use with SUCB bushings.
- PSL-5 for use with SUCB 2 bushings.
- PSL-6 for use with SCB bushings and 27 1/2" rotaries.

ROTARY SIZE	BUSHING TYPE	PIPE SIZE	LIFTER TYPE MODEL	LIFTER PART #	ADAPTER	BUSHING #	BOWL #	HYD. LIFTER #	
37 1/2"	37 1/2" HMB	8 5/8" - 2 3/8"	PSL1 - 1338	8075		2700 - X	2706	8075 H	
		10 3/4" - 9 5/8"	PSL1 - 1338	8075		2700 - X	2707	8075 H	
		13 3/8" - 11 3/4"	PSL1 - 1338	8075	8075ADP	2700 - X	2708	8075 H	
27 1/2"	27 1/2" SPB	8 5/8" - 2 3/8"	PSL1 - 1338	8075		2526-X	2530	8075 H	
		10 3/4" - 9 5/8"	PSL1 - 1338	8075		2526-X	2532	8075 H	
		13 3/8" - 11 3/4"	PSL1 - 1338	8075	8075ADP	2526-X	2533	8075 H	
	27 1/2" SSD	8 5/8" - 2 3/8"	PSL1 - 1338	8075		2524PSL1-X		8075 H	
22" - 23"	23" SSD	8 5/8" - 2 3/8"	PSL3 - 1338	8075S3		2521PSL3-X		8075 S3H	
20 1/2"	20 1/2" SSD	8 5/8" - 2 3/8"	PSL3 - 1338	8075S3		2523PSL3-X		8075 S3H	
17 1/2"	17 1/2" SSD	8 5/8" - 2 3/8"	PSL3 - 1338	8075S3		2522PSL3-X		8075 S3H	
CASING & PIPE 16" - 30"									
37 1/2"	SUCB2	30"	PSL5	8157		8150		8157 H	
		28"	PSL5	8157	8157-28	8150	8151	8157 H	
		26"	PSL5	8157	8157-26	8150	8152	8157 H	
		24"	PSL5	8157	8157-24	8150	8153	8157 H	
		22"	PSL5	8157	8157-22	8150	8154	8157 H	
		20", 18 5/8"	PSL5	8157	8157-20	8150	8155	8157 H	
		16"	PSL5	8157	8157-16	8150	8156	8157 H	
	SUCB	26"	PSL4	8060			8050		8060 H
		24"	PSL4	8060			8051		8060 H
		22"	PSL4	8060			8052		8060 H
20", 18 5/8"		PSL4	8060			8053		8060 H	
	16"	PSL4	8060			8054		8060 H	
27 1/2"	27 1/2" SCB	20", 18 5/8", 16"	PSL6	8075-27	8250-16	3310-27	3311	8075-27 H	

X Designates Make of Rotary Table

250 TON ELEVATOR / SPIDER

The 250 Ton Elevator / Spiders are for pipe sizes 7 5/8" - 2 3/8", using 4 segment slips sets. All Den-Con Elevator / Spiders are designed for pneumatic operation using rig air supply. All Elevator / Spider units are manufactured and tested according to the latest industry standards.

250 TON CAPACITY - 7 5/8" - 2 3/8" CASING RANGE

Elevator / Spider and Accessories	PART #	WEIGHT	
		LB	KG
Elevator / Spider Less Slips and Guides	17200		
Bell Guide Kit	17772		
Spider Adapter Plate	18462		
250 Ton Link Set Required			

CASING SIZE INCHES	ELEVATOR BOTTOM GUIDE	SPIDER TOP GUIDE	SLIP SET P/N	INSERT SET P/N	QTY. INSERTS
7 5/8" X 7 5/8"	18865	18858	17524-76	3157-60	60
7 5/8" X 7"	18866	18859	17524-70	3155-24B-36	60
7 5/8" X 6 5/8"	18866	18859	17524-66	3156-24B-36	60
5 1/2" X 5 1/2"	18867	18860	17525-55	1460-40	40
5 1/2" X 5"	18867	18860	17525-50	1459-16B-24	40
5 1/2" X 4 1/2"	18868	18861	17525-45	1456-16B-24	40
4 1/2" X 4 1/2"	18868	18861	17901-45	1455-40	40
4 1/2" X 4"	18869	18862	17901-40	1454-16B-24	40
4 1/2" X 3 1/2"	18870	18863	17901-35	1453-16B-24	40
3 1/2" X 3 1/2"	18870	18863	17527-35	1461-20	20
3 1/2" X 2 7/8"	18871	18864	17527-27	1462-8B-12	20
3 1/2" X 2 3/8"	17521	18528	17527-23	1463-8B-12	20



CASING ELEVATOR / SPIDERS

350, 500 AND 750 TON TOOLS

The Den-Con Casing Elevator/Spiders are available in 350 ton, 500 ton and 750 ton rated capacities. The 350 ton and 500 ton tools will handle 4 1/2" - 14" pipe sizes. A larger 500 ton tool handles 16" - 24 1/2" casing sizes. 750 ton casing tools are also available in two body sizes. One handles 6 5/8" - 14" pipe and the other size is for 16" - 24 1/2" pipe sizes. All Den-Con Elevator/Spiders are designed for pneumatic operation using the rig air supply. The system may be manually operated if the rig air supply is temporarily lost. All Elevator/Spider units are manufactured and tested according to the latest industry standards.

			4 1/2" to 14" Casing Range								
			350 Ton			500 Ton			750 Ton		
			Elevator/Spider Accessories		P/N	Elevator/Spider Accessories		P/N	Elevator/Spider Accessories		P/N
			Elevator/Spider Body		11776	Elevator/Spider Body		13800	Elevator/Spider Body		16150
			Bell Guide Kit		11798	Bell Guide Kit		11798	Bell Guide Kit		11798
Spider Adapter Plate		19276	Spider Adapter Plate		19276	Spider Adapter Plate		17163			
Casing Size Inches	Elevator Bottom Guide P/N	Spider Top Guide P/N	Slip Set P/N	Insert Set P/N	Qty. Inserts	Slip Set P/N	Insert Set P/N	Qty. Inserts	Slip Set P/N	Insert Set P/N	Qty. Inserts
4 1/2"	11787	18419-1	11865	1456-16B-24	40	13842-3	1456-16B-32	48	—	—	—
5"	11788	18419-2	11864	1459-16B-24	40	13842-2	1459-16B-24	48	—	—	—
5 1/2"	11789	18419-3	11863	1460-40	40	13842-1	1460-48	48	—	—	—
5 3/4"	71232	18419-17	11863-17	2741-40	40	13842-4	2741-48	48	—	—	—
6 5/8"	11791	18419-4	11861	3156-24B-36	60	13841-3	3156-24B-48	72	16182-4	3156-24B-60	84
7"	11791	18419-4	11860	3155-24B-36	60	13841-2	3155-24B-48	72	16182-8	3155-24B-60	84
7 5/8"	11792	18419-5	11859	3157-60	60	13841-1	3157-72	72	16182-7	3157-84	84
7 3/4"	11792	18419-5	71592-1	2741-60	60	13841-4	2741-72	72	16182-21	2741-84	84
8 5/8"	11793	18419-6	11857	2740-32B-48	80	13840-3	2740-32B-64	96	16182-6	2740-32B-80	112
8 3/4"	11793	18419-6	71591-3	2742-32B-48	80	13840-5	2742-32B-64	96	16182-20	2742-32B-80	112
9 5/8"	11794	18419-7	11856	3157-80	80	13840-1	3157-96	96	16182-3	3157-112	112
9 3/4"	71231	18419-15	71591-2	2741-80	80	13840-4	2741-96	96	16182-19	2741-112	112
9 7/8"	71231	18419-15	71591-1	2741-80	80	13840-2	2741-96	96	16182-18	2741-112	112
10 3/4"	11795	18419-8	11854	2740-40B-60	100	13839-3	2740-40B-80	120	16182-5	2740-40B-100	140
10 7/8"	11795	18419-8	71590-1	2742-40B-60	100	13839-4	2742-40B-80	120	16182-17	2742-40B-100	140
11 3/4"	11796	18419-9	11853	3161-100	100	13839-2	3161-120	120	16182-2	3161-140	140
11 7/8"	11796	18419-9	71590-2	2743-100	100	13839-1	2743-120	120	16182-16	2743-140	140
12 3/4"	71300	18419-13	71590-6	2748-40B-60	100	70734-6	2748-40B-80	120	—	—	—
12 7/8"	71300	18419-13	71590-7	2747-40B-60	100	70734-7	2747-40B-80	120	—	—	—
13 3/8"	11797	18419-10	70732-5	3160-40B-60	100	70734-5	3160-40B-80	120	16182-10	3160-40B-100	140
13 1/2"	71228	18419-12	70732-4	2744-40B-60	100	70734-4	2744-40B-80	120	16182-12	2744-40B-100	140
13 5/8"	71228	18419-12	70732-3	2745-40B-60	100	70734-3	2745-40B-80	120	16182-11	2745-40B-100	140
13 3/4"	71228	18419-12	70732-2	2746-40B-60	100	70734-2	2746-40B-80	120	16182-13	2746-40B-100	140
14"	15939	18419-11	70732-1	3159-100	100	70734-1	3159-120	120	16182-9	3159-140	140

			16" - 24 1/2" Casing Range					
			500 Ton			750 Ton		
			Elevator/Spider Accessories		P/N	Elevator/Spider Accessories		P/N
			Elevator/Spider Body		15740	Elevator/Spider Body		16180
			Bell Guide Kit		19000	Bell Guide Kit		19000
Spider Adapter Plate		16552	Spider Adapter Plate		16552			
Casing Size	Elevator Bottom Guide P/N	Spider Top Guide P/N	Slip Set P/N	Insert Set P/N	Qty. Inserts	Slip Set P/N	Insert Set P/N	Qty. Inserts
16"	16184	73021	15790-4	3159-180	180	16181	3159-210	210
16 3/4"	16184-1	73021-1	15790-6	3162-180	180	—	—	—
18 5/8"	15794	73029	15790-3	13868-60B-120	180	16179	13868-210	210
20"	15793	73019	15790-2	2745-180	180	16178	2745-210	210
24"	15792	73017	15790-1	3162-180	180	16900	3162-210	210
24 1/2"	15795	73016	15790-5	3159-180	180	16901	3159-210	210



TUBING SPIDER

TS-100, TS-150

The Den-Con TS-100 Tubing Spider handles all tubing sizes from 1.315" through 4 1/2" O.D. The spider is powered by either air or hydraulic operation.

The Den-Con TS-150 Tubing Spider is rated at 150 Ton capacity, and handles pipe sizes from 1.315" to 5 1/2".

The slip assemblies are machined as matched sets and incorporate inserts which provide full 360° of contact with the pipe.

The spider and slip bodies are made from high strength alloy steel castings to provide the greatest strength and longest wear life with a minimum of weight.

All shafts are made from hardened alloy steel. All bearings and journals are provided with grease fittings for lubrication. The Den-Con Tubing Spiders are equipped with a manual safety latch which can provide a positive lock to keep the slips set. Manual operation is also available.



TS-100

MAJOR COMPONENTS LIST

PART NUMBERS AND ORDERING INFORMATION

PART NO. TS-100	PART NO. TS-150	DESCRIPTION	ORDERING QUANTITIES & TYPE OF OPERATION		
			AIR	HYDRAULIC	MANUAL
5000	5200	POWERED BODY ASSEMBLY complete with Gate and Cylinder, less Slips	1	1	
5002	5202	HAND OPERATED BODY ASSEMBLY complete with Gate and Removable Lever for Hand Operater, less Slips			1
5043	5043	AIR FILTER, REGULATOR WITH GAGE and LUBRICATOR UNIT with Quick Change Couplings, male end, for AIR HOSE	1		
5050	5050	AIR CONTROL VALVE-FOOT OPERATED with Quick Change Hose Couplings, male end, and Safety Cover	1		
5048-X	5048-X	AIR HOSE ASSEMBLY complete with female Quick Change Couplings	A/R		
5092	5092	HYDRAULIC PRESSURE REDUCER and MOUNTING BASE with male Quick Change Coupling		1	
5080	5080	HYDRAULIC CONTROL VALVE-FOOT OPERATED with Quick Change hose couplings, male end, and Safety Cover		1	
5093-X	5093-X	HYDRAULIC HOSE ASSEMBLY complete with female Quick Change Couplings		A/R	

OPTIONAL EQUIPMENT

5068	HYDRAULIC FLOW CONTROL VALVE - 0-40 GPM		A/R	
5069	HYDRAULIC FLOW CONTROL VALVE - 0-60 GPM		A/R	
5096	ADAPTER PLATE for master bushing, fits API SQUARE DRIVE	A/R	A/R	A/R
5097	ADAPTER PLATE for 27 1/2" PIN DRIVE master bushing	A/R	A/R	A/R
5098	ADAPTER PLATE for 20 1/2" PIN DRIVE master bushing	A/R	A/R	A/R

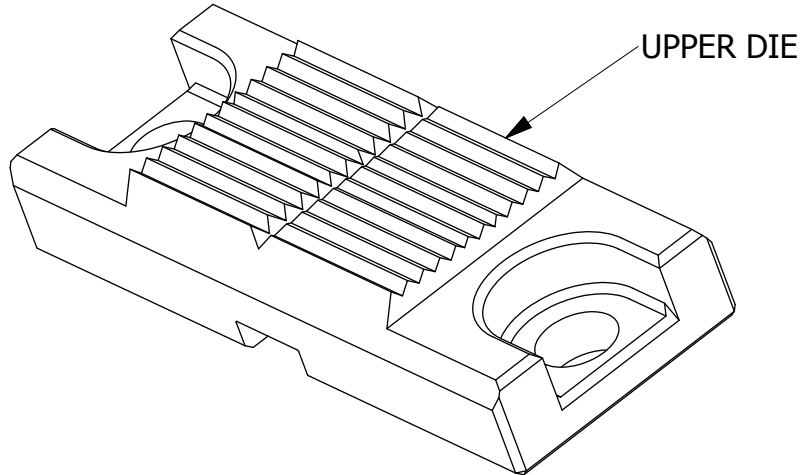
A/R - Order Components AS REQUIRED

SLIP ASSEMBLIES AND PARTS

PIPE SIZE O.D.	SLIP BODY SIZE	TS-100				TS-150			
		SLIP ASSY. COMP.		INSERT SET		SLIP ASSY. COMP.		INSERT SET	
		P/N	WT.	P/N	WT.	P/N	WT.	P/N	WT./SET
5 1/2"	5 1/2" X 5 1/2"	—	—	—	—	5322	75	—	—
5"	5 1/2" X 5"	—	—	—	—	5323	78	—	—
4 3/4"	5 1/2" X 4 3/4"	—	—	—	—	5324	80	—	—
4 1/2"	4 1/2" X 4 1/2"	5135	57	5132-4	12	5300	90	5310-4	18
4"	4 1/2" X 4"	5139	63	5133-4	18	5301	95	5311-4	26
3 1/2"	4 1/2" X 3 1/2"	5140	67	5134-4	22	5309	100	5319-4	30
3 1/2"	3 1/2" X 3 1/2"	5100	59	5125-4	9	5302	100	5312-4	13
2 7/8"	3 1/2" X 2 7/8"	5101	65	5126-4	15	5303	105	5313-4	18
2 3/8"	3 1/2" X 2 3/8"	5102	68	5127-4	18	5304	110	5314-4	22
2 1/16"	3 1/2" X 2 1/16"	5103	71	5128-4	20	5305	110	5315-4	24
1.900"	3 1/2" X 1.900"	5104	72	5129-4	22	5306	112	5316-4	26
1.660"	3 1/2" X 1.660"	5105	73	5130-4	24	5307	114	5317-4	28
1.315"	3 1/2" X 1.315"	5106	74	5131-4	26	5308	116	5318-4	30

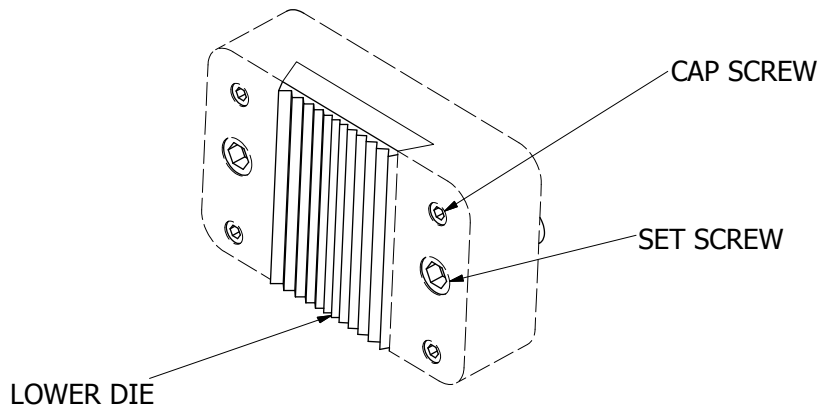
ST-80 REPLACEMENT DIE KITS

UPPER DIE KIT - PART NUMBER: D30174222



QTY	PART #	DESCRIPTION
2	D30160380-500	UPPER DIE
5	D55109-8	SOCKET HD. SCREW
1	D30174647-7	BIT SOCKET, 7/16 HEX

LOWER DIE KIT - PART NUMBER: D30172029



QTY	PART #	DESCRIPTION
2	D30160382	LOWER DIE
5	D50108-14-C	SOCKET HD. SCREW
9	D50708-12-0	SET SCREW
1	D30174647-6	BIT SOCKET, 3/8 HEX
1	D30174647-4	BIT SOCKET, 1/4 HEX

MANUAL ELEVATORS

Den-Con Tool Co. offers a wide range of manual elevators for handling tubing, drill pipe, drill collar and casing. Safety locks and latches are included in the design features of the Den-Con Elevator. **All elevators are pull-tested prior to shipment to insure that the elevators meet or exceed industry standards.**

CLS-150



TE-100



CL-350



150 SIDE DOOR



SINGLE JOINT ELEVATOR



CLS - CENTER LATCH COLLAR TYPE, 90° SHOULDER

TYPE	P/N	R.C. TONS (MT)	SIZE O.D.
TE-65	3400-XXX	65 (59)	2 3/8" - 3 1/2"
TE-35	3420-XXX	35 (32)	2 3/8" - 3 1/2"
TE-35	3422-XXX	35 (32)	1.05" - 2 3/8"
TE-100	3425-XXX	100 (91)	2 3/8" - 3 1/2"
TE-100	3450-XXX	100 (91)	3 1/2" - 4 1/2"
CLS 150/1	7400-XXX	150 (136)	2 3/8" - 4 3/4"
CLS 150/2	7425-XXX	150 (136)	3 1/8" - 8 5/8"
CLS 250	7460-XXX	250 (227)	2 3/8" - 5"
CLS 350	7475-XXX	350 (318)	3 1/2" - 6 5/8"

CL - CENTER LATCH 18° BOTTLENECK TYPE

TYPE	P/N	R.C. TONS (MT)	SIZE O.D.
CL-150	7450-XXX	150 (136)	2 3/8" - 5"
CL-250	7460-XXX	250 (227)	2 3/8" - 5"
CL-350	7475-XXX	350 (318)	3 1/2" - 6 5/8"

SD - SIDE DOOR COLLAR TYPE, 90° SHOULDER

TYPE	P/N	R.C. TONS (MT)	SIZE O.D.
SDE-150/1	7200-XXX	150 (136)	4" - 6 5/8"
SDE-150/2	7201-XXX	150 (136)	6 5/8" - 8 5/8"
SDE-150/3	7202-XXX	150 (136)	9" - 10 3/4"
SDE-150/4	7203-XXX	150 (136)	11 3/4" - 14"
SDE-150/5	7204-XXX	150 (136)	16" - 20"
SDE-150/6	7205-XXX	150 (136)	24" - 26"
SDE-150/7	7206-XXX	150 (136)	28" - 30"
SDE-250/2	7500-XXX	250 (227)	4" - 8 5/8"
SDE-250/3	7501-XXX	250 (227)	9" - 10 3/4"
SDE-250/4	7502-XXX	250 (227)	11 3/4" - 14"
SDE-250/5	7503-XXX	250 (227)	16" - 20"
SDE-250/6	7504-XXX	250 (227)	24" - 26"
SDE-250/7	7505-XXX	250 (227)	28" - 30"
SDE-350	7900-XXX	350 (318)	7" - 13 3/8"

SJ - SINGLE JOINT COLLAR TYPE, 90° SHOULDER AND 18°

TYPE	P/N	R.C. TONS (MT)	SIZE O.D.
SJ-2	7001-XXX	5 (4.5)	2 3/8" - 5 1/2"
SJ-3	7002-XXX	5 (4.5)	6 5/8" - 7 5/8"
SJ-4	7003-XXX	5 (4.5)	8 5/8" - 10 3/4"
SJ-5	7004-XXX	5 (4.5)	11 3/4" - 14"
SJ-6	7005-XXX	5 (4.5)	16" - 20"
SJ-7	7006-XXX	5 (4.5)	21 1/4" - 24 1/2"
SJ-8	7007-XXX	5 (4.5)	26" - 30"
SP (18°)	7115-XXX	5 (4.5)	2 3/8" - 6 5/8"

XXX Designation is for bore code description. Numbers will be used once pipe size is determined.

MANUAL ELEVATORS

PLATE TYPE SINGLE JOINT ELEVATORS

The Den-Con Plate Type Single Joint Elevators are designed for use with bottleneck pipe connections. Plates are easily removed and replaced as pipe sizes change. Rated capacity is 5 tons and pipe size range is 6 5/8" - 2 3/8". Assembly and guide part numbers are detailed in the table below.

The Den-Con design minimizes the small parts that are used in bottleneck single joints of other makers.



SP(18°)
Plate Type
SJ Elevator

PIPE SIZE	ASSEMBLY P/N	PLATE ONLY P/N
2 3/8" EU	7115-116	7116-116
2 7/8" IU	7115-117	7116-117
2 7/8" EU	7115-118	7116-118
3 1/2" IU	7115-119	7116-119
3 1/2" EU	7115-120	7116-120
4" IU	7115-121	7116-121
4 1/2" IU, 4 1/2" IEU, 4" EU	7115-122	7116-122
4 1/2" EU, 5" IEU	7115-123	7116-123
5 1/2" IEU	7115-124	7116-124
6 5/8" IEU	7115-223	7116-223

CL ELEVATORS WITH WEAR GUIDES

Den-Con CL bottleneck elevators are available with wear guides. Wear guides are available for 350 Ton, 250 Ton and 150 Ton Elevators and for pipe sizes detailed in the table below. The guides are designed to be an expendable wear surface that prevents the pipe from wearing the elevator bore during rotation.



CL-250 w/ Wear Guide

PIPE SIZE	350 TON CL		250 TON CL		150 TON CL	
	ASSEMBLY	WEAR GUIDE	ASSEMBLY	WEAR GUIDE	ASSEMBLY	WEAR GUIDE
6 5/8"	7475W-XXX	7457-7				
5 1/2"	7475W-XXX	7457-8				
5"	7475W-XXX	7457-1	7460W-XXX	7456-1	7450W-XXX	7455-1
4 1/2"	7475W-XXX	7457-2	7460W-XXX	7456-2	7450W-XXX	7455-2
4"	7475W-XXX	7457-3	7460W-XXX	7456-3	7450W-XXX	7455-3
3 1/2"	7475W-XXX	7457-4	7460W-XXX	7456-4	7450W-XXX	7455-4
2 7/8"	7475W-XXX	7457-5	7460W-XXX	7456-5	7450W-XXX	7455-5
2 3/8"	7475W-XXX	7457-6	7460W-XXX	7456-6	7450W-XXX	7455-6

XXX Designates Elevator Bore Code

BORE CODES

TUBING ELEVATOR BORE CODES - SQUARE SHOULDER

PIPE SIZE	PIPE TYPE	BORE CODE	PIPE SIZE	PIPE TYPE	BORE CODE
1.050"	NU	150	2 3/8"	EU	159
1.050"	EU	151	2 7/8"	NU	160
1.315"	NU	152	2 7/8"	EU	161
1.315"	EU	153	3 1/2"	NU	162
1.660"	NU	154	3 1/2"	EU	163
1.660"	EU	155	4"	NU	164
1.990"	NU	156	4"	EU	165
1.990"	EU	157	4 1/2"	NU	166
2 1/16"	TS-8TBG	157SPL	4 1/2"	EU	167
2 3/8"	NU	158			

DRILL PIPE BORE CODES

PIPE SIZE	TYPE UPSET	18° SHOULDER	90° SHOULDER
2 3/8"	IU		109
2 3/8"	EU	116	110
2 7/8"	IU	117	108
2 7/8"	EU	118	101
3 1/2"	IU	119	102
3 1/2"	EU	120	103
4"	IU	121	104
4"	EU	122	105
4 1/2"	IU	122	105
4 1/2"	IEU	122	105
4 1/2"	EU	123	106
5"	IEU	123	106
5 1/2"	IEU	124	107
5 7/8"	IEU	123SPL	
6 5/8"	IEU	223	222

CASING-DRILL COLLAR BORE CODES - SQUARE SHOULDER

CASING/COLLAR SIZE O.D.	BORE CORE CSG & SLICK D.C.	BORE CODE ZIP D.C.	CASING/COLLAR SIZE O.D.	BORE CORE CSG & SLICK D.C.	BORE CODE ZIP D.C.
3 1/8"	201		9 1/4"	501	
4"	202		9 1/2"	216	370
4 1/8"		177	9 5/8"	141	
4 1/4"	203		9 3/4"		367
4 1/2"	129		9 7/8"	505	
4 3/4"	130	435	10"	217	195
5"	131		10 1/4"	502	
5 1/4"	132	179	10 3/4"	142	527
5 1/2"	204	180	11"		419
5 3/4"	205	181	11 1/4"	218	196
5 7/8"	205SPL		11 3/4"	143	
6"	134	362	12 1/4"	503	
6 1/4"	206	337	12 3/4"	470	
6 1/2"	207	373	13 3/8"	144	
6 5/8"	135		13 5/8"	471	
6 3/4"	208	387	13 3/4"	504	
7"	136	361	14"	472	
7 1/4"	209	357	16"	145	
7 1/2"	210	188	16 3/4"	473	
7 5/8"	137		18 5/8"	146	
7 3/4"	211	339	20"	147	
8"	212	336	21 1/2"	148	
8 1/4"	213	422	22"	474	
8 1/2"	214	426	24"	219	
8 5/8"	139		24 1/2"	149	
8 3/4"	215		26"	220	
9"	140	427	30"	221	

HEAVY DUTY ROLLER KELLY BUSHINGS

PIN DRIVE AND SQUARE DRIVE

The Den-Con RH Series Roller Kelly Bushing is designed for heavy duty drilling operations, high torque and high speed drilling conditions. DEN-CON 27 RPH Kelly Bushing is used with Den-Con Pin Drive Master-Casing Bushings for 23" through 49 1/2" Rotary Tables. The 27 RPH has 3 5/16" diameter drive pins (API) and 25 3/4" pin centers (API) and will handle Kelly sizes 3" to 6" square and 3" to 6" hex.

DEN-CON 20 RPH Kelly Bushing is used with Den-Con Pin Drive Master Casing Bushings for 20 1/2" to 22 1/2" Rotary Tables. The 20 RPH has 2 1/2" diameter drive pins (API) and 23" pin centers (API). The 20 RPH uses the same roller assemblies, components and wiper assemblies as the 27 RPH.

DEN-CON RSH Kelly Bushing is a square drive unit used with DEN-CON SSB Master Bushings and all Master Bushings having a drive square dimension of 13 9/16" (API). This bushing uses the same roller assemblies, components and wiper assemblies as the 27 RPH.

All RH Series Parts & Components Interchange with Varco HD Series Bushing Parts.

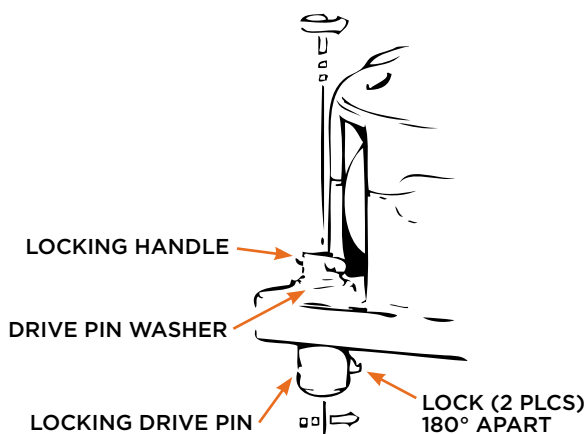


20 RPH



27 RPH

KELLY SIZE/TYPE	HEAVY DUTY ROLLER KELLY BUSHINGS							
	27 RPH COMPLETE		20 RPH COMPLETE		RSH COMPLETE		ROLLER ASSY. COMPLETE	ROLLER SET COMPLETE
	w/ wrench, less wiper assy. Fits Pin Drive Master Bushing 23" - 49 1/2"		w/ wrench, less wiper assy. Fits Pin Drive Master Bushing 20 1/2" - 22 1/2"		w/ wrench, less wiper assy. Fits Square Drive Master Bushing			
PART #	WT. LBS.	PART #	WT. LBS.	PART #	WT. LBS.	PART #	PART #	
3" Hex	2435-30H	1460	2430-30H	1440	2425-30H	1390	2455	2115-16
3 1/2" Hex	2435-35H	1460	2430-35H	1440	2425-35H	1390	2456	2117-18
4 1/4" Hex	2435-42H	1460	2430-42H	1440	2425-42H	1390	2457	2119-20
5 1/4" Hex	2435-52H	1460	2430-52H	1440	2425-52H	1390	2458	2121-22
6" Hex	2435-60H	1460	2430-60H	1440	2425-60H	1390	2459	2123-24
3" Sq.	2435-30S	1500	2430-30S	1470	2425-30S	1420	2450	2110-4
3 1/2" Sq.	2435-35S	1500	2430-35S	1470	2425-35S	1420	2451	2111-4
4 1/4" Sq.	2435-42S	1500	2430-42S	1470	2425-42S	1420	2452	2112-4
5 1/4" Sq.	2435-52S	1500	2430-52S	1470	2425-52S	1420	2453	2113-4
6" Sq.	2435-60S	1500	2430-60S	1470	2425-60S	1420	2454	2114-4



OPTIONAL LOCK ASSEMBLY

The Optional Lock Assembly locks the Kelly Bushing in the Master Bushing for use offshore with motion compensators. Lock assemblies are available for the 27 RPH series bushings. To order with an assembly, add "L" to the part number of the unit.

P/N	DESCRIPTION	REQ'D
2464	Motion Compensation Lock Assembly	1
2465	Eccentric Pin	2
2466	Drive Pin	2
2467	Lock	2
2468	Retainer Pin	2

MEDIUM DUTY ROLLER KELLY BUSHINGS

PIN DRIVE AND SQUARE DRIVE



RSM

DEN-CON RSM Kelly Bushing is a medium duty square drive bushing used with DEN-CON SSB Master Bushings and all Master Bushings having a drive square dimension of 13 9/16 " (API). The RSM will handle Kelly sizes from 2 1/2" to 5 1/4" square and 3" to 4 1/4" hex.

DEN-CON RPM Kelly Bushing is a medium duty pin drive bushing to fit 17 1/2" Master Bushings. RPM is made to order.

KELLY SIZE/TYPE	MEDIUM DUTY ROLLER KELLY BUSHINGS				
	RPM COMPLETE	RSM COMPLETE		ROLLER ASSY. COMPLETE	ROLLER SET COMPLETE
	w/ wrench, less wiper. Fits 17 1/2" Pin Drive Master Bushing	w/ wrench, less wiper assy. Fits Square Drive Master Bushing			
PART #	PART #	WT. LBS.	PART #	PART #	
2 1/2" Sq.	2410-25S	2400-25S	870	2131	2140-4
3" Sq.	2410-30S	2400-30S	870	2132	2141-4
3 1/2" Sq.	2410-35S	2400-35S	870	2133	2142-4
4 1/4" Sq.	2410-42S	2400-42S	870	2134	2143-4
5 1/4" Sq.	2410-52S	2400-52S	870	2135	2144-4
3" Hex	2410-30H	2400-30H	860	2136	2145-46
3 1/2" Hex	2410-35H	2400-35H	860	2137	2147-48
4 1/4" Hex	2410-42H	2400-42H	860	2138	2149-50

DEN-CON BUSHING FEATURES

All DEN-CON Kelly Bushings incorporate the following design features:

- Self-locking straight roller pins - prevents pin rotation and movement.
- Heavy duty graphite fiber bearing - prevents rusting, corrosion and galling of bearing structure.
- Stabbing skirt - allows fast and easy stabbing into master bushing assembly.
- Fast installation on Kelly - no shims required.
- Longer roller life - Roller assemblies may be turned 180° to double wear life to the assembly.
- Low maintenance - all parts field replaceable.
- Meets all API dimensions and specifications.
- Sealed Bearing Assembly - provided on RH Series.
- Optional Heavy Duty Roller bearings are available.

Den-Con manufactures replacement parts for Varco 4KRP, 4KRS and 4KRBM bushings which have been discontinued. Parts are also available for Varco MD Series bushings.

KELLY BUSHING PARTS LIST & COMPONENTS

KELLY BUSHINGS PARTS LIST

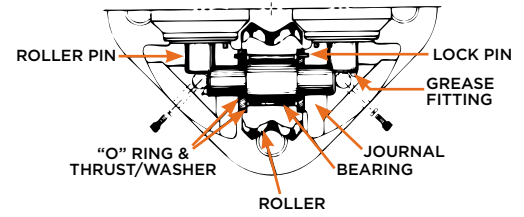
ITEM #	# REQ'D	DESCRIPTION	27 RPH SERIES	20 RPH SERIES	RSH SERIES	RSM SERIES	RPM SERIES
1	1	Body Assy. less Roller Assy.	2435	2430	2425	2400	2410
2	4	Hold Down Bolt	2428	2428	2428	2403	2403
3	4	Lock Washer, Hi-Collar	51110	51110	51110	—	—
4	4	Lock Washer	50924	50924	50924	50924	50924
5	4	Soc. Hd. Cap Screw	50110-8	50110-8	50110-8	—	—
6	4	Nut	1208	1208	1208	1208	1208
7	4	Drive Pin	2351	2352	—	—	—
8	4	Drive Pin Washer	2353	2353	—	—	—
OPTIONAL EQUIPMENT							
9	1	Wiper Rubber	A/R	A/R	A/R	A/R	A/R
10	1	Wiper Retainer Plate	2429	2429	2429	2404	—
11	8	Wiper Retainer Bolts	50008-10S	50008-10S	50008-10S	50008-10S	50008-10S
12	1	Hammer Wrench	2443	2443	2443	2443	2443

HD ROLLER COMPONENTS

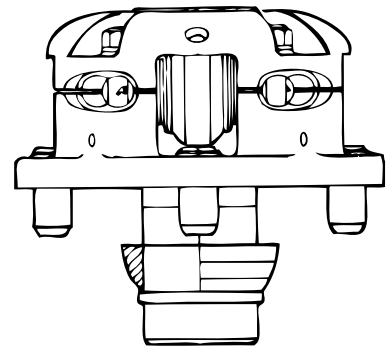
ITEM #	# REQ'D	DESCRIPTION	ROLLER ASSY. & KELLY SIZE									
			3 Sq. 2450	3 1/2 Sq. 2451	4 1/2 Sq. 2452	5 1/2 Sq. 2453	6 Sq. 2454	3" Hex 2455	3 1/2" Hex 2456	4 1/2" Hex 2457	5 1/2" Hex 2458	6" Hex 2459
1	2125	Roller Pin	4	4	4	4	4	4	4	4	4	4
2	2193	Sleeve Bearing	4	4	4	4	4	4	4	4	4	4
3	2126A	Thrust Washer w/ O-Rings	8	8	8	8	8	8	8	8	8	8
	2126	Thrust Washer less O-Rings	8	8	8	8	8	8	8	8	8	8
4	3613	Lock Pin	8	8	8	8	8	8	8	8	8	8
5	233B	Inner O-Ring	8	8	8	8	8	8	8	8	8	8
6	358B	Outer O-Ring	8	8	8	8	8	8	8	8	8	8
7	2110	Roller	4									
	2111	Roller		4								
	2112	Roller			4							
	2113	Roller				4						
	2114	Roller					4					
	2115	Roller						2				
	2116	Roller						2				
	2117	Roller							2			
	2118	Roller							2			
	2119	Roller								2		
	2120	Roller								2		
	2121	Roller									2	
	2122	Roller										2
	2123	Roller										2
	2124	Roller										2
OPTIONAL												
	2199	Wiper Rubber	-9	-10	-11	-12	-13	-14	-15	-16	-18	-19
	2127	Roller Bearing										ALL

RPM/RSM MEDIUM DUTY BUSHING ROLLER COMPONENTS

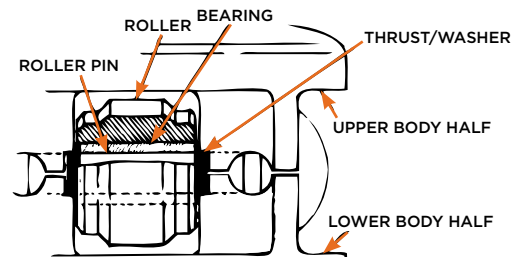
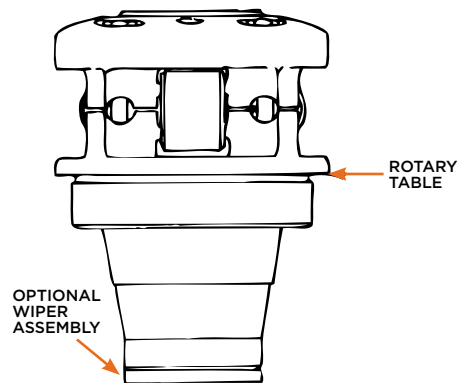
ITEM #	# REQ'D	DESCRIPTION	ROLLER ASSY. & KELLY SIZE								
			2 1/2 Sq. 2131	3" Sq. 2132	3 1/2 Sq. 2133	4 1/2 Sq. 2134	5 1/2 Sq. 2135	3" Hex 2136	3 1/2" Hex 2137	4 1/2" Hex 2138	
1	2156	Roller Pin	4	4	4	4	4	4	4	4	
2	2194	Sleeve Bearing	4	4	4	4	4	4	4	4	
3	2158	Thrust Washer	8	8	8	8	8	8	8	8	
4	2140	Roller	4								
	2141	Roller		4							
	2142	Roller			4						
	2143	Roller				4					
	2144	Roller					4				
	2145	Roller						2			
	2146	Roller						2			
	2147	Roller							2		
	2148	Roller							2		
	2149	Roller								2	
	2150	Roller								2	
OPTIONAL											
	2199	Wiper Rubber	-1	-2	-3	-4	-5	-6	-7	-8	
	2157	Roller Bearing									ALL



HD BODY - TYPICAL



RSM BODY



RPM/RSM ROLLER ASSEMBLY

ROTARY EQUIPMENT AND BUSHINGS

ROTARY TABLE SIZE	BUSHING TYPE	8 5/8" - 2 3/8"	10 3/4" - 9 5/8"	13 3/8" - 11 3/4"	16"	20" - 18 5/8"	22"	24"	26"	30"	36"
49 1/2"	SCB Split Casing Bushing R-750 Master Bushing	8025 w/3312 w/2529 8011 w/8018 Std 8011 w/8017 500 T 8011 w/8016 750 T	8025 w/3312 w/ 2531 8011 w/8019	8025 w/3312 8011 w/8020	8025 w/8025-16 8030 Body	8025 Body		8026 Body	8027 Body	8028 Body	8029 Body
37 1/2"	SCB Split Casing Bushing HMB Master Bushing	3316 w/3312 w/2529 2701 w/2706	3316 w/3312 w/2531 2701 w/2707	3316 w/3312 2701 w/2708	3316 w/3311	3316 Body		3317 Body	3318 Body	3319 Body	
27 1/2"	SCB Split Casing Bushing UCB Solid Casing Bushing UCB Solid Casing Bushing SPB Solid Pin Drive Master Bushing SMB Split Pin Drive Master Bushing SSB Solid Square Drive Master Bushing SSD Split Square Drive Master Bushing	3310 w/3312 w/2529 2805 w/2807 w/2529 2805 w/2809 2528 w/2530 3300 Body 2508 w/2510 2508 w/2546 Ext. 2524 Body	3310 w/3312 w/2531 2805 w/2807 w/2531 2805 w/2808 2528 w/2532	3310 w/3312 2805 w/2807 2805 w/2806 2528 w/2533	3310 w/3311 2805 w/2806	3310 Body 2805 Body					
22-23	SCB Split Casing Bushing UCB Solid Casing Bushing SPB Solid Pin Drive Master Bushing SMB Split Pin Drive Master Bushing SSD Split Square Drive Master Bushing		2815 Body 3325 w/2531	2816 Body 2803 Body	2804 Body						
20 1/2"	UCB Solid Casing Bushing SPB Solid Pin Drive Master Bushing SMB Split Pin Drive Master Bushing SSB Solid Square Drive Master Bushing SSD Split Square Drive Master Bushing	2800 w/2529 2527 w/2529 3309 Body 2506 w/2509 2506 w/2545 Ext. 2523 Body	2800 w/2531 2527 w/2531	2800 Body 2527 Body	2802 Body						
17 1/2"	UCB Solid Casing Bushing SMB Split Pin Drive Master Bushing SSB Solid Square Drive Master Bushing SSD Split Square Drive Master Bushing	2800 w/2529 3315 Body 2505 w/2509 2505 w/2545 Ext. 2522 Body	2800 w/2531	2800 Body							

Specify rotary table size and manufacturer when ordering outer bodies

PIN DRIVE MASTER CASING BUSHINGS

SOLID BODY - SPLIT BODY - HINGED



49 1/2" HMB



27 1/2" SPB



27 1/2" SMB

The Den-Con R-750 Hinged Master Bushing is available for 49 1/2" - 60 1/2" rotaries, and is rated for 750 tons. See page 3 for additional information.

The Den-Con HMB Hinged Pin Drive Master Casing bushing is available for 37 1/2" and 49 1/2" rotary tables. Split insert bowls of various bore diameters are available to allow handling capability for 2 3/8" to 13 3/8" tubular products. The HMB can easily be removed from the drill string by removal of one hinge pin. The Den-Con 27 RPH Roller Kelly Bushing is the drive bushing used with HMB. 49 1/2" x 37 1/2".

The Den-Con SPB Solid Body Pin Drive master casing bushing is available for 20 1/2" to 27 1/2" rotary tables. Split insert bowls of various bore diameters will allow handling capability for 2 3/8" to 13 3/8" tubular products. Refer to parts tables for casing bowls and sizes.

The Den-Con SMB Split Pin Drive master bushing is available for 17 1/2"-27 1/2" rotary tables. The SMB is a split master bushing with the API taper machined into the body halves. This bushing is a split design to eliminate the need to strip over the master bushing while running large tools during surface hole work. Pin drive hole locations are to API dimensions.

All Den-Con Master Casing Bushings are rated at 500 tons. R-750 is rated 750 tons.

The Den-Con HMB Assembly, Parts and Bowls are interchangeable with Varco MPCH Bushings.

The Den-Con SPB Assembly, Parts and Bowls are interchangeable with Varco MSPC Bushings.

Ordering Information

Specify rotary table make, size and type when ordering.

Den-Con also manufactures a 37 1/2" X 27 1/2" adapter rings, various 49 1/2" x 37 1/2" adapter rings and 60 1/2" adapters.

ROTARY TABLE	MAIN ASSEMBLY NUMBERS				
	HMB HINGED	SPB SOLID PIN DRIVE	SMB SPLIT PIN DRIVE	SSB SOLID SQUARE DR.	SSD SPLIT SQUARE DR.
17 1/2"			3315	2501	2522
20 1/2"		2525	3309	2502	2523
23"		3325	3320	2503	2521
27 1/2"		2526	3300	2504	2524
37 1/2" - 49 1/2"	2700				
49 1/2" - 60 1/2"	8011				

HMB ORDERING INFORMATION									
W/ #33 BOWL, SLING & BB PLATE		ADAPTER RINGS*		NATIONAL & ABCO	OILWELL & G.D.	EMSCO	LTI	IDECO	WIRTH
PART #	WT. LBS.	PART #	SIZE	37 1/2" - 49 1/2"	37 1/2" - 49 1/2"	37 1/2" (S/N 49 UP) - 49 1/2"	37 1/2" - 49 1/2"	37 1/2" - 49 1/2"	37 1/2" - 49 1/2"
2700-1	4050	2763	49 1/2" - 37 1/2"						
2700-2	4250	2763-2							
2700-3	4150	2763-3	49 1/2" - 37 1/2"						
2700-4	4015	2763-4	—						
2700-5	4320	—	—						
		2759	37 1/2" - 27 1/2"						
2700-6	4050	2763-6							

*See Adapter Ring Data Table (page 18) for additional details and configurations.

ROTARY ADAPTER RINGS



60 1/2" X 49 1/2"



37 1/2" X 27 1/2"

DEN-CON manufactures a wide range of Rotary Adapter Rings for 60 1/2", 49 1/2" & 37 1/2" Rotary Tables. The rings may be either solid or split design and the configurations of the bushings can be from one maker of rotary to that same maker (i.e. LTI-LTI) or from one brand to a different brand (i.e. OILWELL-NATL).

Ordering information is in the table below. Other configurations are available on request.

ROTARY TABLE SIZE	ADAPTER SIZE	PART #	OUTER CONFIG.	INNER CONFIG.
60 1/2"	60 1/2" X 49 1/2"	2764-6	LTI	LTI
49 1/2"	49 1/2" X 37 1/2"	2763	NATL	NATL
		2763-2	OILWELL	OILWELL
		2763-2-1	OILWELL	NATL
		2763-3	EMSCO	EMSCO
		2763-3-1	EMSCO	NATL
		2763-6	LTI	LTI
37 1/2"	37 1/2" X 27 1/2"	2759-1	NATL	NATL
		2759-1-2	NATL	API
		2759-3	EMSCO	API
NOTE: Specify SPLIT or SOLID Ring when ordering.				
Contact company for other configurations.				

SQUARE DRIVE MASTER BUSHINGS



27 1/2" SSD

The Den-Con SSB Solid Body Square Drive Master Bushing is available for 17 1/2" to 27 1/2" rotary tables. The drive square is the same API dimension found in all square drive master bushings. The SSB is designed with removable insert bowls.

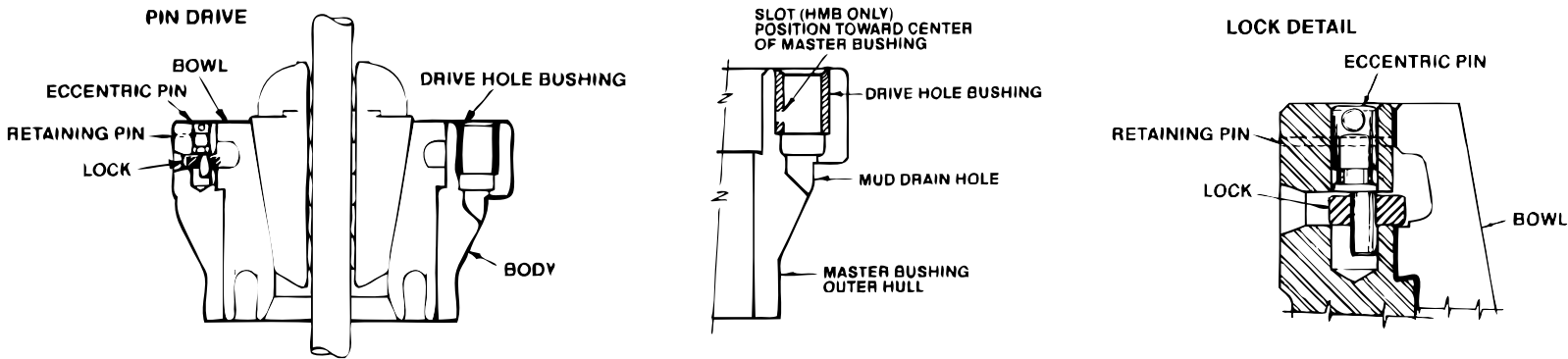
The Den-Con SSD Split Square Drive Master Bushing is designed as a replacement bushing for all original O.E.M. manufactured bushings. This bushing is available for 17 1/2" to 27 1/2" Rotary Tables. All bushings have the standard API taper to handle 8 5/8" and smaller tubular products.

PIN DRIVE & SQUARE DRIVE BUSHINGS (17 1/2" - 27 1/2")

ORDERING INFORMATION - DASH NUMBER																										
COMPLETE ASSY. PART #				NATL/ABCO			OILWELL						GARDNER-DENVER			API			LTI		UNIT RIG					
SPB	SMB	SSB	SSD	17.5"	20.5"	27.5"	17.5"	A17.5"	A20.5"	21A	20.5"	26HD	A&B27.5"	27.5"	RT17.5"	22.5"	RT27.5"	17.5"	20.5"	27.5"	27.5"	17.5"	521A	27.5"		
	3315-1	2501-1	2522-1																							
	3315-2	2501-2	2522-2																							
	3315-3	2501-3	2522-3																							
	3315-4	2501-4	2522-4																							
	3315-5	2501-5	2522-5																							
	3315-6	2501-6	2522-6																							
	3315-7	2501-7	2522-7																							
	3315-8	2501-8	2522-8																							
2525-1	3309-1	2502-1	2523-1																							
2525-2	3309-2	2502-2	2523-2																							
2525-3	3309-3	2502-3	2523-3																							
2525-4	3309-4	2502-4	2523-4																							
2525-5	3309-5	2502-5	2523-5																							
3325-1	3320-1	2503-1	2521-1																							
3325-2	3320-2	2503-2	2521-2																							
3325-3	3320-3	2503-3	2521-3																							
2526-1	3300-1	2504-1	2524-1																							
2526-2	3300-2	2504-2	2524-2																							
2526-3	3300-3	2504-3	2524-3																							
2526-4	3300-4	2504-4	2524-4																							
2526-5	3300-5	2504-5	2524-5																							
2526-6	3300-6	2504-6	2524-6																							
2526-7	3300-7	2504-7	2524-7																							
2526-8	3300-8	2504-8	2524-8																							
2526-9	3300-9	2504-9	2524-9																							
COMPLETE ASSY. PART #				EMSCO										IDECO				BREWSTER*								
SPB	SMB	SSB	SSD	T1750	O17.5	P17.5	T2050	20.5J, JA, JAS, JC, JAC, JCS, JACS, PJL	T2750	27.5H	27.5K, KS, PJ	20.5JB, JAB, JABS, JBS	17.25"	17.5"	20.5"	23"	27.5"	18"	22RSH	27.5"						
	3315-1	2501-1	2522-1																							
	3315-2	2501-2	2522-2																							
	3315-3	2501-3	2522-3																							
	3315-4	2501-4	2522-4																							
	3315-5	2501-5	2522-5																							
	3315-6	2501-6	2522-6																							
	3315-7	2501-7	2522-7																							
	3315-8	2501-8	2522-8																							
2525-1	3309-1	2502-1	2523-1																							
2525-2	3309-2	2502-2	2523-2																							
2525-3	3309-3	2502-3	2523-3																							
2525-4	3309-4	2502-4	2523-4																							
2525-5	3309-5	2502-5	2523-5																							
3325-1	3320-1	2503-1	2521-1																							
3325-2	3320-2	2503-2	2521-2																							
3325-3	3320-3	2503-3	2521-3																							
2526-1	3300-1	2504-1	2524-1																							
2526-2	3300-2	2504-2	2524-2																							
2526-3	3300-3	2504-3	2524-3																							
2526-4	3300-4	2504-4	2524-4																							
2526-5	3300-5	2504-5	2524-5																							
2526-6	3300-6	2504-6	2524-6																							
2526-7	3300-7	2504-7	2524-7																							
2526-8	3300-8	2504-8	2524-8																							
2526-9	3300-9	2504-9	2524-9																							

*Use API Standard Bushing for RSB Series Tables

MASTER BUSHING PARTS LIST & COMPONENTS



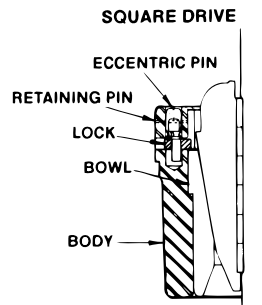
DRIVE HOLE BUSHING REPLACEMENT-PIN DRIVE BUSHINGS.

REMOVAL

1. Using an Acetylene torch, split worn bushings from top to bottom, in two place approximately 180 degrees apart.
2. Clean out drive holes, remove any rust and deburr the top edge.
Note: Place new drive hole bushing in a freezer to shrink.

INSTALLATION

1. Preheat the Master Bushing body around the drive hole area to 400-500°F.
2. Take drive hole bushing from freezer and place bushing in ice until ready to install.
3. Press drive hole bushing, chamfered end up, until flush with top of master bushing body.
4. If no press is available, make sure Master Bushing drive hole area is at the proper temperature. Drive the drive hole bushing with a wooden block to seat drive hole bushing. Drive as rapidly as possible using a sledge hammer.



DEN-CON MASTER BUSHING PARTS LIST

QTY. REQ'D.	DESCRIPTION	37 1/2" HMB	27 1/2" SPB	20 1/2" SPB	27 1/2" SSB	23" SSB	20 1/2" SSB	17 1/2" SSB	27 1/2" SMB	20 1/2" SMB	49 1/2" HMB
1	Assy.	2700	2526	2525	2504	2503	2502	2501	3300	3309	8011
1	Body Only	2701	2528	2527	2508	2507	2506	2505	3302	3309	8011
4	Drive Hole Bushing	2713	2713	2534					2535	2534	2713
1	Hinge Pin, Removable	2711									8047
1	Hinge Pin, Stationary	2709									8046
1	Hinge Pin Retainer	2715									2715
2	Lock	2541	2541	2543		2514	2514	2514			2541
2	Eccentric Pin	2542	2542	2544		2515	2515	2515			2542
2	Retaining Pin, Lock	50106-24	50106-24	50106-20		50104-10	50104-10	50104-10			50106-24
1	Bit Breaker Plate	2537	2537	2536					2537	2536	8022
1	Lifting Sling	2712	2511	2511	2511	2511	2511	2511	2511	2511	8023
INSERT BOWLS - STANDARD SLIPS											
1 Set	API Bowl, 8 5/8" & Smaller Pipe	2706	2530	2529	2546XT 2510	2545XT 2509	2545XT 2509	2545XT 2509			8018
1 Set	No. 32 Bowl, 10 3/4" & 9 5/8" Casing	2707	2532	2531	2547XT						8019
1 Set	No. 31 Bowl, 13 3/8" & 11 3/4" Casing	2708	2533		2548XT						8020

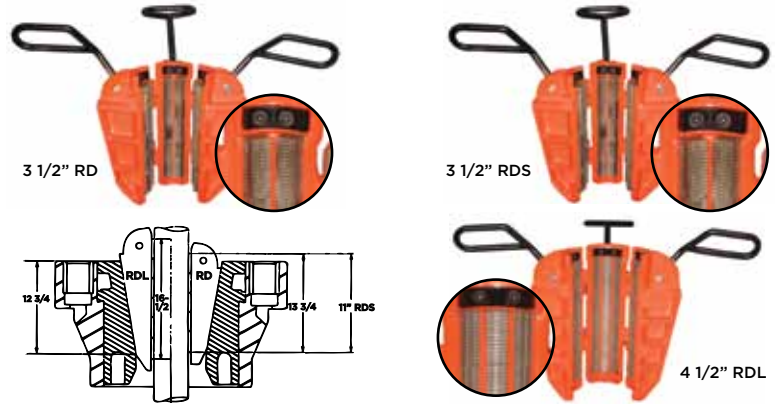
XT - Indicates Extended Taper Bowls available as options.

See page 16 for 49 1/2" HMB Bowls and Slips detail.

RDS, RD & RDL ROTARY SLIPS

Den-Con type RDS, RD & RDL Rotary Slips are designed for use in API Bowls. The RDS Series has 11" of insert gripping length. The RD Series has 13 3/4" of grip length for medium depth well and drill string application. The RDL Series has 16 1/2" of grip length for all deep well and heavy duty string applications. The rugged design of the slip assembly provides a full load distribution throughout the length of the slip and prevents bottle-necking of the drill pipe. Den-Con slip inserts are machine-cut and interchange with Varco inserts. **Flex-handles are available.**

*Add "F" to assembly P/N when ordering slips w/ Flex-handles.



RD ROTARY SLIPS - MEDIUM DUTY												RDS - LIGHT DUTY			
Slip Body Size	3 1/2"			4 1/2"			5"		5 1/2"			3 1/2"			
API Pipe Size	2 3/8"	2 7/8"	3 1/2"	3 1/2"	4"	4 1/2"	4"	4 1/2"	5"	4 1/2"	5"	5 1/2"	2 3/8"	2 7/8"	3 1/2"
Part No.: Slip complete w/ Inserts	3003	3002	3001	3023	3006	3005	3114	3113	3112	3010	3009	3008	3282	3281	3275
Weight Slip Complete	155	150	142	164	156	145	164	156	145	164	156	145	134	128	124
INSERTS															
Set Part No.	1450-30	1451-30	1452-30	1453-45	1454-45	1455-45	1456-45	1457-45	1458-45	1456-45	1459-45	1460-45	1450-24	1451-24	1452-24
Weight (lb.)	26	21	13	39	31	20	39	31	20	39	31	20	16	12	8
Each: Part No.	1450	1451	1452	1453	1454	1455	1456	1457	1458	1456	1459	1460	1450	1451	1452
Qty.	30	30	30	45	45	45	45	45	45	45	45	45	24	24	24

RD - MEDIUM DUTY SLIPS - PARTS LIST											RDS	
Slip Body Size	QTY.	3 1/2"		4 1/2"		5"		5 1/2"		3 1/2"		
PARTS LIST		Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.	
Slip Complete - less Inserts	1	3000	129	3004	125	3126	125	3007	125	3276	114	
Slip Segment - center	1	3025	39	3030	37	3116	37	3035	37	3279	36	
Slip Segment - right	1	3026	38	3031	36	3117	36	3036	36	3277	36	
Slip Segment - left	1	3027	38	3032	36	3118	36	3037	36	3278	36	
Steel Handle - center	1	3018	4	3018	4	3018	4	3018	4	3018	4	
Steel Handle - right	1	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2	
Steel Handle - left	1	3020	3 1/2	3020	3 1/2	3020	3 1/2	3020	3 1/2	3020	3 1/2	
Handle Pin w/ Washer & Cotter Key	3	3021	1/2	3021	1/2	3021	1/2	3021	1/2	3021	1/2	
Hinge Pin w/ Cotter Key	2	3041	1	3041	1	3041	1	3041	1	3280	1	
Retaining Ring	3	3015	1	3016	1	3012	1	3017	1	3015	1	
Retainer Bolt	6	3014	1/8	3014	1/8	3014	1/8	3014	1/8	3014	1/8	

RDL EXTRA LONG ROTARY SLIPS - HEAVY DUTY														
Slip Body Size	3 1/2"			4 1/2"			5"			5 1/2"			7"	
API Pipe Size	2 3/8"	2 7/8"	3 1/2"	3 1/2"	4"	4 1/2"	4"	4 1/2"	5"	4 1/2"	5"	5 1/2"	6 5/8"	7"
Part No.: Slip Complete w/ Insert	3071	3070	3069	3053	3052	3051	3121	3120	3119	3057	3056	3055	3436	3435
Weight Slip Complete	194	184	176	189	179	165	194	185	170	194	184	170	220	210
INSERTS														
Set Part No.	1450-36	1451-36	1452-36	1453-54	1454-54	1455-54	1456-54	1457-54	1458-54	1456-54	1459-54	1460-54	3155-54	3157-54
Weight (lb.)	32	25	16	47	37	23	47	37	23	47	37	23	40	23
Each Part No.	1450	1451	1452	1453	1454	1455	1456	1457	1458	1456	1459	1460	3155	3157
Qty.	36	36	36	54	54	54	54	54	54	54	54	54	54	54
Weight (oz.)	15	11	7	14	11	7	14	11	7	14	11	7	12	7

RDL - HEAVY DUTY SLIPS - PARTS LIST											
Slip Body Size	QTY.	3 1/2"		4 1/2"		5"		5 1/2"		7"	
Parts List		Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.	Part #	Weight lb.
Slip Complete - less Inserts	1	3068	160	3050	150	3127	142	3054	147	3437	197
Slip Segment - center	1	3072	50	3058	44	3123	48	3063	48	3440	61
Slip Segment - right	1	3073	47	3059	41	3124	43	3064	43	3438	59
Slip Segment - left	1	3074	47	3060	41	3125	43	3065	43	3439	59
Steel Handle - center	1	3018	4	3018	4	3018	4	3018	4	3018	4
Steel Handle - right	1	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2
Steel Handle - left	1	3020	3 1/2	3020	3 1/2	3020	3 1/2	3020	3 1/2	3020	3 1/2
Handle Pin w/ Washer & Cotter Key	3	3021	1/2	3021	1/2	3021	1/2	3021	1/2	3021	1/2
Hinge Pin w/ Cotter Key	2	3041	1	3041	1	3041	1	3041	1	30417.75	1
Retaining Ring	3	3015	1	3016	1	3012	1	3017	1	3442	1
Retainer Bolt	6	3014	1/8	3014	1/8	3014	1/8	3014	1/8	3014	1/8

FLEX-HANDLES



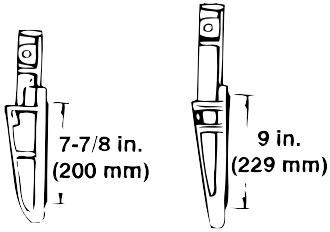
3088V
SHOWN

PART #	SLIP BRAND AND TYPE
3088D	Den-Con Rotary Slips - RDS, RD, RDL
3088V	Den-Con Drill Collar & Casing Slips - SDC, UDC, LDC, CL, 3CL
3088V	Varco Drill Pipe Slips - SDS, SDML, SDXL
3088V	Varco Drill Collar & Casing Slips - DCS-S, DCS-R, DCS-L, CMSXL
3088WB	Woolley "B"
3088WA	Woolley "A"
3088XL	Woolley "XL"
3088DU	Baash Ross "DU"

DRILL COLLAR SLIPS

Den-Con Drill Collar Slips provide a lightweight, high strength assembly to handle all drill collars from 3" to 14" diameter. Three slip body lengths are available. All Den-Con body segments are made from high-strength alloy steel for maximum strength and durability. Slips are available with inserts or circular buttons. Add "B" to assembly part numbers for buttons. **Flex-handles are available.** *Add "F" to assembly part number when ordering slips with Flex-handle.

SDC 3" - 4 7/8"
UDC 4 1/2" - 7" LDC 5 1/2" - 14"



SLIP GRIP LENGTHS



4" - 4 7/8" SDC



5 1/2" - 7" UDC



8" - 9 1/2" LDC

DRILL COLLAR SLIPS

Slip Type	SDC		UDC		LDC						
Slip Size & Range (OD, Inches)	3 - 4	4 - 4 7/8	4 1/2 - 6	5 1/2 - 7	5 1/2 - 7	6 3/4 - 8 1/4	8 - 9 1/2	8 1/2 - 10	9 1/4 - 11 1/4*	11 - 12 3/4*	12 - 14*
P/N, Slip Complete w/o Inserts	3075	3075	3100	3100	3128	3128	3131	3134	3137	3140	3143
P/N, Slip Complete w/ Inserts	—	—	3101	3104	—	3129	3132	3135	3138	3141	3144
P/N, Slip Complete w/ Buttons	3077B	3080B	3101B	3104B	3153B	3129B	3132B	3135B	3138B	3141B	3144B
Weight, Complete w/ Inserts (lb.)	108	103	115	110	160	150	170	180	195	250	230
Total Number of Segments	7	7	9	9	11	11	12	13	14	17	17
Total Intermediate Segments	5	5	7	7	9	9	10	11	12	15	15
Total Number of Hinge Pins	6	6	8	8	10	10	11	12	13	16	16
Use in Insert Bowl No.	API or No. 33						No. 33	No. 32		No. 31	

PARTS LIST

Slip Type	SDC		UDC		LDC	
DESCRIPTION	Part #	Wt. lb.	Part #	Wt. lb.	Part #	Wt. lb.
Segment - Right	3081	11	3106	10	3146	12
Segment - Left	3082	11	3107	10	3147	12
Segment - Intermediate	3083	11	3108	10	3148	12
Hinge Pin w/ Cotter Key	3086	1	3086	1	3151	2
Steel Handle Pin w/ Washer & Cotter Key	3021	1/2	3021	1/2	3021	1/2
Steel Handle for Right & Left End Segments	3088	3 1/2	3088	3 1/2	3088	3 1/2
Steel Handle for Intermediate Segments	3089	4	3089	4	3089	4
Cotter Pin, die retainer	51435-12	A/R	51435-12	A/R	51435-12	A/R

BUTTONS & INSERTS FOR DRILL COLLARS

Slip Type	BUTTONS					INSERTS				
	Per Set		Each			Per Set		Each		
	Part #	Wt. lb.	Qty.	Part #	Wt. oz.	Part #	Wt. lb.	Qty.	Part #	Weight
SDC 3" - 4"	2731-49	13	49	2731	4					
SDC 4" - 4 7/8"	2727-49	8	49	2727	2					
UDC 4 1/2" - 6"	2731-63	16	63	2731	4	3156-27	16	27	3156	9
UDC 5 1/2" - 7"	2727-63	11	63	2727	2	3158-27	8	27	3158	5
LDC 5 1/2" - 7"	2734-88	17	88	2734	3					
LDC 6 3/4" - 8 1/4"	2732-88	15	88	2732	2	3157-33	11	33	3157	5
LDC 8" - 9 1/2"	2732-96	16	96	2732	2	3157-36	12	36	3157	5
LDC 8 1/2" - 10"	2730-104	26	104	2730	4	3161-39	26	39	3161	11
LDC 9 1/4" - 11 1/4"	2732-112	19	112	2732	2	3157-42	14	42	3157	5
LDC 11" - 12 3/4"	2728-136	26	136	2728	4	3163-51	36	51	3163	11
LDC 12" - 14"	2732-136	20	136	2732	2	3157-51	17	51	3157	5

CL CASING SLIPS - 4 TAPER

Den-Con type CL Casing Slips are designed to handle casing sizes from 6 5/8" to 48". The multi-segment design provides even load distribution and full wrap-around gripping on all casing sizes. The CL Series Casing Slip have a 4" API taper to fit spiders and casing bushings of the same taper.

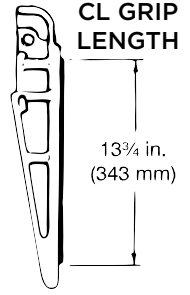
All CL slip parts interchange with Varco CMS-XL Casing slip parts. All CL slips are available with inserts or circular buttons. Add 'B' to assembly part number for buttons.

Flex-handles are available.

*Add "F" to assembly P/N when ordering slips w/ Flex-handles.



13 3/8" CL



CL - EXTRA LONG CASING SLIPS

Casing Size (OD Inches)	6 5/8	7	7 5/8	8 5/8	9 5/8	10 3/4	11 3/4	13 3/8	16*	18 5/8*	20*	22*	24*	26*	30*	36*	42*	48*
P/N, Slip Complete w/o Inserts	3175	3178	3181	3184	3187	3190	3193	3196	3200	3203	3206	—	3209	3212	3215	3270	3225	3222
P/N, Slip Complete w/ Inserts	3176	3179	3182	3185	3188	3191	3194	3197	3201	3204	3207	3223	3210	3213	3216	—	3224	3221
P/N, Slip Complete w/ Buttons	3176B	3179B	3182B	3185B	3188B	3191B	3194B	3197B	3201B	3204B	3207B	3223B	3210B	3213B	3216B	3271B	3224B	3221B
Weight Complete w/ Inserts (lb.)	196	184	166	181	192	209	260	247	308	367	383	—	443	486	546	650	—	—
Total Number of Segments	12	12	12	13	14	15	17	18	21	25	26	28	30	33	37	44	50	56
Total Intermediate Segments	10	10	10	11	12	13	15	16	19	23	24	26	28	31	35	42	48	54
Total Number of Hinge Pins	11	11	11	12	13	14	16	17	20	24	25	27	29	32	36	43	49	55

Contact the company for casing sizes not shown

CL Parts List on pg 25.

*This size furnished with 4 Handles

For Casing Size	INSERTS FOR CL CASING SLIPS					BUTTONS FOR CL CASING SLIPS				
	Per Set		Each			Per Set		Each		
	Part #	Wt. lb.	Qty.	Part #	Wt. oz.	Part #	Wt. lb.	Qty.	Part #	Weight
6 5/8"	3156-60	45	60	3156	5	2731-144	36	144	2731	4
7"	3155-60	36	60	3155	10	2726-144	36	144	2726	4
7 5/8"	3157-60	18	60	3157	5	2732-144	24	144	2732	2
8 5/8"	3157-65	19 1/2	65	3157	5	2732-156	26	156	2732	2
9 5/8"	3157-70	21	70	3157	5	2732-168	28	168	2732	2
10 3/4"	3161-75	51	75	3161	11	2732-180	30	180	2732	2
11 3/4"	3160-85	53	85	3160	10	2730-204	51	204	2730	4
13 3/8"	3161-90	62	90	3161	11	2732-216	36	216	2732	2
16"	3159-105	31 1/2	105	3159	5	2733-252	43	252	2733	2
18 5/8"	3162-125	56	125	3162	7	2729-300	60	300	2729	3
20"	3159-130	39	130	3159	5	2733-312	52	312	2733	2
22"	3159-140	43	140	3159	5	2733-336	56	336	2733	2
24"	3159-150	45	150	3159	5	2733-360	60	360	2733	2
26"	3159-165	49 1/2	165	3159	5	2733-396	64	396	2733	2
30"	3159-185	55 1/2	185	3159	5	2733-444	72	444	2733	2
36"						2733-528	90	528	2733	2

3CL CASING SLIPS

Den-Con type 3CL Casing Slips are designed to handle casing sizes from 9 5/8" to 36". The multi-segment design provides even load distribution and full wraparound gripping on all casing sizes. The 3CL Series Casing Slips have a 3" taper to fit spiders and bushings for the same taper. **Flex-handles are available.**

3CL - EXTRA LONG CASING SLIPS

Casing Size (OD Inches)	9 5/8*	10 3/4*	11 3/4*	13 3/8*	16*	18 5/8*	20*	22*	24*	26*	30*	36*
P/N, Slip Complete w/o Inserts	3228	3231	3234	3237	3240	3243	3246	—	3250	3253	3256	—
P/N, Slip Complete w/ Inserts	3229	3232	3235	3238	3241	3244	3247	3249	3251	3254	3257	3259
Weight, Complete w/ Inserts (lb.)	192	209	260	247	308	367	383	413	443	386	546	650
Total Number of Segments	14	15	17	18	21	25	26	28	30	33	37	44
Total Intermediate Segments	12	13	15	6	19	23	24	26	28	31	35	42
Total Number of Hinge Pins	13	14	16	17	20	24	25	27	29	30	36	43

Contact the company for sizes not shown. *Notes: All sizes furnished with 4 handles. 3CL Slips have 3 Taper on DIA and fit Den-Con 200 Ton Casing Spiders and the old style 3 Taper BAASH-Ross Casing Tools.

3CL PARTS LIST

DESCRIPTION	Part #	Wt. lb. Each
Segment - Right	3260	11
Segment - Left	3261	11
Segment - Intermediate	3262	12
Hinge Pin w/ Cotter Pin	3086	2/3
Handle Pin w/ Washer & Cotter Pin	3021	1/3
Steel Handle for Right & Left Segment	3088	3 1/2
Steel Handle for Intermediate Segment	3089	4



13 3/8" 3CL

INSERTS FOR 3CL SLIPS

For Casing Size	PER SET		EACH		
	Part #	Wt. lb.	Qty.	Part #	Wt. oz.
9 5/8"	3163-56	21	56	3163	11
10 3/4"	3161-60	22 1/2	60	3161	11
11 3/4"	3160-68	51	68	3160	10
13 3/8"	3161-72	27	72	3161	11
16"	3159-84	31 1/2	84	3159	5
18 5/8"	3162-100	56	100	3162	7
20"	3159-104	39	104	3159	5
22"	3159-112	42	112	3159	5
24"	3159-120	45	120	3159	5
26"	3159-132	49 1/2	132	3159	5
30"	3159-148	58	148	3159	5
36"	3159-176	68	176	3159	5

200 TON 4 TAPER HCS & BUSHINGS

Den-Con has enlarged its line of Hinged Casing Spiders and Reducing Bushings with the addition of a full range of 200 Ton 4 taper Equipment.

The 200 Ton 4 Taper Spiders range from 30" to 13 3/8" Body Sizes. Reducing bushings for these spiders are also available.

For customers with existing inventory of 3 taper 200-ton spiders, a full complement of 4 taper reducing bushings is available with 3 taper external dimensions to fit 3 taper spiders.



30" 200 Ton 4 Taper

EQUIPMENT	SIZE	PART #	TAPER I.D.	O.D.
SPIDER	13 3/8"	2555-4	4	
	20"	2550-4	4	
	24"	2575-4	4	
	30"	2585-4	4	
BUSHINGS	13 3/8" X 10 3/4"	2557-4	4	3
	13 3/8" X 10 3/4"	2557-4X4	4	4
	13 3/8" X 8 5/8"	2559-4X4	4	4
	20" X 16"	2552-4	4	3
	20" X 16"	2552-4X4	4	4
	20" X 13 3/8"	2554-4	4	3
	20" X 13 3/8"	2554-4X4	4	4
	20" X 10 3/4"	2563-4	4	3
	20" X 10 3/4"	2563-4X4	4	4
	20" X 8 5/8"	2570-4X4	4	4
	24" X 20"	2580-4	4	3
	24" X 20"	2580-4X4	4	4
	24" X 16"	2583-4	4	3
	24" X 16"	2583-4X4	4	4
	24" X 13 3/8"	2581-4	4	3
	24" X 13 3/8"	2581-4X4	4	4
	24" X 10 3/4"	2582-4	4	3
	24" X 10 3/4"	2582-4X4	4	4
	30" X 26"	2589-4	4	3
	30" X 26"	2589-4X4	4	4
	30" X 24"	2587-4	4	3
	30" X 24"	2587-4X4	4	4
	30" X 20"	2588-4	4	3
	30" X 20"	2588-4X4	4	4
	30" X 16"	2599-4	4	3
	30" X 16"	2599-4X4	4	4
	30" X 18"	2599-4X4SPL18	4	4
	36" X 32"	2597-4	4	3
36" X 30"	2578-4	4	3	
36" X 26"	2579-4	4	3	
36" X 24"	2584-4	4	3	
36" X 20"	2598-4	4	3	
36" X 22"	2577-4	4	3	

SLIPS CONTINUED

CL PARTS LIST

DESCRIPTION	Part #	Wt. lb. Each
Segment - Right	3218	11
Segment - Left	3219	11
Segment - Intermediate	3220	12
Hinge Pin w/ Cotter Pin	3086	2/3
Handle Pin w/ Washer & Cotter Pin	3021	1/3
Steel Handle for Right & Left Segment	3088	3 1/2
Steel Handle for Intermediate Segment	3089	4

CPS CONDUCTOR PIPE SLIPS

PIPE OD	24	26	30	36
P/N Slip Complete	3167	3169	3171	3174
Weight Complete	276	296	319	—
Total Segments	13	14	16	20
Total Hinge Spacers	12	13	15	19
Insert Set P/N	3159-65	3159-70	3159-80	3159-100
Button Set P/N	2733-156	2733-168	2733-192	2733-240

All CPS Slips are furnished with 4 handles. **Flex-handles are available.**
All parts except P/N 3165 Hinge Spacer Blocks are interchangeable with CL Slips or Varco CMS-XL Slips. Add "B" to assembly part numbers for buttons.

HINGED SPIDERS & REDUCING BUSHINGS

PIPE SIZES 2 3/8" - 20"

ROTARY TABLE SIZE	BUSHING / SPIDER TYPE	8 5/8" - 2 3/8"	10 3/4" - 9 5/8"	13 3/8" - 11 3/4"	16"	20" - 18 5/8"
ALL	500 Ton Hinged Spider					
	4 TPR					2568 w/2571
		2590 w/3312 w/2529	2590 w/3312 w/2531	2590 w/3312	2590 w/3311	2590 Body
ALL	200 Ton Spider					2595 w/2598
					2585 w/2599	2585 w/2588
	3 TPR		2575 w/2582	2575 w/2581	2575 w/2583	2575 w/2580
		2550 w/2570	2550 w/2563	2550 w/2554	2550 w/2552	2550 Body
		2555 w/2559	2555 w/2557	2555 Body		
	100 Ton Spider	2565				

PIPE SIZES 22" - 48"

ROTARY TABLE SIZE	BUSHING / SPIDER TYPE	22"	24"	26"	30"	36"	42"	48"
ALL	500 Ton Hinged Spider						2765 w/2771	2765 Body
	4 TPR				2569 w/2773	2767 w/2772	2767 Body	
		2568 w/2574	2568 w/2573	2568 w/2572	2568 Body	2769 Body		
ALL	200 Ton Spider	2595 w/2577	2595 w/2584	2595 w/2579	2595 w/2578	2595 Body		
					2595 w/2597 (32")			
	3 TPR	2585 w/2580	2585 w/2587	2585 w/2589	2585 Body			
			2575 Body					

HINGED CASING SPIDERS & BUSHINGS

The Den-Con Hinged Casing Spiders are used during casing handling operations when (1) cementing equipment will not clear a closed spider or rotary table, (2) casing will not pass or clear a closed spider or rotary table, or (3) where it is preferred to not place heavy casing string loads directly on rotary table bearings.

The Den-Con Hinged Casing Spider is available in 500 ton, 200 ton and 100 ton A.P.I. working capacities. The 500 ton spider is available in 48", 42", 36", 30" and 20" body sizes. The 200 ton spider is available in 36", 30", 24", 20" or 13 3/8" body sizes. Reducing bushings for other casing sizes are available. The 100 ton spider will handle all pipe sizes 8 5/8" diameter and smaller. The table below references the various bushing and body sizes available.

All spiders and bushings to handle 8 5/8" and smaller casing sizes have a bore dimensionally the same as the A.P.I. standard rotary master bushing and will allow use of any standard slip of the correct size.



36" 200 Ton



20" 500 Ton

RATED CAPACITY	PART #	DESCRIPTION	CASING SIZE (in.)	WEIGHT (lbs.)
500 Ton 4 TPR	2765	48" Hinged Spider Casing	48	
	2771	48" x 42" Reducing Bushing	42	
	2767	42" Hinged Casing Spider	42	
	2772	42" x 36" Reducing Bushing	36	
	2769	36" Hinged Casing Spider	36	
	2773	36" x 30" Reducing Bushing	30	
	2773-24	36" x 24" Reducing Bushing	24	
	2568	30" Hinged Casing Spider	30	3200
	2572	30" x 26" Reducing Bushing	26	650
	2573	30" x 24" Reducing Bushing	24	750
	2574	30" x 22" Reducing Bushing	22	850
	2571	30" x 20" Reducing Bushing	20 & 18 5/8	900
	2571-16	30" x 16" Reducing Bushing	16	
	2590	20" Hinged Casing Spider	20	2200
	3311	20" x 16" Reducing Bushing	16	575
	3312	20" x 13 3/8" Reducing Bushing	13 3/8	890
2531	10 3/4" & 9 5/8" (use with 3312)	10 3/4 & 9 5/8	242	
2529	8 5/8" & smaller (use with 3312)	8 5/8" & smaller	465	
200 Ton 3 TPR	2595	36" Hinged Casing Spider	36	1200
	2597	36" x 32" Reducing Bushing	32	700
	2578	36" x 30" Reducing Bushing	30	900
	2579	36" x 26" Reducing Bushing	26	1100
	2584	36" x 24" Reducing Bushing	24	1200
	2577	36" x 22" Reducing Bushing	22	1250
	2598	36" x 20" Reducing Bushing	20	1300
	2585	30" Hinged Casing Spider	30	1200
	2589	30" x 26" Reducing Bushing	26	700
	2587	30" x 24" Reducing Bushing	24	750
	2588-22	30" x 22" Reducing Bushing	22	800
	2588	30" x 20" Reducing Bushing	20	900
	2599	30" x 16" Reducing Bushing	16	1000
	2575	24" Hinged Casing Spider	24	1100
	2580	24" x 20" Reducing Bushing	20	480
	2583	24" x 16" Reducing Bushing	16	630
	2581	24" x 13 3/8" Reducing Bushing	13 3/8	790
	2582	24" x 10 3/4" Reducing Bushing	10 3/4 - 9 5/8	860
	2550	20" Hinged Casing Spider	20	1650
	2552	20" x 16" Reducing Bushing	16	400
	2554	20" x 13 3/8" Reducing Bushing	13 3/8	500
	2563	20" x 10 3/4" Reducing Bushing	10 3/4 - 9 5/8	550
2570	20" x 8 5/8" Reducing Bushing	8 5/8" & Smaller	600	
2555	13 3/8" Hinged Casing Spider	13 3/8	975	
2557	13 3/8" x 10 3/4" Reducing Bushing	10 3/4 - 9 5/8	170	
2559	13 3/8" x 8 5/8" Reducing Bushing	8 5/8" & Smaller	250	
100 Ton	2565	API Bowl	8 5/8" & Smaller	200

Reference Page 26 for Data Table by Casing Size and reducing bushings for Spider.

*See Page 25 for 200 Ton 4 Taper Equipment

Additional special sizes may be available upon request. Please inquire.

CASING BUSHINGS

The Den-Con UC and SCB Casing Bushings are installed directly into the rotary table and allow casing string to be rotated during cementing operations. The casing string is aligned with the center of the hole while the string is being run. The UC Bushing is a solid body design for 17 1/2" to 27 1/2" Rotary Tables and will accommodate up to 20" tubular goods. The UC Bushing is equivalent to the Varco CU Bushing.

The SCB Bushing is a split body design for 49 1/2" to 22" Rotary Tables and will accommodate up to 36" tubular goods. SCB Split Bushings are available to fit directly into 49 1/2" Rotaries. Sizes are for 36", 30", 26", 24", and 20" Tubulars.

*See page 5 for 49 1/2" SCB and 37 1/2" SUCB Bushings.



27 1/2" x 20" UC



37 1/2" x 20" SCB

CASING BUSHINGS TABLE

ROTARY TABLE SIZE	MAKE SIZE	CASING SIZE	CASING BUSHING & INSERT BOWL (P/N)	WEIGHT
17 1/2" - 20 1/2"	ALL	13 3/8" or 11 3/4"	UC (2800) Body	460
		10 3/4" or 9 5/8"	w/2531 Bowl	340
		8 5/8" & Smaller	w/2529 Bowl	460
20 1/2" Made to Order	ALL	16"	UC (2802) Body	500
22" - 23" Made to Order	22 1/2"	13 3/8" - 11 3/4"	UC (2803) Body	
		16"	UC (2804) Body	
	22" - 23"	10 3/4" - 9 5/8"	SCB (2815) Body	
		13 3/8"	SCB (2816) Body	
27 1/2"	ALL	20" & 18 5/8"	UC (2805) Body	940
		16"	w/2806 Bowl	560
		13 3/8" & 11 3/4"	w/2807 Bowl	850
		10 3/4" & 9 5/8"	w/2807 w/2531 Bowls	
		8 5/8" & Smaller	w/2807 w/2529 Bowls	
		10 3/4" - 9 5/8"	w/2808 Bowl	
	ALL API	20" & 18 5/8"	SCB (3310) Body	720
		16"	w/3311 Bowl	575
		13 3/8" & 11 3/4"	w/3312 Bowl	890
		10 3/4" & 9 5/8"	w/3312 w/2531 Bowls	
37 1/2" - 49 1/2"	ALL	8 5/8" & Smaller	w/3312 w/2529 Bowls	
		32"	SCB (3319SPL32) Bowls	
		30"	SCB (3319) Bowls	1100
		26"	SCB (3318) Bowls	1100
		24"	SCB (3317) Bowls	1200
		20" & 18 5/8"	SCB (3316) Bowls	1650
		16"	w/3311 Bowl	
		13 3/8" & 11 3/4"	w/3312 Bowl	
49 1/2"	ALL	10 3/4" & 9 5/8"	w/3312 w/2531 Bowls	
		8 5/8" & Smaller	w/3312 w/2529 Bowls	
		36"	SCB (8029) Body	
		30"	SCB (8028) Body	
		26"	SCB (8027) Body	
		24"	SCB (8026) Body	
		20"	SCB (8025) Body	

**ALL DEN-CON CASING BUSHINGS AND BOWLS HAVE 4" TAPER
SPECIFY ROTARY TABLE SIZE AND MANUFACTURER WHEN ORDERING**

SAFETY CLAMPS

The Den-Con MP Multipurpose Safety Clamp is a safe and convenient tool to prevent dropping slick drill collars or flush joint pipe into the hole while making up or breaking out the string. Other popular uses include use when running large diameter surface casing, handling of drilling risers and casing heads during installation and lifting prepacked gravel liners.

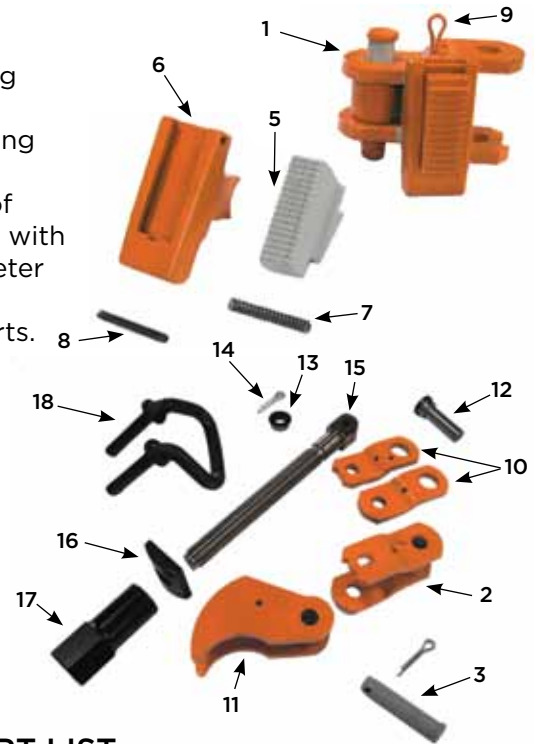
The multi-link design provides uniform pressure around the pipe so the risks of crushing the pipe or damaging the surface are minimized. Each link, complete with tapered slip, is interchangeable as a unit and is readily adaptable to any diameter from 2 7/8" to 39 1/2".

All Den-Con MP series parts interchange with Varco MPS and larger clamp parts.

Not to be used as a hoisting device unless fitted with lifting eyes.



MP CLAMP



CLAMP ASSEMBLIES

DCT #	DESCRIPTION CLAMP SIZE & TYPE	# LINKS	# DIES	VARCO PART #	WT. LBS. (INCL. BOX)
3752B	2 7/8" - 4 1/8" MPS	7	8	33030	130
3753B	4" - 5" MPS	8	9	33031	138
3702B	4 1/2" - 5 5/8" MPR	7	8	33011	123
3703B	5 1/2" - 7" MPR	8	9	33012	131
3704B	6 3/4" - 8 1/2" MPR	9	10	33013	139
3705B	8" - 9 1/4" MPR	10	11	33014	147
3706B	9 1/4" - 10 1/2" MPR	11	12	33015	155
3707B	10 1/2" - 11 1/2" MPM	12	13	33016	163
3708B	11 1/2" - 12 1/2" MPM	13	14	33017	171
3709B	12 1/2" - 13 5/8" MPM	14	15	33018	179
3710B	13 5/8" - 14 3/4" MPM	15	16	33019	187
3711B	14 3/4" - 15 7/8" MPM	16	17	33020	195
3712B	15 7/8" - 17" MPL	17	18	33021	215
3713B	17" - 18 1/8" MPL	18	19	33022	223
3714B	18 1/8" - 19 3/8" MPL	19	20	33023	231
3716B	19 3/8" - 20 3/8" MPXL	19	20	33024	280
3717B	20 3/8" - 21 1/2" MPXL	20	21	33025	288
3718B	21 1/2" - 22 5/8" MPXL	21	22	33032	296
3719B	22 5/8" - 22 3/4" MPXL	22	23	33033	304
3720B	23 3/4" - 24 7/8" MPXL	23	24	33034	312
3721B	24 7/8" - 26" MPXL	24	25	33035	320
3722B	26" - 27 1/8" MPXL	25	26	33036	328
3723B	29 3/8" - 30 1/2" MPXL	28	29	33039	336
3724B	32" MPXL	31	32	—	400
3725B	36" MPXL	35	36	—	410
3726B	42" MPXL	41	42	—	—

CLAMP PART LIST

ITEM #	DCT #	DESCRIPTION	VARCO PART #	QTY. REQD.
1	3745	Link Assy. C/W 3731 Pin	3319	AR
2	3730	Link w/ Cotter Pin	3306	1
3	3731	Link Pin w/ Cotter Pin	3307	1
4*	3748V	Die Carrier Assy. (incl. item 5-9)	3324	1
*	3749	Die Carrier Assy., MPS	3325	1
5	3736	Grip Die w/ Roll Pin	3310	1
6	3735	Die Carrier	3309	1
7	3737V	Spring	3311	1
8	51604-18	Roll Pin	51604-18	1
9	51405-32	Cotter Pin	51405-30	1
10	3744	Link Side Bars, Pair	3318	1
11	3732	Latch Link (MPS, MPR, MPM, MPL)	3304	1
11*	3746	Latch Link (MPXL)	3321	1
12	3738	Screw Pin w/ Cotter	3308	1
13	3743	Screw Pin Bushing	3315	1
14	51405-10	Cotter Pin	51405-10	AR
15	3739	Screw	3302	1
16	3740	Thrust Washer	2714	1
17	3733	Makeup Nut	3303	1
18	3734	Handle (2 Reqd for MPS, MPR, MPM, others 4)	3305	AR
21	3747	Wrench	3320	1
22	3750	Case (All Except MPXL)	3331	1
23*	3751	Case (MPXL)	3334	1
24*	3754	Die-MPS	3333	AR
*	3755	Link Assy., MPS	3335	AR

AR - As Required
*Not Shown

WEAR GUIDE ASSEMBLY



The Den-Con Wear Guide Assembly helps reduce wear on Master Bushings and Bowls during drilling operations, particularly when using a top drive. The Wear Guide Assembly mounts directly in the pin drive locations on 27 1/2" and 37 1/2" Master Bushings. Locking drive pins are optional. The expendable Wear Guide Rings are sized for 6 5/8" and smaller pipe sizes. The wear guide material is designed to minimize any wear to the drill string.

PIPE SIZE	GUIDE ASSY. COMPLETE		GUIDE ONLY P/N
	W/ LOCK PINS	W/O LOCK PINS	
3 1/2" - 5"	9100-1	9100-3	9105-1
5 1/2" - 6 5/8"	9100-2	9100-4	9105-2

DEN-CON - VARCO INTERCHANGE

ASSEMBLY EQUALS

ASSY. #	DESCRIPTION	COMPETITIVE EQUIVALENT	DESCRIPTION	COMPETITIVE EQUIVALENT
2400	RSM Kelly Bushing (Med Duty)	Varco 4KRVS 1401 & 1402		
2425	RSH Kelly Bushing (Heavy Duty)	Varco HDS 3635 & 3636		
2430	20 RPH Kelly Bushing (Heavy Duty)	Varco 20 HDP 3690 & 3691	CPS Conductor Pipe Slips	CP-S Slips
2435	27 RPH Kelly Bushing (Heavy Duty)	Varco 27 HDP 3650 & 3651	200 Ton CSG Spider/Bowls	BR 200 Ton
2501	17 1/2" SSB Master Bushing	Varco 17 1/2" MSS 1001	500 Ton CSG Spider/Bowls	Varco 500 Ton
2509	Insert Bowl 17 1/2" - 23" SSB	Varco Bowl 1024	UC Casing Bushing	Varco CU Bushing
2502	20 1/2" SSB Master Bushing	Varco 20 1/2" MSS 1002	UCB Casing Bushing	Bushing
2503	23" SSB Master Bushing	Varco 23" MSS 1003	SCB Split Casing Bushing	Varco CB Bushing
2504	27 1/2" SSB Master Bushing	Varco 27 1/2" MSS 1005	MPR Clamp	Varco MPR Clamp
2510	Insert Bowl 27 1/2" SSB	Varco Bowl 1025	RDS Rotary Slips	Varco SDS Slips
2525	20 1/2" SPB Master Bushing	Varco 20 1/2" MSPC 1801	RD Rotary Slips	Varco SDML Slips
2526	27 1/2" SPB Master Bushing	Varco 27 1/2" MSPC 1804	RDL Rotary Slips	Varco SDXL Slips
2529	Bowl #33 (3) 20 1/2" SPB	Varco Bowl 1809	350, 500, 750 Ton Elev/Spid	Same
2530	Bowl #33 (3) 27 1/2" SPB	Varco Bowl 1810	TE Tubing Elevators	BJ Type TA
2531	Bowl #32 (2) 20 1/2" SPB	Varco Bowl 1902	CLS SQ Shoulder Elevator	BJ Type TA
2532	Bowl #32 (2) 27 1/2" SPB	Varco Bowl 1904	CL 18 Degree 150 Ton	RGG
			CL 18 Degree 250 Ton	MGG
			CL 18 Degree 350 Ton	GG
2533	Bowl #31 (1) 27 1/2" SPB	Varco Bowl 1903	SDE Side Door Elevator	BJ Type SLX, SX
3309	17 1/2" & 20 1/2" SMB Master Bushing	Varco 20 1/2" MDSP	SJ Single Joint Elevator	BJ Type SP
3300	27 1/2" SMB Master Bushing	Varco 27 1/2" MSP	FG-2A	PS-21
2700	37 1/2" HMB Master Bushing	Varco 37 1/2" MPCH 6600	FG-3A	PS-30
2706	Insert Bowl #33 (3)	Varco Bowl 6606		
2707	Insert Bowl #32 (2)	Varco Bowl 6609		
2708	Insert Bowl #31 (1)	Varco Bowl 6610		
—	SDC Drill Collar Slips	Varco DCS-S Slips		
—	UDC Drill Collar Slips	Varco DCS-R Slips		
—	LDC Dril Collar Slips	Varco DCS-L Slips		
—	CL Casing Slips	Varco CMS-XL Slips		
—	TS-100 TBG Spider	Model C Spider		
—	3 1/2" TBG Spider Manual	3 1/2" TS 100		

These are assembly equals for reference only. Refer to the catalog or contact the company for parts interchange.

ELEVATORS - ASSEMBLY EQUALS (FRAMES)

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
3400	33285	7201	31239	7504	34175
3425	33283	7202	33950	7505	—
7400	—	7203	33982	7001	33039
7425	32754	7204	33632	7002	33040
7450	30156	7205	52755	7003	33041
7460	35005	7206	52755	7004	33042
7460W	200058	7500	—	7005	33043
7475	31068	7501	—	7006	33044
7475W	200056	7502	—	7007	20080
7200	33854	7503	30598		

These are assembly equals for reference only. Refer to the catalog or contact the company for parts interchange.

DEN-CON - VARCO INTERCHANGE

MASTER BUSHINGS & PARTS INTERCHANGE

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
2501	1001	2700	6600	2536	1815
2502	1002	2701	6601	2537	1816
2503	1003	2706	6608	2511	1021
2504	1005	2707	6609	2712	6699
2509	1024/1011	2708	6610	2534	1813
2510	1025	3300	5429	2535	1814
2525	1801	3309	70526	2713	3699
2526	1804	2514	1015	2709	6605
2528	1808	2515	—	2711	6604
2529	1809	2541	1016	2715	6606
2530	1810	50106-24	1030	50106-20	1028
2531	1902	2542	1014	50104-10	1017/1018
2532	1904	2543	1811		
2533	1903	2544	1013		

KELLY BUSHINGS & PARTS INTERCHANGE

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
2400	1401 & 1402	2142-4	1432-4	2131	1445
2425	3635 & 3636	2143-4	1433-4	2132	1446
2430	3690 & 3691	2144-4	1434-4	2133	1447
2435	3650 & 3651	2145-46	1437-38	2134	1448
1208	1208	2147-48	1439-40	2136	1450
2351	1605	2149-50	1441-42	2137	1451
2352	1505	2168-4	2930-4	2138	1452
2353	1506	2169-4	2931-4	2164	2949
2403	1414	2170-4	2932-4	2161	2943
2428	13501	2171-4	2933-4	2162	2944
2404	1417	2174-75	5221-22	2163	2945
2429	1321	2176-77	5223-24	2166	5210
2443	1210	2172-73	2939-40	2167	5211
2110-4	1331-4	2195-96	1387-88	2165	2948
2111-4	1332-4	2450	3660	2125	3609
2112-4	1333-4	2451	3661	2156	1411
2113-4	1334-4	2452	3662	2178	2910
2114-4	1335-4	2453	3665	2191	1311
2115-16	1338-39	2454	3666	2126A	3618
2117-18	1340-41	2455	3667	2158	1413
2119-20	1342-43	2456	3668	2180	2912
2121-22	1344-45	2457	3669	2192	1313
2123-24	1346-47	2197	3671	2193	1326
2140-4	1430-4	2458	3672	2194	1422
2141-4	1431-4	2459	3673	2179	5218
2127	1312	2157	1412	1316	1316
3613	3613/19138	2126	3610	358B	3611
233B	3612	2464	3695	2465	3696
2466	3697	2467	3698	2468	1017

SAFETY CLAMPS & PARTS INTERCHANGE

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
3752B	33030	3718B	33032	3740	2714
3753B	33031	3719B	33033	3742	3317
3702B	33011	3720B	33034	3743	3315
3703B	33012	3721B	33035	3744	3318
3704B	33013	3722B	33036	3745	3319
3705B	33014	3723B	33039	3746	3321
3706B	33015	3724B	33040	3747	3320
3707B	33016	3730	3306	3748	3324
3708B	33017	3731	3307	3749	3325
3709B	33018	3732	3304	3750	3331
3710B	33019	3733	3303	3751	3334
3711B	33020	3734	3305	3755	3335
3712B	33021	3735	3309	51405-10	51405-10
3713B	33022	3736	3310	51405-32	51405-28
3714B	33023	3737V	3311	51604-18	51604-18
3716B	33024	3738	3308		
3717B	33025	3739	3302		

CASING BUSHINGS & SPIDERS INTERCHANGE

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
2800	3102	3317-2	6170	2575	7704-A-152
2805	3103	3317-3	16542	2580	7704-A-154
2806	3104	3317-4	19178	2581	7704-A-158
2807	3105	3316-1	10187	2582	7704-A-156
3310	6695	3316-2	10788	2583	7704-A-155
3311	6127	3316-3	11553	2585	7704-A-161
3312	6126	3316-4	10189	2589	7704-A-162
3319-1	11763	2590	6125	2587	7704-A-163
3319-2	12093	2568	7704-1003	2588	7704-A-164
3319-3	11633	2550	7704-A-130	2595	7704-A-167
3319-4	12092	2552	7704-A-134	2578	7704-A-169
3318-1	16454	2555	7704-A-79	2579	7704-A-170
3318-2	6170-26	2557	7704-A-80		
3317-1	11253	2559	7704-A-81		

DEN-CON - VARCO INTERCHANGE

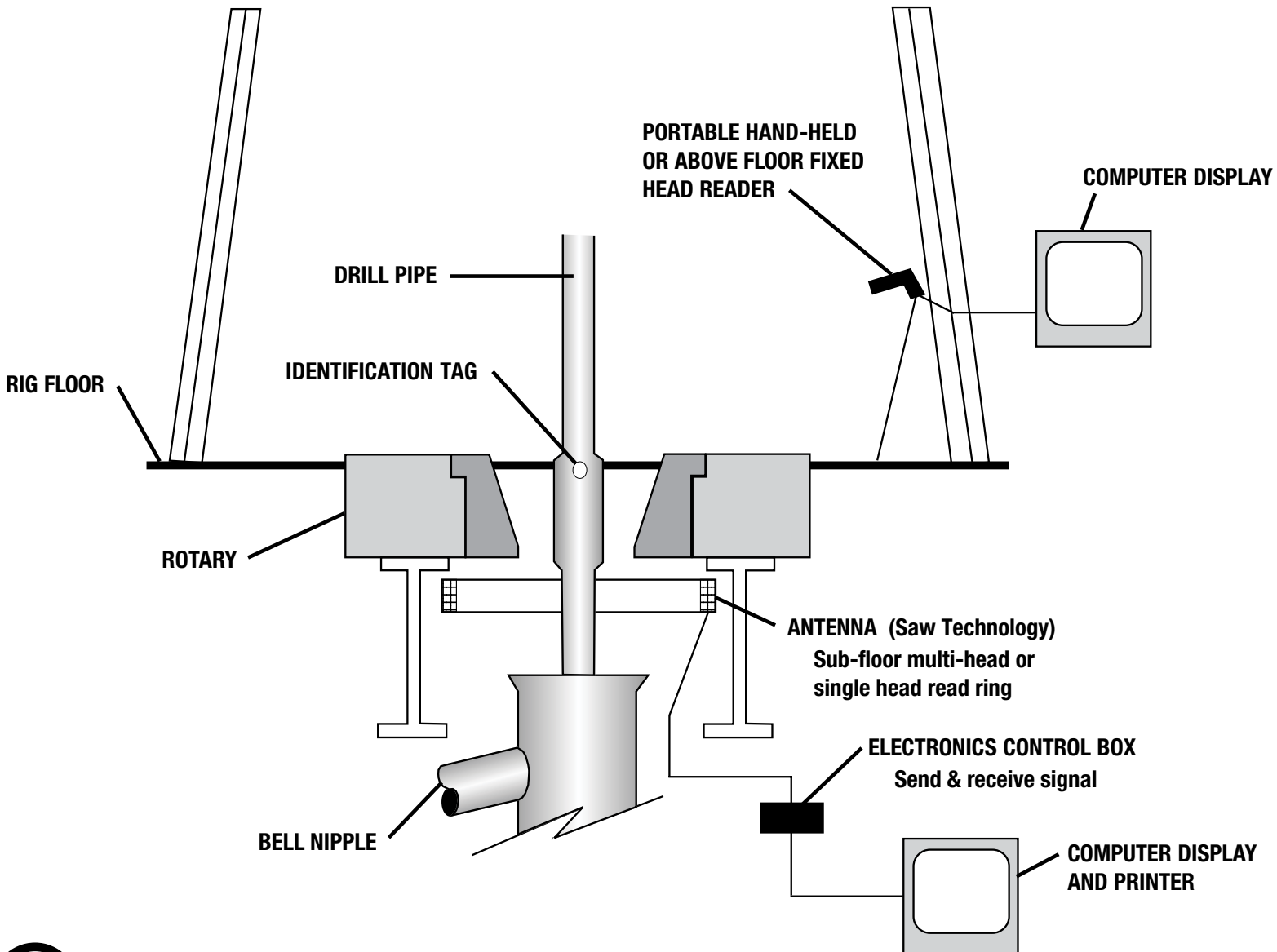
DRILL PIPE, DRILL COLLAR, CASING SLIPS & PARTS

DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
ROTARY DRILL PIPE SLIPS					
RDS - SDS		RD - SDML (CONT)		RDL - SDXL (CONT)	
3275	3905	3010	15571	3057	15521
3281	3903	3023	15563	3069	N/A
3282	3901	3112	15569	3070	N/A
RD - SDML		3113	15568	3071	N/A
3001	15522	3114	15567	3119	15516
3002	15523	RDL - SDXL		3120	15517
3003	15524	3051	15513	3121	15518
3005	15565	3052	15514	3435	86719
3006	15564	3053	15515	3436	86720
3008	15573	3055	15519		
3009	15572	3056	15520		
CASING & CONDUCTOR PIPE SLIPS					
CPS		CL - CMS - XL			
3167B	5338	3176B	5315	3197B	5313
3169B	5344	3179B	5301	3201B	5325
3171B	5340	3182B	5303	3204B	5333
		3185B	5305	3207B	5329
		3188B	5307	3210B	5331
		3191B	5309	3213B	5346
		3194B	5311	3216B	5342
DRILL COLLAR SLIPS					
SDC - DCS - S			LDC - DCS-L		
3077B	2572	3153B	2501	3141B	2534
3080B	2573	3129B	2503	3144B	2536
UDC - DCS-R		3132B	2507		
3101B	2552	3135B	2530		
3104B	2550	3138B	2508		
DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
INSERTS					
1450	2160	3155	2623	2740	2640
1450B	2160B	3155B	2623B	2740B	2640B
1451	2161	3156	2632	2741	2649
1451B	2161B	3156B	2632B	2742	2650
1452	2162	3157	2633	2742B	2650B
1453	2163	3158	2634	2743	2651
1453B	2163B	3159	2635	2744	2652
1454	2164	3160	2636	2744B	2652B
1454B	2164B	3160B	2636B	2745	2653
1455	2165	3161	2637	2745B	2653B
1456	2168	3162	2638	2746	2655
1456B	2168B	3162B	2638B	2746B	2655B
1457	2166	3163	2639	2747	2656
1458	2167	3163B	2639B	2747B	2656B
1459	2169			2748	2657
1459B	2169B			2748B	2657B
1460	2170				
DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #	DEN-CON PART #	VARCO PART #
BUTTONS					
2726	2619	2729	2626	2732	2630
2727	2620	2730	2627	2733	2631
2728	2625	2731	2628	2734	2631
SLIP PARTS					
3012	3741	3089	3766	3266	2192
3015	3738	3151	2520	3267	3767
3016	3739	3218	5320	3268	3768
3017	3740	3219	5321	3737	3737/3745
3021	3769	3220	5322	3748	3748
3086	2525	3165	11944	51435-12/71936	71936
3088	3765	3265	2190		

ELECTRONIC ASSET MANAGEMENT AND TRACKING

- Tag and Track Downhole Equipment and Rig Components
- Accurate Item History and Inventory Tracking
- Rugged and Durable Tags for Downhole and Surface Equipment
- Improved Tag Read Range
- Reader Options
 - Below rig floor readers
 - Portable Hand-held readers
 - Fixed readers above rig floor
- Automatic String Component reads using below floor fixed readers

Den-Con utilizes the latest RFID Technology including SAW High Frequency Tags and Readers in addition to conventional Low Frequency equipment. Den-Con holds 17 U.S. and Foreign patents related to applications and use of RFID for the Energy Industry. Additional patents are pending.



DEN-CON TOOL COMPANY

STANDARD WARRANTY

The Seller warrants that the products covered by this contract will be free from any defects in material and workmanship for a period of 12 months from the date of installation or 18 months from the date of shipment, whichever period first expires. Customer, in accepting the respect to the equipment, acknowledges that it takes the equipment "as is" and that Den-Con makes no warranties or representations with respect to the equipment, including implied expected life cycle of equipment. If, within that period, the Seller receives from Buyer written notice within 3 days of discovery of any alleged defect in or non-conformance of any product and if in the Seller's sole judgment the product does not conform or is found to be defective in material or workmanship, the Buyer shall, at Seller's request, return the part or product F.O.B. to Seller's designated plant. Seller, at his option and expense, shall repair or replace the defective part or product, or repay to Buyer the full price paid for such part or product by Buyer. Any replacement or purchase price shall be without interest. Seller's sole responsibility and Buyer's exclusive remedy hereunder shall be limited to such repair, replacement or repayment of the purchase price as above provided. In case of a defective product or part thereof, not of Seller's manufacture, Seller's warranty liability shall exist only to the extent that Seller is able to recover from its supplier for the same defects. THERE ARE NO OTHER WARRANTIES, EXPRESS, STATUTORY OR IMPLIED, INCLUDING THOSE OF MERCHANTABILITY AND OF FITNESS FOR PURPOSE; NOR ANY AFFIRMATION OF FACT OR REPRESENTATION, WHICH EXTENDS BEYOND THE DESCRIPTION OF THE FACE HEREOF.

The warranties of Seller do not cover and Seller makes no warranty with respect to:

- Failures not reported to Seller within the warranty period specified above.
- Failures or damage due to misapplication, abuse, improper installation or abnormal conditions of temperature, dirt, or corrosive matter;
- Failures due to operation, either intentional or otherwise, above rated capacities or in an otherwise improper manner;
- Products which have been in any way tampered with or altered by anyone other than an authorized representative of Seller;
- Products damaged in shipment or otherwise without fault of Seller;
- Expenses incurred by Buyer in an attempt to repair or rework any alleged defective products;
- Failures due to lack of compliance with industry recommended maintenance procedures;
- Products rebuilt, welded, heat-treated or subjected to similar processes performed outside Seller's plants, and
- Loss of use, downtime, direct, indirect, incidental or consequential damages.

Sole and complete warranty will apply for original purchaser of equipment, and will effect only for time period of warranty. Any claims made beyond the warranty dates, and/or failure to present required documents will void all warranties. This warranty cannot be transferred. Buyer is solely responsible for providing any required documentation, or documentation requested by Seller.

In the event Buyer declines to return the reportedly defective equipment to Sellers location per the terms of this warranty, or request onsite inspection by Sellers personnel or representatives of Seller, Buyer shall be fully responsible for travel expenses incurred by the Seller in addition to a day rate fee. These charges will be made regardless of the final disposition relative to the reportedly defective equipment.

Purchase and use of Den-Con equipment acknowledges complete acceptance of Den-Con Warranty Policy.

Any written notice of an alleged defect, in, or non-conformance of any product must include inspection reports detailing the alleged defect and the industry inspection criteria used, detailed filed operations data, historical inspection and maintenance records, and drawings and /or sketches of the alleged failure area.

SALES & STOCK POINT LOCATIONS

MAIN OFFICE & MANUFACTURING FACILITY

Den-Con Tool Company
5354 S. I-35
Oklahoma City, Oklahoma 73129
Phone: 405-670-5942
Fax: 405-672-5884
General info email: info@dencon.com
Sales Inquiries: crystal@dencon.com

HOUSTON

Den-Con Tool Company
PO Box 1921
Deer Park, Texas 77536
Phone/Fax: 281-479-0020
Cell: 713-884-0118
Email: lellany@dencon.com
SALES OFFICE

ROCKY MOUNTAIN

Den-Con Tool Company
Phone: 307-389-0123
Fax: 307-362-5788
Email: edp@onewest.net
SALES OFFICE
STOCK POINT

EASTERN HEMISPHERE

Den-Con Tool Company
Phone: +441 892 835382
Fax: +441 892 837578
Cell: +44 7766 815129
Email: tim@dencon.com
SALES OFFICE

PLEASE CONTACT OKLAHOMA CITY FOR ALL SALES INQUIRIES



5354 S. I-35 • Oklahoma City, Oklahoma 73129

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Website: www.dencon.com