



2004 - 2005

GENERAL CATALOG

DRILLING EQUIPMENT SINCE 1975

RF/ID TAGGING SYSTEMS SINCE 1990

DEN-CON TOOL COMPANY

QUALITY PIPE HANDLING TOOLS SINCE 1975

Since 1975, Den-Con Tool has been dedicated to providing the finest in products, quality, service and cost effectiveness to the drilling segment of the energy industry.

Den-Con is an industry leader in the manufacture of the traditional manual rig floor handling tools and hoisting tools.

Den-Con is licensed by the A.P.I. to manufacture and monogram its products according to A.P.I. Spec. 7K and A.P.I. 8C, using the unified ISO/API Q1 Quality Program.

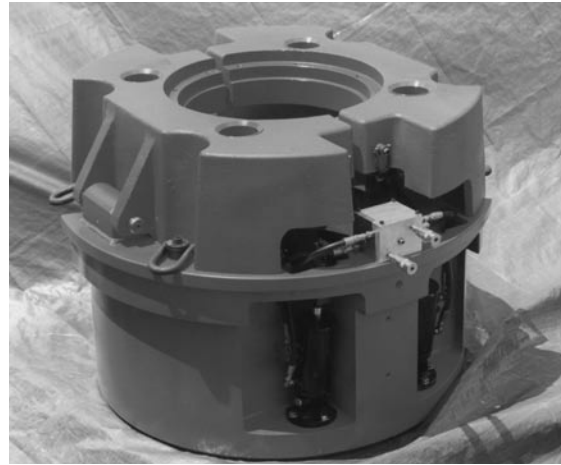
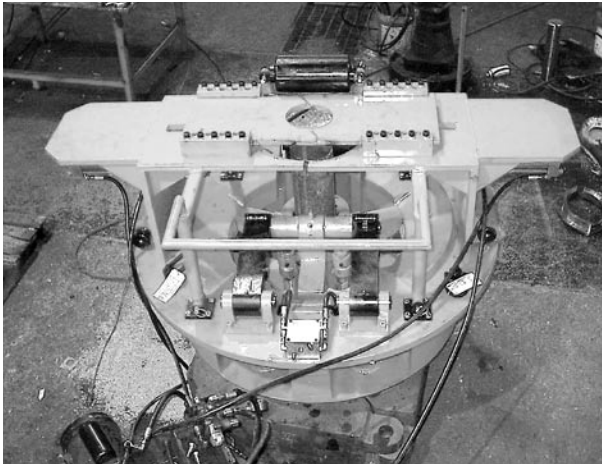
Den-Con is one of only two manufacturers in the world to offer the full range of these handling tools and to be licensed by A.P.I. The product ranges include:

- **Kelly Bushings and Parts (Pg 7-9)**
 - Pin Drive and Square Drive
- **Master Bushings and Bowls (Pg 10-13)**
(17½" - 60½" rotaries)
 - Pin Drive and Square Drive
 - Hinged, Solid Body and Split Body
 - Full Line of Insert Bowls
- **Rotary Slips (Pg 14)**
 - Short, Medium and Long Bodies
 - 3½, 4½, 5, 5½, 7 Body Sizes
- **Drill Collar Slips (Pg 15)**
 - Short, Medium and Long Bodies
 - For 3" - 14" Collar Sizes
- **Casing Slips (Pg 16-17)**
 - 4 Taper or 3 Taper Available
- **Hinged Casing Spiders & Bowls (Pg 20)**
 - 500 Ton, 200 Ton, 100 Ton Capacities
 - For Pipe Up to 48" Diameter
- **Electronic Tagging Systems (Pg 23)**
- **Tubing Spiders & Bowls (Pg 22)**
 - 100 Ton, 150 Ton Capacities
 - Air Operated or Manual
- **Safety Clamps 2 7/8" - 36" Sizes (Pg 21)**
- **Elevators (Pg 6)**
 - C.L. Collar Type - 35 Ton, 65 Ton, 100 Ton, 150 Ton
 - S.D. Collar Type - 150 Ton, 250 Ton, 350 Ton
 - C.L. Bottleneck 18° - 150 Ton, 250 Ton, 350 Ton
 - Single Joints - Collar and 18° Pipe
 - Single Bail Collar Type
- **Casing Elevator / Spiders (Pg 5)**
 - 350 Ton - 14" Body
 - 500 Ton - 14" & 24½" Bodies
 - 750 Ton - 14" & 24½" Bodies
- **Flex-Grip Power Slip Systems (Pg 3)**
 - FG2 14" - 2 3/8" - 500 Ton
 - FG3 20" - 2 3/8" - 500 Ton and 750 Ton
 - FG6 5" - 8 5/8" Work-Over Riser Pipe
- **New Product Development**
 - 49½ R-750 Bushing & Bowls (pg 10)
 - Power Slip Systems (pg 4)
 - 4 Taper 200 Ton HCS Equipment (pg 17)
 - Den-Con Electronic Tagging Equipment (pg23)



P.O. BOX 96308, OKLAHOMA CITY, OK 73143 • 405 / 670-5942 • FAX 405 / 672-5884
E-Mail INFO@DENCON.COM

THE FLEX-GRIP FAMILY OF POWER SLIP SYSTEMS



GENERAL DETAILS

- The Flex-Grip system fits into the rotary table and generally mounts flush with the rotary table top.
- Flex-Grip slips are 4 segments, and are designed to handle drill pipe, casing, drill collars and tubing.
- The FG 6 is designed to handle completion/workover riser pipe utilizing 3 segment slips.
- A pipe centering device is available for the FG 4.
- Slips are hydraulically actuated, with power up and power down features.
- Hydraulic operation 5 gpm at 2500 psi.
- The Flex-Grip can be removed from the pipe and rotary table with pipe in the hole.
- Slip carrier sets can be changed individually, even with pipe in the hole.
- Hinged top covers allow full open access to slips and slip linkage.
- Pipe guides are installed in the top cover.
- Wear guide assemblies can be installed in the top cover for use with top drives.

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	500 Ton	500 Ton
Rated Capacity - Slips	500 Ton	750 Ton or 500 Ton	500 Ton	300 Ton
Tubular Size Range	14" - 2 3/8	20" - 2 3/8	9 5/8 - 2 3/8	5 - 8 5/8 wo/Riser
Clearance through body (slips removed)	22 3/4"	30"	15 3/4"	27 1/2"
Quick - change Slip Assemblies	YES	YES	YES	YES
Insert Carrier Range	9 5/8" & Smaller	14" & Smaller	6 5/8" & Smaller	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	5 gpm, 2500 psi	5 gpm, 2500 psi	5 gpm, 2500 psi	5 gpm, 2500 psi
Hydraulic Power Supplies - Air or Electric drive	Optional	Optional	Optional	Optional
Slip Set / Slip release indicator system	Optional	Optional	Optional	Optional

- Notes:
1. Rotary table size shown is nominal size of Flex-Grip Body. Bushing are used to reduce larger rotary table sizes to the nominal size of the particular Flex-Grip.
 2. N/A indicates not applicable.
 3. All Flex-Grip Body Assemblies include the Hydraulic Manifold and Hydraulic plumbing of the Body Assembly.

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POWER SLIP SYSTEMS



SUCB POWER SLIP SYSTEM

Two new power slip systems are available from Den-Con Tool.

- **37½" SUCB Power Slip System**

The 37½" SUCB Power Slip System is an economical casing handling set of tools, consisting of a Split Casing Bushing, a Slip Lifting Mechanism, and a set of Casing Slips.

The SUCB Power Slip System cost is only a fraction of the cost of a comparably sized spider or flush-mounted spider.

Safety while running casing is also improved because rig floor personnel no longer manually pull and set casing slips.

The universal fit of each size SUCB Bushing will dramatically reduce rental equipment inventory, while providing maximum flexibility of fit. Current split bushing designs require 4 units of each pipe size to fit the various brands of rotary tables. One SUCB bushing fits into all rotaries, i.e., to run 20" pipe, and only one bushing is needed, only one is needed for 26", etc.

- **37½" SUCB2 Power Slip System**

The SUCB2 Power Slip System is for 30" - 16" pipe sizes and utilizes a 30" SUCB2 universal split casing bushing and a series of reducing bushings to handle sizes smaller than 30".

One SUCB2 bushing will fit any make 37½" rotary table or 49½" and larger rotaries with 37½" adapter rings.

The SUCB2 split bushing and all reducing bushings utilize 4 taper casing slips, and a slip lifting mechanism. The SUCB2 Power Slip System can quickly be converted to manual operation.

37½" SUCB POWER SLIP SYSTEM (26" - 16")

PART NO.	DESCRIPTION
8050	37 1/2 X 26 SUCB Split Casing Bushing Assy
8051	37 1/2 X 24 SUCB Split Casing Bushing Assy
8052	37 1/2 X 22 SUCB Split Casing Bushing Assy
8053	37 1/2 X 20 SUCB Split Casing Bushing Assy
8054	37 1/2 X 16 SUCB Split Casing Bushing Assy
8060	Power Slip Lift Mechanism
8065	26" SUCB Slip Assy
8066	24" SUCB Slip Assy
8067	22" SUCB Slip Assy
8068	20" SUCB Slip Assy
8069	18 5/8" SUCB Slip Assy
8070	16" SUCB Slip Assy

37½" SUCB2 POWER SLIP SYSTEM (30" - 16")

PART NO.	DESCRIPTION
8150	37 1/2 X 30 SUCB2 Split Casing Bushing
8151	30 x 28 SUCB2 Reducing Bushing
8152	30 x 26 SUCB2 Reducing Bushing
8153	30 x 24 SUCB2 Reducing Bushing
8154	30 x 22 SUCB2 Reducing Bushing
8155	30 x 20 (18 5/8) SUCB2 Reducing Bushing
8156	30 x 16 SUCB2 Reducing Bushing
8157	Power Slip Lift Mechanism SUCB2
8158	30" SUCB2 Slip Assy Complete
8159	28" SUCB2 Slip Assy Complete
8065	26" SUCB2 Slip Assy Complete
8066	24" SUCB2 Slip Assy Complete
8067	22" SUCB2 Slip Assy Complete
8068	20" SUCB2 Slip Assy Complete
8069	18 5/8" SUCB2 Slip Assy Complete
8070	16" SUCB2 Slip Assy Complete

PCS POWER CASING SLIP (13 ¾ - 6 ⅝)

PART NO.	DESCRIPTION
8075	Power Slip Lifting Assy
8076	13 3/8 PCS Slip Assy
8077	12 3/4 PCS Slip Assy
8078	11 3/4 PCS Slip Assy
8079	10 3/4 PCS Slip Assy
8080	9 5/8 PCS Slip Assy
8081	8 5/8 PCS Slip Assy
8082	7 5/8 PCS Slip Assy
8083	7 PCS Slip Assy
8084	6 5/8 PCS Slip Assy

PCS POWER SLIP SYSTEM

The PCS Power Slip System consists of a slip lifting mechanism and casing slips. Pipe sizes will range from 13 ¾" - 6 ⅝".

The lift mechanism mounts directly into the Master Bushing Drive Pin Holes on 37½" Master Bushings, and works with standard #1, #2, or #3 bowls.

The PCS System improves rig floor safety because floor personnel no longer manually pull and set casing slips.

CASING ELEVATOR/ SPIDER

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 4½ - 14" pipe sizes. A larger 500 ton tool handles 16" - 24½" casing sizes.

750 ton casing tools are also available in two body sizes. One handles 6⅝" - 14" pipe and the other size is for 16" - 24½" 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.

			4½ to 14 Inch 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-32	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	—	—	—	—	—
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 - 24½ Inch 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 (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
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	13868-420	420	16179	13868-510	510
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



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MANUAL ELEVATORS

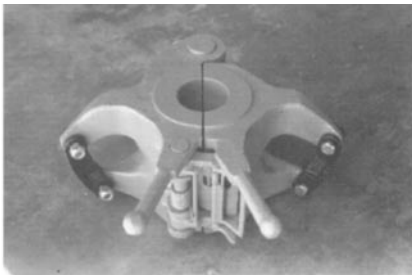
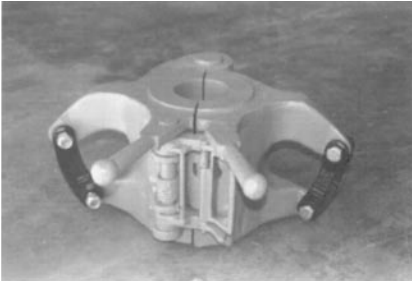
Den-Con Tool Co., offers a wide range of manual elevators for handling tubing, drill pipe, drill collar and casing. Safety locks and latches are included in the design features of the Den-Con Elevator.

All elevators are pull-tested prior to shipment to insure that the elevators meet or exceed industry standards.

ELEVATORS

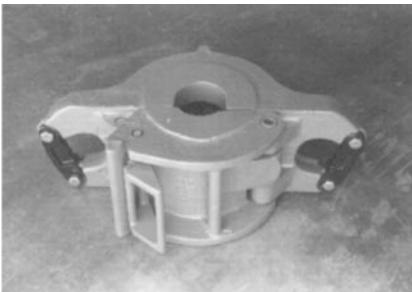
CLS - CENTER LATCH COLLAR TYPE, 90° SHOULDER

TYPE	P/N	R.C. TONS	SIZE O.D.
TE-65	3400-XXX	65	2 3/8 - 3 1/2
TE-35	3420-XXX	35	2 3/8 - 3 1/2
TE-65	3421-XXX	65	3 1/2 - 4 1/2
TE-35	3422-XXX	35	1.05 - 2 3/8
TE-100	3425-XXX	100	2 3/8 - 3 1/2
TE-100	3450-XXX	100	3 1/2 - 4 1/2
CLS 150/1	7400-XXX	150	2 3/8 - 4 3/4
CLS 150/2	7425-XXX	150	3 1/8 - 8 5/8
CLS 250	7460-XXX	250	2 7/8 - 5
CLS 350	7475-XXX	350	3 1/2 - 6 5/8



CL - CENTER LATCH 18° BOTTLENECK TYPE

TYPE	P/N	R.C. TONS	SIZE O.D.
CL-150	7450-XXX	150	2 3/8 - 5
CL-250	7460-XXX	250	2 7/8 - 5
CL-350	7475-XXX	350	3 1/2 - 6 5/8



SD - SIDE DOOR COLLAR TYPE, 90° SHOULDER

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



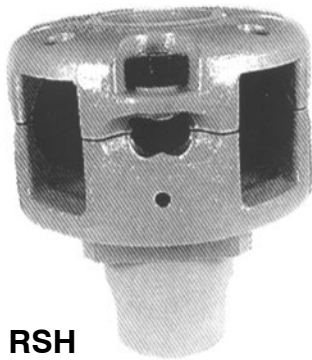
SINGLE JOINT COLLAR TYPE, 90° SHOULDER AND 18°

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

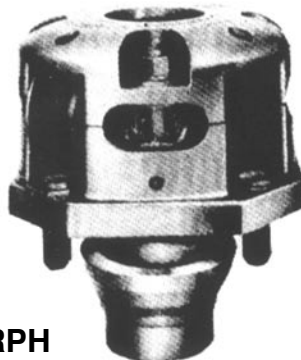
XXX Designation is for bore code designation. Numbers will be used once pipe size and elevator bore is determined.

HEAVY DUTY ROLLER KELLY BUSHINGS

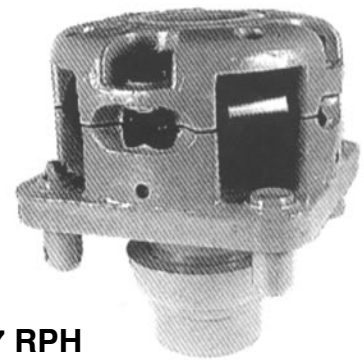
PIN DRIVE AND SQUARE DRIVE



RSH



20 RPH



27 RPH

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 49½" Rotary Tables. The 27 RPH has 3 5/16" diameter drive pins (API) and 25¾" pin centers (API) and will handle Kelly sizes 3" to 6" square and 3" and 6" hex.

DEN-CON 20 RPH Kelly Bushing is used with Den-Con Pin Drive Master Casing Bushings for 20½" to 22½" Rotary Tables. The 20 RPH has 2½" 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.

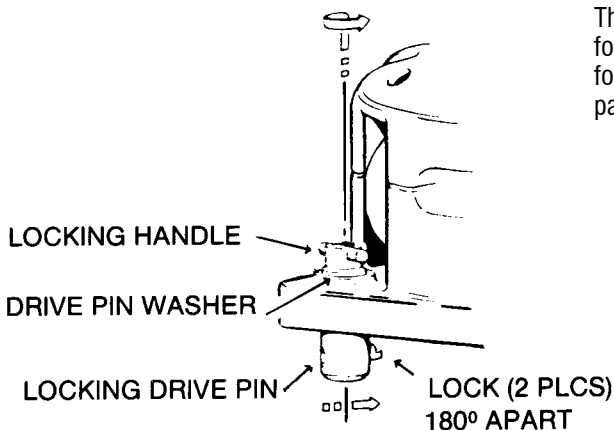
All RH Series Parts & Components Interchange with Varco HD Series Bushing Parts.

Plastic coated maintenance and parts sheets are available on request from Den-Con.

	HEAVY DUTY ROLLER KELLY BUSHINGS							
	27 RPH COMPLETE		20 RPH COMPLETE		RSH COMPLETE		ROLLER ASSY. COMPLETE	ROLLER ASSY. COMPLETE
	w/wrench, less wiper assy. Fits Pin Drive Master Bushing 23" - 49½"		w/wrench, less wiper assy. Fits Pin Drive Master Bushing 20½" - 22½"		w/wrench, less wiper assy. Fits Square Drive Master Bushing			
KELLY SIZE/TYPE	PART NO.	WT. LBS.	PART NO.	WT. LBS.	PART NO.	WT. LBS.	PART NO.	WT. LBS.
3" Hex	2435-30H	1460	2430-30H	1440	2425-30H	1390	2455	2115-16
3½" Hex	2435-35H	1460	2430-35H	1440	2425-35H	1390	2456	2117-18
4¼" Hex	2435-42H	1460	2430-42H	1440	2425-42H	1390	2457	2119-20
5¼" 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
3½" Sq.	2435-35S	1500	2430-35S	1470	2425-35S	1420	2451	2111-4
4¼" Sq.	2435-42S	1500	2430-42S	1470	2425-42S	1420	2452	2112-4
5¼" 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.



PIN	DESCRIPTION	REQD.
2464	Motion Compensation Lock Assembly	1
2465	Eccentric Pin	2
2466	Drive Pin	2
2467	Lock	2
2468	Retainer Pin	2

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MEDIUM DUTY ROLLER KELLY BUSHINGS

PIN DRIVE AND SQUARE DRIVE

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 2½" to 5¼" square and 3" to 4¼" hex.

DEN-CON RPM Kelly Bushing is a medium duty pin drive bushing to fit 17½" Master Bushings.



RSM

	MEDIUM DUTY ROLLER KELLY BUSHINGS				
	RPM COMPLETE	RSM COMPLETE		ROLLER ASSY. COMPLETE	ROLLER ASSY. COMPLETE
	w/wrench, less wiper. Fits 17½" Pin Drive Master Bushing	w/wrench, less wiper assy. Fits Square Drive Master Bushing			
KELLY SIZE / TYPE	PART NO.	PART NO.	WT. LBS.	PART NO.	PART NO.
2½" Sq.	2410-25S	2400-25S	870	2131	2140-4
3" Sq.	2410-30S	2400-30S	870	2132	2141-4
3½" Sq.	2410-35S	2400-35S	870	2133	2142-4
4¼" Sq.	2410-42S	2400-42S	870	2134	2143-4
5¼" Sq.	2410-52S	2400-52S	870	2135	2144-4
3" Hex	2410-30H	2400-30H	860	2136	2145-46
3½" Hex	2410-35H	2400-35H	860	2137	2147-48
4¼" 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.

Additional Kelly Bushings - Special Order.

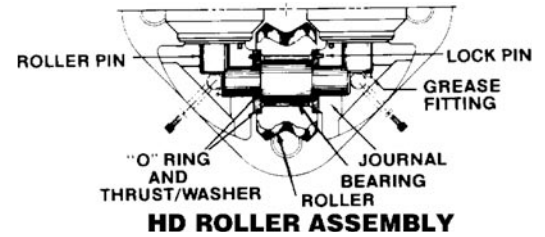
- Kelly Bushings for "Big-Hole" Drilling application are available by special order.

Replacement Kelly Bushing Parts and Assemblies may be ordered by Varco Part Numbers.

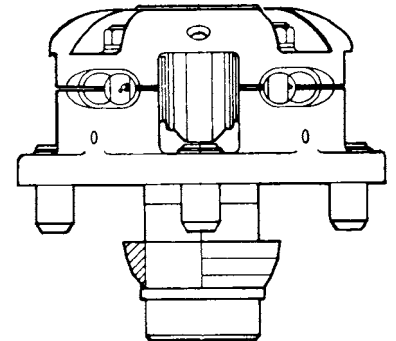
DEN-CON KELLY BUSHING PARTS LIST & COMPONENTS

KELLY BUSHING PARTS LIST

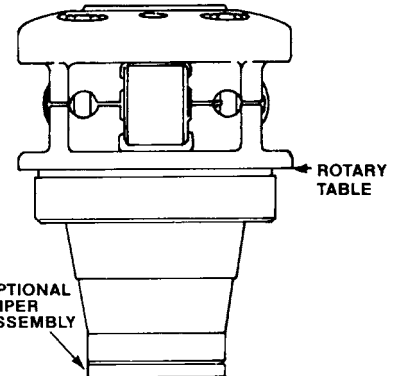
ITEM NO.	NO. REQD.	DESCRIPTION	27 RPH SERIES	20 RPH SERIES	RSH SERIES	RSM SERIES	RPM SERIES
1	1	BODY ASSY. LESS ROLLER ASSY.	2435	2430	2425	2400	2410
2	4	HOLD DOWN BOLT	2428	2428	2428	2403	2403
3	4	LOCK WASHER, HI-COLLAR	51110	51110	51110	—	—
4	4	LOCK WASHER	50924	50924	50924	50924	50924
5	4	SOC. HD. 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 BODY — TYPICAL



RSM BODY



HD ROLLER COMPONENTS

ITEM NO.	NO. REQD.	DESCRIPTION	ROLLER ASSY. & KELLY SIZE									
			3 SQ. 2450	3 SQ. 2451	4 SQ. 2452	5 SQ. 2453	6 SQ. 2454	3 HEX 2455	3 1/2 HEX 2456	4 1/4 HEX 2457	5 1/4 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

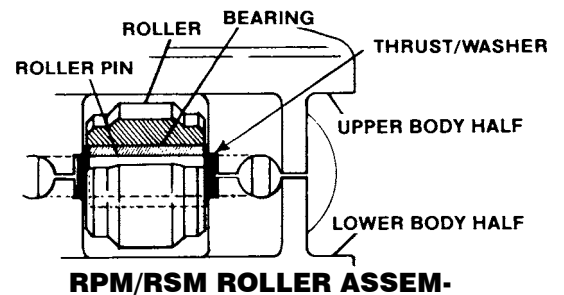
2199	WIPER RUBBER	-9	-10	-11	-12	-13	-14	-15	-16	-18	-19
2127	ROLLER BEARING	ALL									

RPM/RSM MEDIUM DUTY KELLY BUSHING ROLLER COMPONENTS

ITEM NO.	NO. REQD.	DESCRIPTION	ROLLER ASSY. & KELLY SIZE							
			2 1/2 SQ. 2131	3 SQ. 2132	3 1/2 SQ. 2133	4 1/4 SQ. 2134	5 SQ. 2135	3 HEX 2136	3 1/2 HEX 2137	4 1/4 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							



**DEN-CON
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PIN DRIVE MASTER CASING BUSHINGS

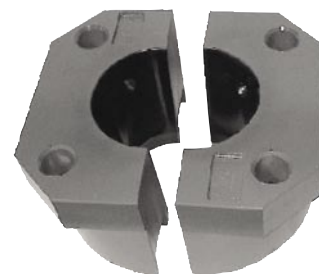
SOLID BODY - SPLIT BODY - HINGED



HMB



SPB PIN DRIVE



SMB

The Den-Con R-750 Hinged Master Bushing is available for 49½" - 60½" 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 37½" and 49½" rotary tables. Split insert bowls of various bore diameters are available to allow handling capability for 2⅜" to 13 ⅜" 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. 49½" x 37½" Adapter rings are available from the table manufacturer.

The Den-Con SPB Solid Body Pin Drive master casing bushing is available for 20½" to 27½" rotary tables. Split insert bowls of various bore diameters will allow handling capability for 2⅜" to 13⅜" tubular products. Refer to parts tables for casing bowls and sizes.

The Den-Con SMB Split Pin Drive master bushing is available for 17½"-27½" 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 37½" to 27½" adapter bushing and 49½" x 37½" adapter rings.

MASTER BUSHINGS

ROTARY TABLE	MAIN ASSEMBLY NUMBERS				
	HMB HINGED	SPB SOLID PIN DRIVE	SMB SPLIT PIN DRIVE	SSB SOLID SQUARE DR.	SSD SOLID SQUARE DR.
17½			3315	2501	2522
20½		2525	3309	2502	2523
23		3325	3320	2503	2521
27½		2526	3300	2504	2524
37½ - 49½	2700				
49½ - 60½	8011-X				

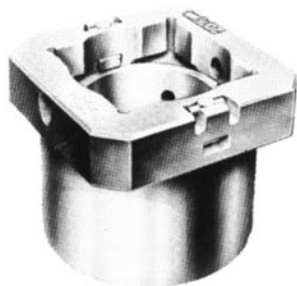
HMB ORDERING INFORMATION

W / No. 33 Bowl, Sling & BB Plate		ADAPTER RINGS		NATIONAL	OILWELL	EMSCO		IDECO	WIRTH
PART NO.	WT. LBS.	PART NO.	SIZE	37½-49½	37½ - 49½	37½ (S/N 49 up) 49½	37½ S / N 1-48	37½	37½ 49½
2700-1	4050	2763	49½ x 37½						
2700-2	4250	-	-						
2700-3	4150	2762	49½ x 37½						
2700-4	4015	-	-						
2700-5	4320	-	-						
		2759	37½ x 27½						

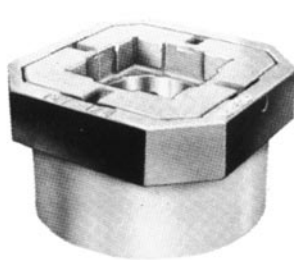
DEN-CON
TOOL^{co.}

SQUARE DRIVE MASTER BUSHINGS

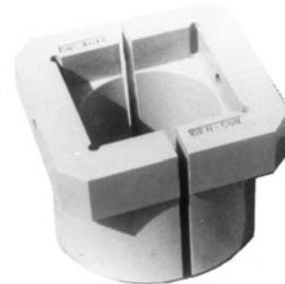
17½ SSB



27½ SSB



SSD



The Den-Con SSB Solid Body Square Drive Master Bushing is available for 17½" to 27½" 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.

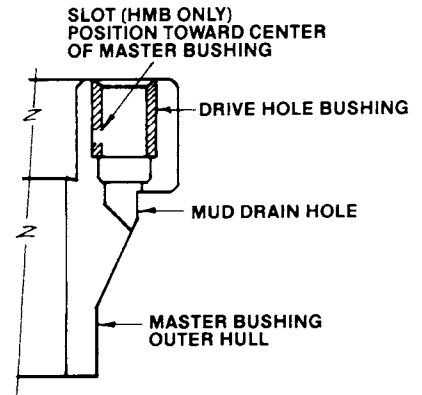
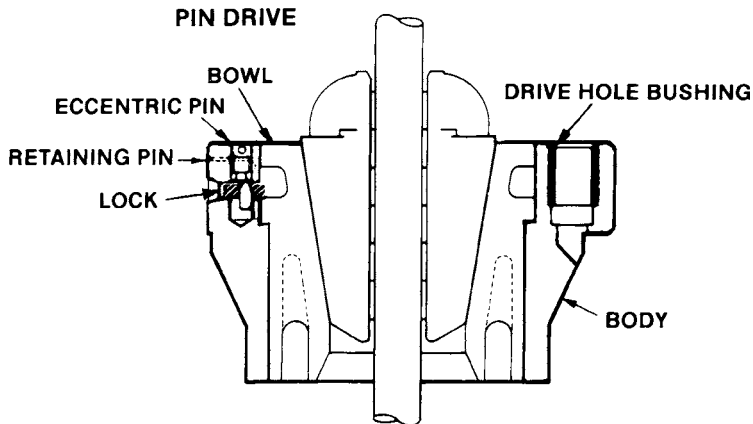
The Den-Con SSD Split Square Drive Master Bushing is designed as a replacement bushing for all original O.E.M. manufactured bushings. This bushing is available for 17½" to 27½" Rotary Tables. All bushings have the standard API taper to handle 8⁵/₈" and smaller tubular products.

PIN DRIVE AND SQUARE DRIVE BUSHINGS (17½" - 27½")

ORDERING INFORMATION – DASH NUMBERS																											
COMPLETE ASSY. PART NOS.				NATIONAL			OILWELL								GARDNER-DENVER			API			BETHLEHEM			UNIT RIG			
SPB	SMB	SSB	SSD	17½	20½	27½	17½	A17½	A20½	21A	20½	26HD	A27½	27½	RT17½	22½	RT27½	17½	20½	27½	17½	B210	27½	17½	521A	27½	
	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 NOS.				EMSCO														IDECO				BREWSTER *					
SPB	SMB	SSB	SSD	T1750	017½	P17½	T2050	20½J, JA, JAS, JC, JAC, JCS, JACS, PJL			T2750	27½H	27½K, KS, PJ	20½JB, JAB, JABS, JBS		17¼	17½	20½	23	27½	18	22RSH	27½				
	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																								
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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 Bushings for RSB Series Tables.

MASTER BUSHING PARTS LIST & COMPONENTS



DRIVE HOLE BUSHING REPLACEMENT-PIN DRIVE BUSHINGS.

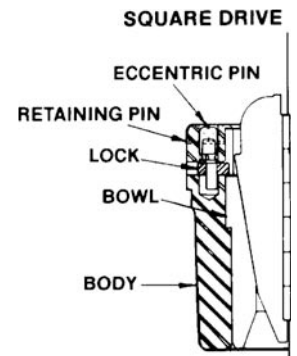
REMOVAL

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.



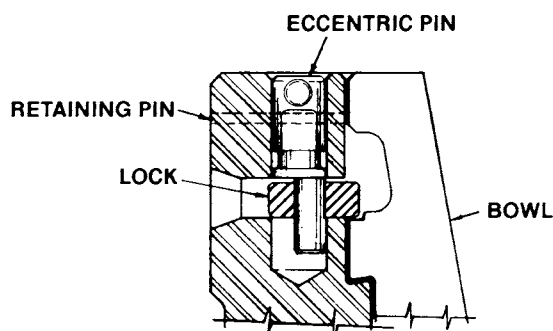
DEN-CON MASTER BUSHING PARTS LIST

QTY. REQD.	DESCRIPTION	37 HMB	27½ SPB	20½ SPB	27½ SSB	23 SSB	20½ SSB	17½ SSB	27½ SMB	20½ SMB	R-750
		2700	2526	2525	2504	2503	2502	2501	3300	3309	8011-X
1	BODY ONLY	2701	2528	2527	2508	2507	2506	2505	3301	3309	8011-X
4	DRIVE HOLE BUSHING	2713	2535	2534					2535	2534	2713
1	HINGE PIN, REMOVEABLE	2711									8046
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 1/4" CASING	2708	2533		2548XT						8020

XT - Indicates Extended Taper Bowls available as options.

See page 10 for R-750 Bowls and Slips detail.

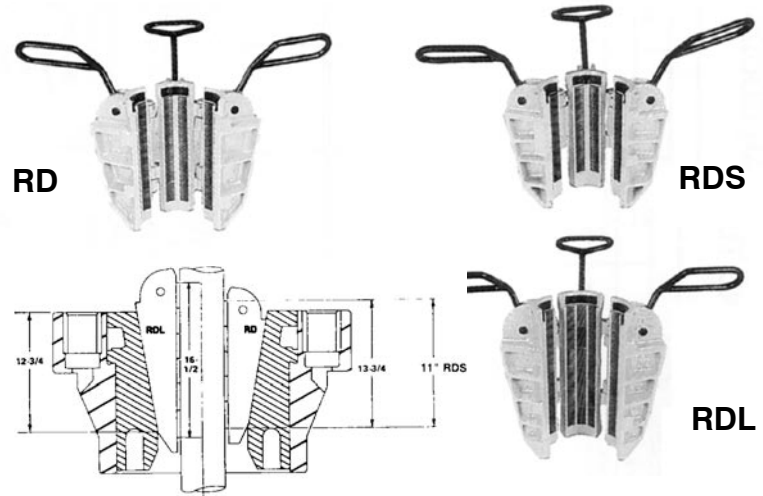
LOCK DETAIL



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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 slips provide maximum load carrying capacity with a lightweight balanced design. Den-Con slip inserts are machine-cut and interchange with Varco inserts.



RD ROTARY SLIPS - MEDIUM DUTY													RDS - LIGHT DUTY		
Slip Body Size (Inches)	3 1/2			4 1/2			5			5 1/2			3 1/2		
API Pipe Size (Inches)	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 (Inches)		3 1/2		4 1/2		5		5 1/2		3 1/2	
PARTS LIST	QTY.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	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
Handle - center	1	3018	4	3018	4	3018	4	3018	4	3018	4
Handle - right	1	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2
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 (Inches)	3 1/2			4 1/2			5			5 1/2			7	
API Pipe Size (Inches)	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 (Inches)		3 1/2		4 1/2		5		5 1/2		7	
PARTS LIST	QTY.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	Weight lb.	Part No.	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
Handle - center	1	3018	4	3018	4	3018	4	3018	4	3018	4
Handle - right	1	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2	3019	3 1/2
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	3041	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

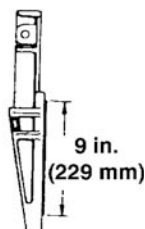
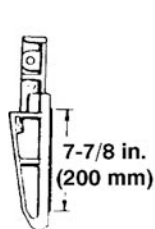
DRILL COLLAR SLIPS

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.

SDC 3 - 4⁷/₈

UDC 4¹/₂ - 7

LDC 5¹/₂ - 14



Slip Grip Lengths



LDC



SDC



UDC

DRILL COLLAR SLIPS

Slip Type	SDC		UDC		LDC						
Slip Size and 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	3126	3126	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 No.	Wt. Lb.	Part No.	Wt. Lb.	Part No.	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
Hinge Pin w/Washer & Cotter Key	3021	1/2	3021	1/2	3021	1/2
Handle for Right & Left End Segments	3088	3 1/2	3088	3 1/2	3088	3 1/2
Handle for Intermediate Segments	3089	4	3089	4	3089	4

BUTTONS AND INSERTS FOR DRILL COLLARS

Slip Type	BUTTONS					INSERTS				
Slip Size and Drill Collar Range	Per Set		Each			Per Set		Each		
	Part No.	Wt. Lb.	Qty.	Part No.	Wt. oz.	Part No.	Weight Lb.	Qty.	Part No.	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
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
8 - 9 1/2	2732-96	16	96	2732	2	3157-36	12	36	3157	5
8 1/2 - 10	2730-104	26	104	2730	4	3161-39	26	39	3161	11
9 1/4 - 11 1/4	2732-112	19	112	2732	2	3157-42	14	42	3157	5
11 - 12 3/4	2728-136	26	136	2728	4	3163-51	36	51	3163	11
12 - 14	2732-136	20	136	2732	2	3157-51	17	51	3157	5

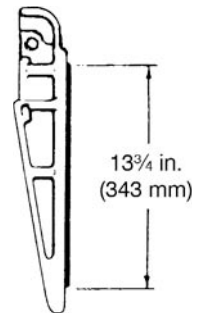
CL CASING SLIPS - 4 TAPER

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.



CL



CL Grip Length

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 lbs.	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.

* This Size Furnished with 4 Handles.

INSERTS FOR CL CASING SLIPS

For Casing Size	Per Set			Each			Per Set			Each		
	Part No.	Wt. Lb.	Qty.	Part No.	Wt. oz.		Part No.	Wt. Lb.	Qty.	Part No.	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	1-		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	
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.



3 CL - 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*	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	3251	3254	3257	3259
Weight, Complete w/Inserts-lb.	192	209	260	247	308	367	383	443	386	546	650
Total Number of Segments	14	15	17	18	21	25	26	30	33	37	44
Total Intermediate Segments	12	13	15	6	19	23	24	28	31	35	42
Total Number of Hinge Pins	13	14	16	17	20	24	25	29	30	36	43

CONTACT THE COMPANY FOR SIZES NOT SHOWN.

NOTES: All Sizes furnished with 4 handles. 3 CL Slips have 3 Taper on DIA, and fit Den-Con 200 Ton Casing Spiders and the old style 3 Taper BAASH-Ross Casing Tools.

INSERTS FOR 3 CL SLIPS

For Casing Size	Per Set			Each		
	Part No.	Wt. lb.	Qty.	Part No.	Wt. Oz.	
9 5/8	3157-56	21	56	3157	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	
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	

3 CL PARTS LIST

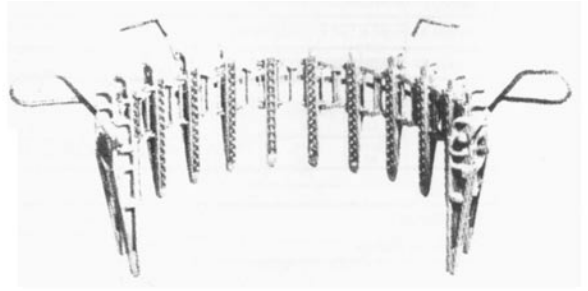
DESCRIPTION	Part No.	Wt. Lb. Each
Segment - right	3260	11
Segment - left	3261	11
Segment - Intermediate	3262	12
Hinge Pin w/Cotter Pin	3086	2/3
Handle Pin w/Washer & Cotter Pin	3021	1/3
Handle for right & left Segment	3088	3 1/2
Handle for Intermediate Segment	3089	4

CPS CONDUCTOR PIPE SLIP

PIPE O D (IN)	24	26	30
P/N Slip Complete	3167	3169	3171
Weight complete	276	296	319
Total Segments	13	14	16
Total Hinge Spacers	12	13	15
Insert Set P/N	3159-65	3159-70	3159-80
Button Set P/N	2733-156	2733-168	2733-192

All CPS Slips are furnished with 4 handles.

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.



CL PARTS LIST

DESCRIPTION	Part No.	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
Handle for right & left Segment	3088	3½
Handle for Intermediate Segment	3089	4

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 13³/₈" 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.

4 TAPER HCS SPIDERS & BUSHINGS - 200 TON

EQUIPMENT	SIZE	PART NO.	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
	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

HINGED SPIDERS AND REDUCING BUSHINGS

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 "	22 "	24 "	26 "	30 "	36 "	42 "	48 "
ALL	500 Ton Hinged Spider 4 TPR	2590 w/3312 w/2529	2590 w/3312 w/2531	2590 w/3312	2590 w/3311	2568 w/2571 2590 Body	2568 w/2574	2568 w/2573	2568 w/2572	2569 w/2773 2568 Body	2767 w/2772 2569 Body	2765 w/2771 2767 Body	2765 Body
ALL	200 Ton Hinged Spider 3 TPR	2575 w/2582 2550 w/2563 2555 w/2557	2575 w/2581 2550 w/2554 2555 Body	2585 w/2599 2575 w/2583 2550 w/2552	2595 w/2598 2585 w/2588 2575 w/2580 2550 Body	2595 w/2577 2585 w/2580	2595 w/2579 2585 w/2589	2595 w/2584 2585 w/2587 2575 Body	2595 w/2578 2595 w/2597 (32") 2585 Body	2595 w/2578 2595 w/2597 (32") 2585 Body	2595 Body		
	100 Ton Hinged Spider	2565											

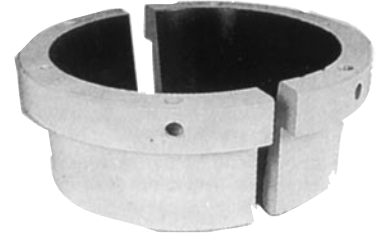
CASING BUSHINGS

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 17½" to 27½" 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 49½" to 22" Rotary Tables and will accommodate up to 36" tubular goods.

SCB Split Bushings are available to fit directly into 49½ Rotaries without use of reducers. Sizes are for 36", 30", 26", and 24" Tubulars.

*** See page 10 for 49½" SCB and 37½" SUCB Bushings.**



SCB

CASING BUSHING TABLE

ROTARY TABLE SIZE	MAKE SIZE	CASING SIZE	CASING BUSHING & INSERT BOWL (P/N)	WEIGHT
17½ - 20½	ALL	13⅜ or 11¾ 10¾ or 9⅝ 8⅝ & Smaller	UC (2800) Body w/2531 Bowl w/2529 Bowl	460 340 460
20½	ALL	16	UC (2802) Body	500
22" - 23"	22½ 22½	13⅜ - 11¾ 16	UC (2803) Body UC (2804) Body	
	22-23	10¾ - 9⅝ 13⅜	SCB (2815) Body SCB (2816) Body	
27½	ALL	20 & 18⅝ 16 13⅜ & 11¾ 10¾ & 9⅝ 8⅝ & Smaller 8⅝ & Smaller 10¾ - 9⅝	UC (2805) Body w/2806 Bowl w/2807 Bowl w/2807 w/2531 Bowls w/2807 w/2529 Bowls w/2809 Bowl w/2808 Bowl	940 560 850
	ALL API	20 & 18⅝ 16 13⅜ & 11¾ 10¾ & 9⅝ 8⅝ & Smaller	SCB (3310) Body w/3311 Bowl w/3312 Bowl w/3312 w/2531 Bowls w/3312 w/2529 Bowls	720 575 890
37½ - 49½	ALL	32 30 26 24 20 & 18⅝ 16 13⅜ & 11¾ 10¾ & 9⅝ 8⅝ & Smaller	SCB (3323) Body SCB (3319) Body SCB (3318) Body SCB (3317) Body SCB (3316) Body w/3311 Bowl w/3312 Bowl w/3312 w/2531 Bowls w/3312 w/2529 Bowls	1100 1100 1200 1650
49½	ALL	36 30 26 24	SCB (8029) Body SCB (8028) Body SCB (8027) Body SCB (8026) Body	

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

**DEN-CON
TOOL^{CO.}**

HINGED CASING SPIDERS & BUSHINGS

100 TON, 200 TON AND 500 TON RATING

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 bushing 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.



200 TON



100 TON

HINGED CASING SPIDERS AND BUSHINGS

RATED CAPACITY	PART NUMBER	DESCRIPTION	CASING SIZE (Inches)	WEIGHT (Lbs.)
500 Ton 4 TPR	2765	48" Hinged Casing Spider	48	
	2771	48" x 42" Reducing Bushing	42	
	2767	42" Hinged Casing Spider	42	
	2772	42" x 36" Reducing Bushing	36	
	2569	36" Hinged Casing Spider	36	
	2773	36" x 30" Reducing Bushing	30	
	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
	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
200 Ton 3 TPR	2595	36" Hinged Casing Spider	36	1200
	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
	2580	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 18 for Data Table by Casing Size and reducing bushings for Spider.

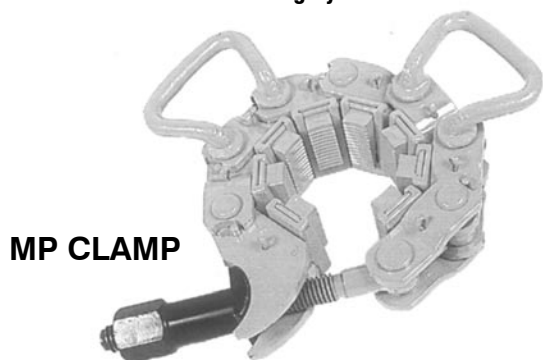
* See page 17 for 200 Ton 4 Taper Equipment.

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 2⁷/₈" to 39¹/₂".

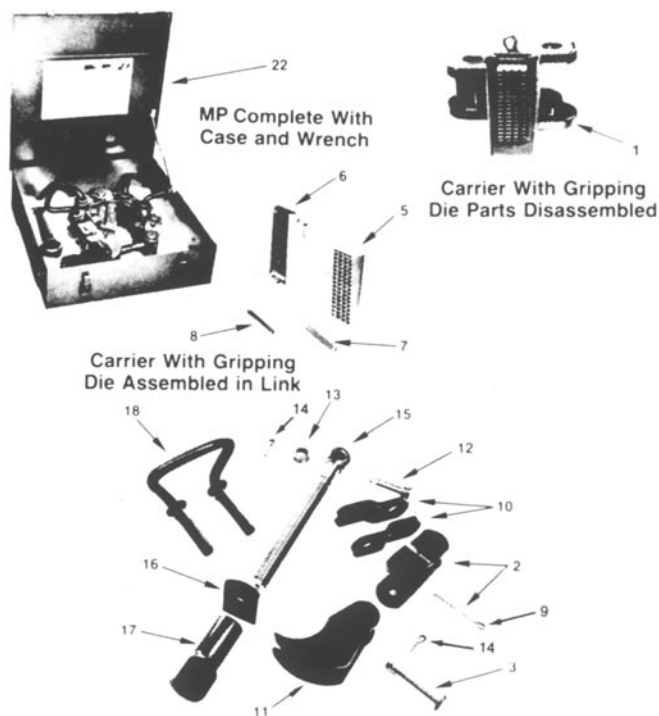
All Den-Con MP series parts interchange with Varco MPS and larger clamp parts. **Not to be used as a hoisting device unless fitted with lifting eyes.**



MP CLAMP

CLAMP ASSEMBLIES

PART NO.	DESCRIPTION CLAMP SIZE & TYPE	NUMBER LINKS	NUMBER DIES	COMP. PART NO.	WT. LBS. (INCL. BOX)
3752B	2 ⁷ / ₈ - 4 ¹ / ₈ MPS	7	8	33030	130
3753B	4 - 5 MPS	8	9	30331	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



CLAMP PART LIST

ITEM NO.	PART NO.	DESCRIPTION	COMP. PART NO.	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
5	3736	Grip Die W / Cotter	3310	1
6	3735	Die Carrier	3309	1
7	3737V	Spring	3311	1
8	51604-18	Roll Pin	51604-18	1
9	51405-30	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 Req'd. for MPS, MPR, MPM, others 4)	3305	AR
	3741	Hold Down Lug (2 Req'd. for MPS, MPR, MPM, others 4)	3316	OPT
	3747	Wrench	3320	1
22	3750	Case (All Except MPXL)	3331	1
23	3751	Case (MPXL)	3334	1
24	3754	Die-MPS	3333	AR

AR - As Required OPT - Optional

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TUBING SPIDER

TS-100, TS-150

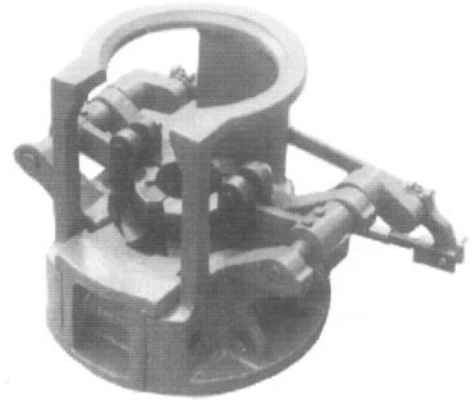
TUBING SPIDERS

The Den-Con TS-100 Tubing Spider handles all tubing sizes from 1.315" through 5½" 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 5½".

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.



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 Operator, 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	AIRHOSE 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 27½" PIN DRIVE master bushing	A/R	A/R	A/R
5098	ADAPTER PLATE for 20½" 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	5145	-	-	-	5322	75	-	-
5	5 1/2 X 5	5146	-	-	-	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	2 1/16 X 2 1/16	5103	71	5128-4	6	5305	110	5315-4	9
1.900	2 1/16 X 1.900	5104	72	5129-4	7	5306	112	5316-4	10
1.660	2 1/16 X 1.660	5105	73	5130-4	8	5307	114	5317-4	11
1.315	2 1/16 X 1.315	5106	74	5131-4	9	5308	116	5318-4	12

ADDITIONAL PRODUCTS FROM DEN-CON

DEN-CON ELECTRONICS

Den-Con Electronics has developed and patented a harsh environment identification system for the tagging and tracking of equipment and assets. The Den-Con "Print" system can be used in industrial and oilfield applications where bar codes, metal tags, stamped or engraved numbers will not work due to the presence of heat, pressure, paint, dirt, grease, etc.

The "Print" system is particularly important for tracking assets that have not been uniquely identified and tracked in the past. Such items include most oilfield and refinery items such as Drill Pipe, Valves, and other down hole and surface equipment.

The print system components include the RFID tags, installation devices, readers, and software packages for the hand-held computer devices and the PC's. The series

of tracking programs is suited for new equipment manufacturers, equipment owners, rental and hire companies, inspection and repair companies, auditors and surveyors, and other users wishing to track items for API/ISO or other regulatory requirements.

Users can manage and track their assets with the speed, accuracy, and reliability of a bar-code system, without the troubles associated with harsh environments. Users can identify and track assets individually, even pipe. Users can build cradle to grave histories for equipment, and eliminate the manual systems and errors.

There is now a single source for tags, readers, hand-helds, installation, software, and support.

WEAR GUIDE ASSEMBLY

PURPOSE:

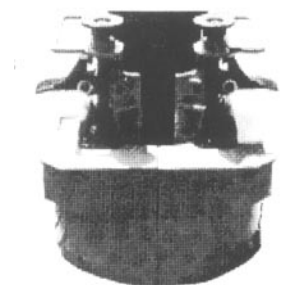
The Den-Con Wear Guide Assembly helps reduce the wear on Master Bushings and Bowls during drilling operations, particularly when using a top drive.

OPERATIONS:

The Wear Guide Assembly mounts in the drive pin locations of 27½ and 37½ Master Bushings. Lock Drive Pins are optional. The expandable Wear Guide Rings are sized for 6⅝" Pipe and 5" & smaller pipe sizes. The wear guide material is Aluminum Bronze to minimize any wear to the drill string.

SAS-27 SPRING SLIP

- Suited for all 17½ - 49½ rotary tables
- Will handle 5½ - 2⅜" pipe sizes
- Improve rig efficiency
- Remove crew fatigue
- Easily serviced in field by rig personnel
- Three segment slips eliminate damage to pipe
- Wide slip backs prevent slip rotation and pinching pipe
- Safety operation - no spring loaded cartridges
- No stripping over required to install or remove
- Simple, versatile and cost effective



Please contact **Den-Con** for details on any of these products or other Pipe Handling Tool or Electronic needs.

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WARRANTY:

Purchase and use of Den-Con equipment acknowledges full and complete acceptance of the Den-Con warranty policy. Any warranty for Den-Con equipment is provided to original purchaser only, and Den-Con makes no warranty or representation concerning expected life cycle of equipment.

Customer, in accepting the delivery of equipment, acknowledges that it takes the equipment "as is" from the factory, and that no implied warranty of merchantability and fitness for a particular purpose shall exist. Under no circumstances will Den-Con be liable for any direct, indirect, or incidental or consequential damages, including but not limited to, loss of use.

Den-Con warrants that at its sole option, it will only repair or replace equipment found to be defective within a period of 12 months from date of installation or 18 months from ship date, whichever occurs first. Den-Con is not responsible for any damage, shortage, or stowage of material after shipment from Den-Con.

The following terms regarding claims are absolute:

1. Claims must be made within 3 days of discovery of any alleged defect. Notice is to be in writing.
2. Equipment in question shall be returned, FOB to sellers' plant.
3. Any claim must include inspection reports detailing the alleged defect, detailed field operations data, historical inspection and maintenance records.
4. Any claims from parties other than original purchasers will void any warranty.
5. Any claims made beyond the warranty time period will not be considered as valid.
6. Any claims that do not include the required documentation will void any warranty.
7. Any and all expenses incurred by seller, other than repair or replacement of the material, will be fully reimbursed to seller. This includes travel cost, if required, and any legal costs including any judgement awards and legal fees, and any other costs incurred by the seller.

Seller will make the sole decision as to coverage of any warranty claim or issue, and the decision will be final, and without any recourse by the original purchaser. User or parties other than the original purchaser shall have no claim whatsoever to any warranty coverage or remedy.

Purchase and use of Den-Con equipment acknowledges full and complete acceptance of this warranty.

SALES & STOCK POINT LOCATIONS

Head Office

Den-Con Tool Co.
P.O. Box 96308
Oklahoma City, Oklahoma 73143
Phone: (405) 670-5942
FAX: (405) 672-5884
E-Mail: info@dencon.com

Rocky Mountains

Den-Con Tool Co.
Phone: (307) 389-0123
FAX: (307) 362-5288
edp@onewest.net

Louisiana

Den-Con Tool Co.
440 Industrial Blvd. #11
Lafayette, LA 70508
Phone: (337) 232-2788
FAX: (337) 232-1259

INTERNATIONAL STOCK POINTS: Stavanger, Norway; Singapore.

5354 South I-35 • P.O. Box 96308 • Oklahoma City, OK 73143

Phone: (405) 670-5942 • Fax: (405) 672-5884

E-Mail: info@dencon.com

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