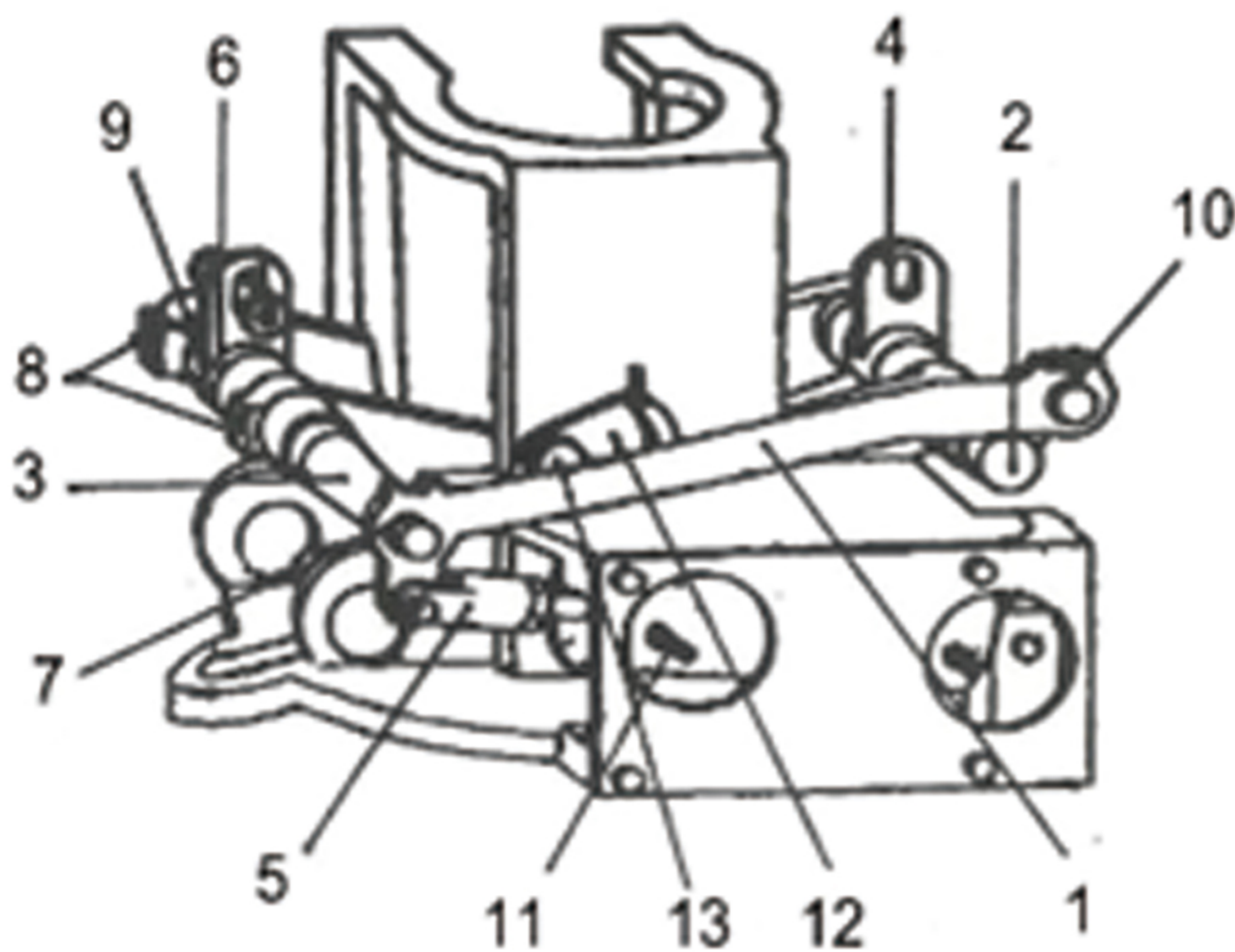


## Tubing Spider

Costrength Models C, CHD and B tubing spiders can handle various tubing sizes and load ratings. The slip body is assembled in two halves with 4 slip body elements. The slip inserts fit into the slip body elements.

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 and links are made from hardened steel. All bearings and shafts are provided with grease fittings for lubrication. The slip assemblies are machined as matched sets and incorporate with inserts which provide full 360° of contact with the pipe.



A manually operated safety latch can be used to positively lock the slips in their set position, down and engaged, to prevent accidental release of the tubing string.

### Features:

- Choices of models for varying size ranges and tonnage ratings for single string operations
- Interchangeable slip assemblies (within a model size)
- 360° replaceable inserts
- Air or hydraulic operation

| Item | Part No. | Description         | Item | Part No. | Description           |
|------|----------|---------------------|------|----------|-----------------------|
| 1    | CS-103   | Link                | 8    | CS-123   | Grease Fitting        |
| 2    | CS-104   | Left Hand Shaft     | 9    | CS-124   | Bushing, Shaft        |
| 3    | CS-105   | Right Hand Shaft    | 10   | CS-125   | Bushing, Link         |
| 4    | CS-106   | Lift Arm            | 11   | CS-128   | Coupling              |
| 5    | CS-107   | Yoke                | 12   | CS-135   | Safety Latch          |
| 6    | CS-119   | Taper Pin, Lift arm | 13   | CS-136   | Bolt, Safety Latch    |
| 7    | CS-122   | Retaining Ring      |      | CS-140   | Air Cylinder Assembly |

### Other Accessories:

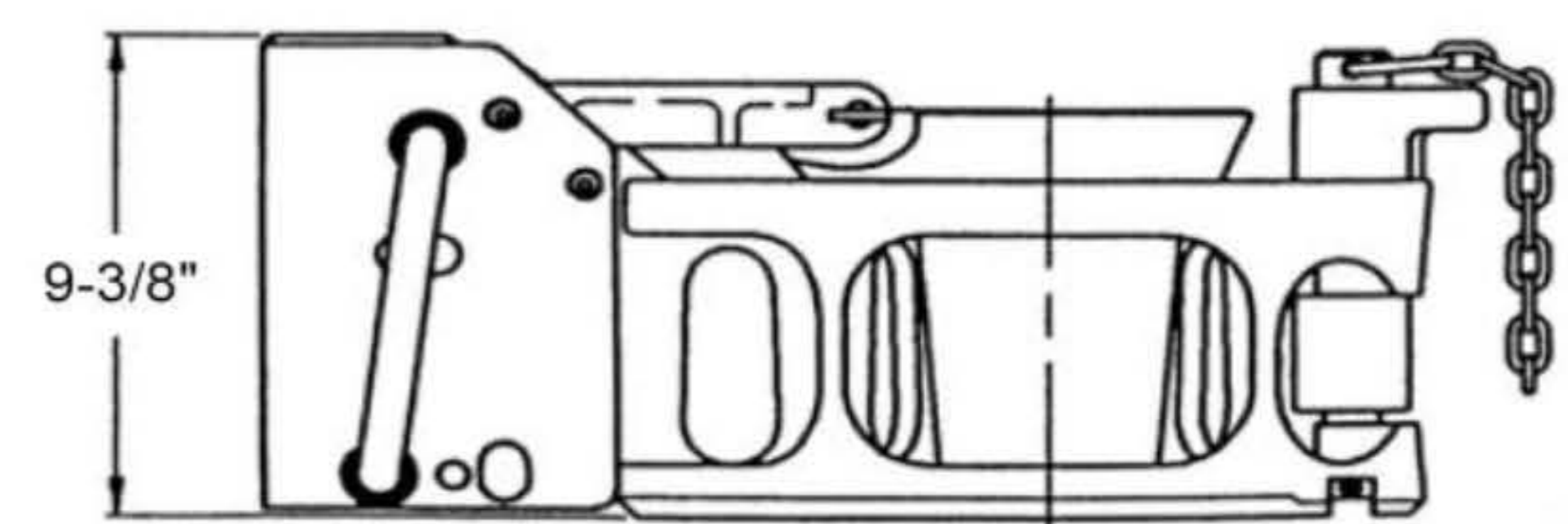
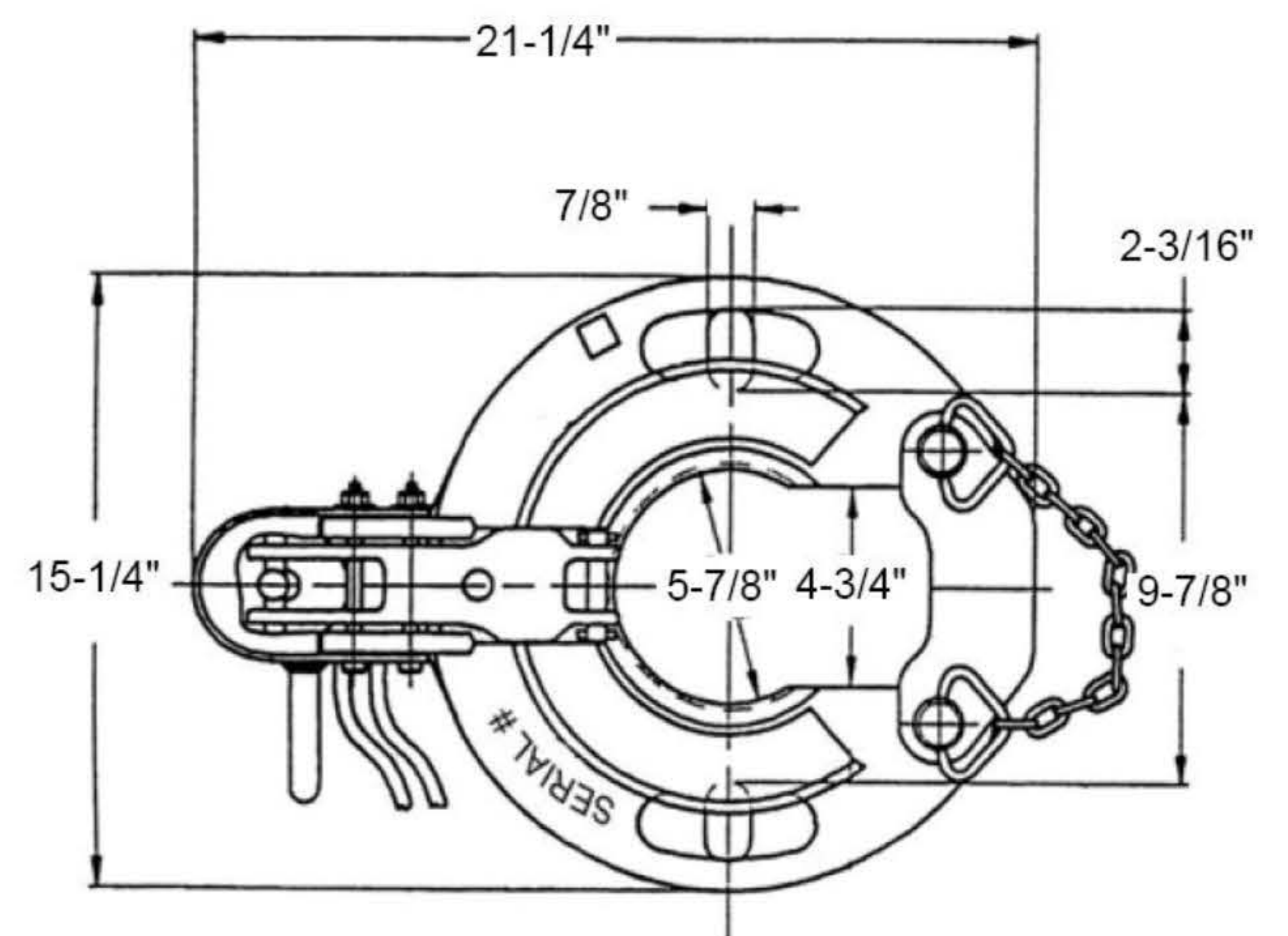
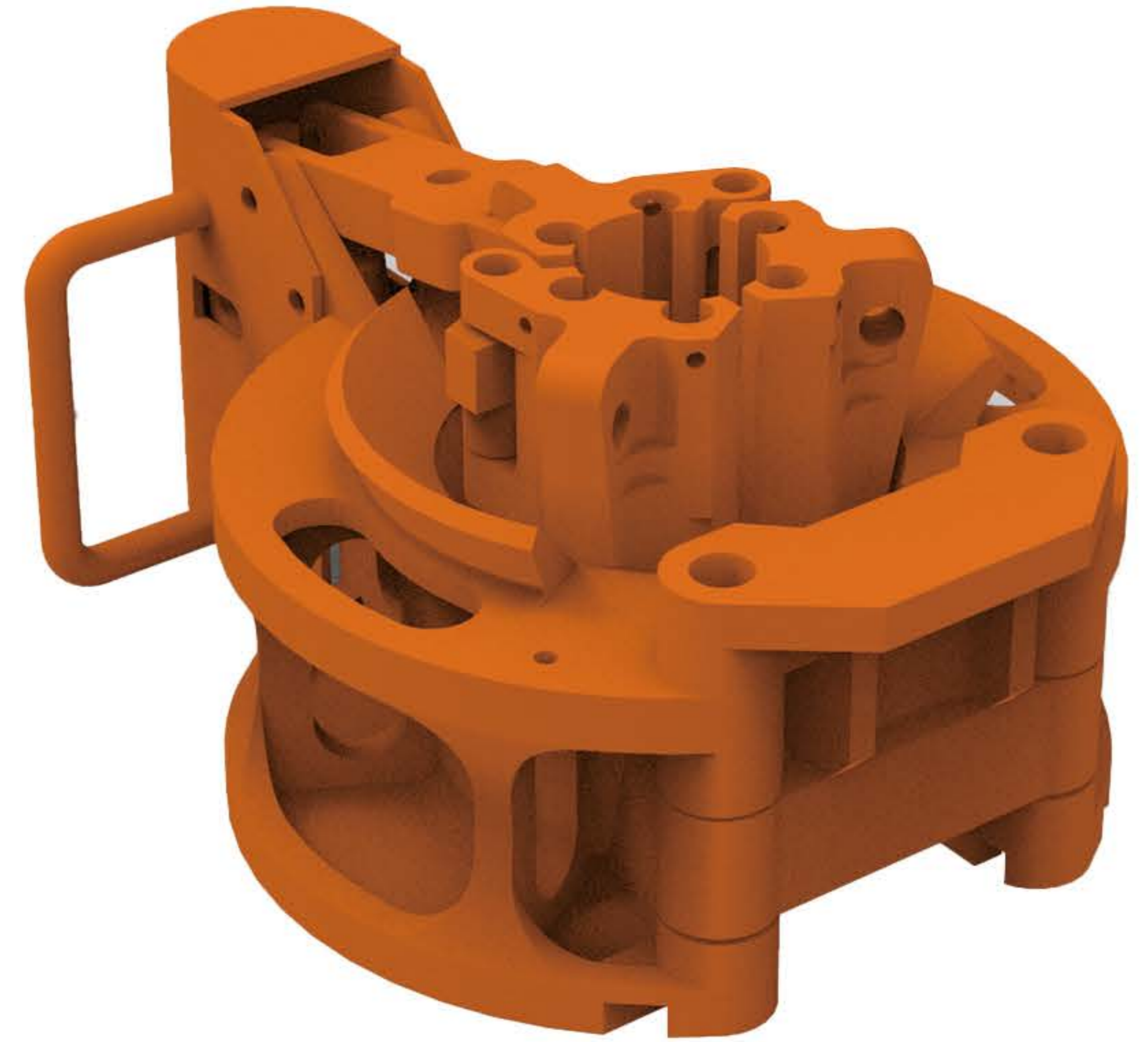
- Spider Body
- Slip Body
- Slip Body Inserts
- Semi Finished Gate
- Air Cylinder Guard

### Tubing Spider Specification

| MODEL           | B                          | C                            | CHD                            |
|-----------------|----------------------------|------------------------------|--------------------------------|
| CAPACITY        | 110,000 Lbs, 55 Ton, 50 MT | 165,000 Lbs, 82.5 ton, 75 MT | 250,000 Lbs, 125 ton, 113.5 MT |
| GATE OPENING    | 4-1/4"                     | 5-3/4"                       | 5-3/4"                         |
| BOWL OPENING    | 4-3/4" DIA.                | 6-1/2" DIA.                  | 6-1/2" DIA.                    |
| TUBULAR RANGE   | 1.315" to 3-1/2"           | 1.315" to 5-1/2"             | 1.315" to 5-1/2"               |
| PROVE LOAD TEST | 75 MT @ 5 min.             | 115 MT @ 5 min.              | 175 MT @ 5 min.                |

## Type 'T-60'

- Rated at 60 tons
- Easily handles 25,000 feet of 2-3/8 in. O.D. tubing
- Fast, safe, dependable, one-man operation
- Converts quickly from manual to air
- Accommodates all sizes of pipe from 1.315 in. to 4-1/2 in.
- Positive rotation grip provides automatic alignment, even load distribution, maximum holding power, and instant release
- Guard gate protects slips and linkage
- Plain gate minimizes any clearance problems



## Sucker Rod Elevators

Sucker Rod Elevators are carefully engineered and manufactured to provide maximum rod string protection, ease of handling and operation, and wear resistance. The seat for the rod upset radius is machined to produce a precision fit, thus preventing both tilting of the elevator body and local stressing or kinking of the rods.

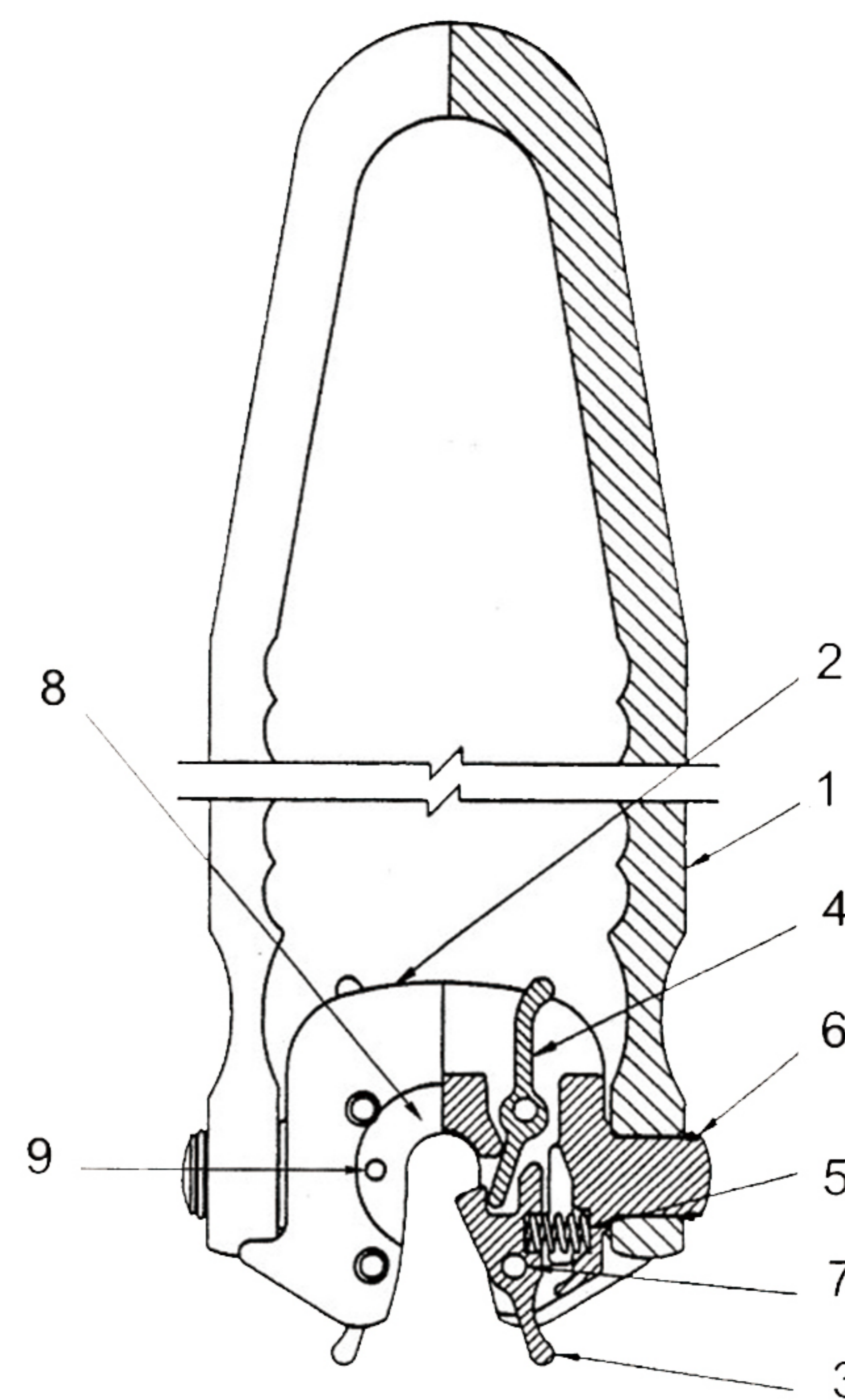
The one-piece body is made of alloy steel, heat-treated for extra strength and wear resistance; the forged bail is stiffened at the bend with an "I" section to prevent binding under maximum loads.

Two pressure-sensitive latches close on the rod automatically, securely locking it in place. The rod can be released quickly and easily, by thumb and finger pressure alone, at either the front or rear of the body.



| Solid Body Sucker Rod Elevator |                    |
|--------------------------------|--------------------|
| Size                           | Fit for Sucker Rod |
| SR58                           | 5/8" - 3/4"        |
| SR68                           | 3/4" - 7/8"        |
| SR88                           | 1"                 |
| SR98                           | 1- 1/8"            |

| Plate Type Sucker Rod Elevator |                      |
|--------------------------------|----------------------|
| Size                           | Fit for Sucker Rod   |
| SR100                          | 5/8", 3/4", 7/8", 1" |



| Item | Description   |
|------|---|
| 1    | Bail  |
| 2    | Body  |
| 3    | Latch-Front and Rear Release (2)                    |
| 4    | Lever   |
| 5    | Spring  |
| 6    | Ring, Trunnion (2)                                  |
| 7    | Pin, Spring   |
| 8    | Plate, 5/8", 3/4"<br>Plate, 3/4", 7/8"<br>Plate, 1" |
| 9    | Pin, Plate  |

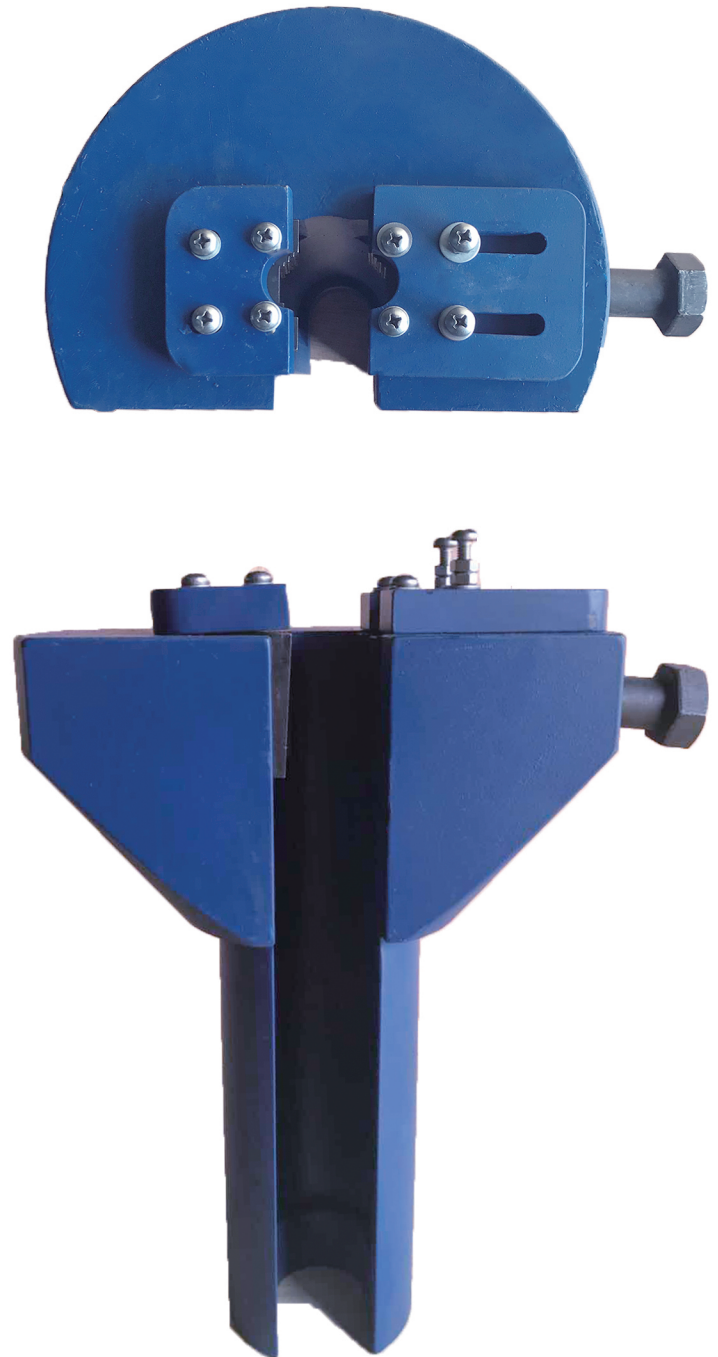
## Rod Backoff Tool 抽油杆倒扣器

The rod backoff tool includes a vise anvil and a vise block so that a sucker rod may be securely, rigidly fastened by a vise bolt moving the vise block so that the sucker rod is between the vise block and the vise anvil. This provides a tong capable of breaking a sucker rod joint when the pump attached to the bottom of the sucker rod is stuck. Our Rod backoff tool can be mounted into the 2-7/8" Jaws on any common Power Tong these Rod Backoff Tools fit rods from 5/8" - 1-1/8"

抽油杆倒扣器是抽油井的抽油杆在油管内被砂、蜡、小件落物等卡死后无法提出时，专用的一种安全性倒扣工具；但它必须配合液压钳使用。

组成部分：由牙床、方牙、工作筒、紧固螺栓等部件组成。

工作性能：当抽油杆被卡后，该倒扣器卡住井口上方的抽油杆本体，用螺栓固定牢靠、方便液压钳操作的位置上。然后利用液压钳进行旋转倒扣（液压钳要固定牢靠），直至抽油杆倒开扣为止。



## Sucker Rod Couplings

Our Couplings are manufactured in compliance with API 11B. Both of the Class T and Class SM couplings combine top quality steel with a cold rolled threads that increases fatigue resistance.

A well controlled and service proved Anti-galling treatment is applied to all the couplings.

We offer a complete line of API sucker rod couplings, including sucker rod couplings, sub couplings, and polished rod couplings, with full size and slim hole.



### Ordering Information

| Specifications | 5/8"                            | 3/4" | 7/8" | 1" | 1 1/8" |
|----------------|---------------------------------|------|------|----|--------|
| Coupling Class | T / SM                          |      |      |    |        |
| Base material  | AISI 5140 or Chinese equivalent |      |      |    |        |
| Size type      | Full size, slim hole, crossover |      |      |    |        |
| Mech. Property | Meet with API 11B requirement   |      |      |    |        |

#### Note:

For detail sizes of Polished rod couplings and Sub Couplings, please refer to the API Specification 11B.

Sprayed Metal Sucker rod couplings, SM

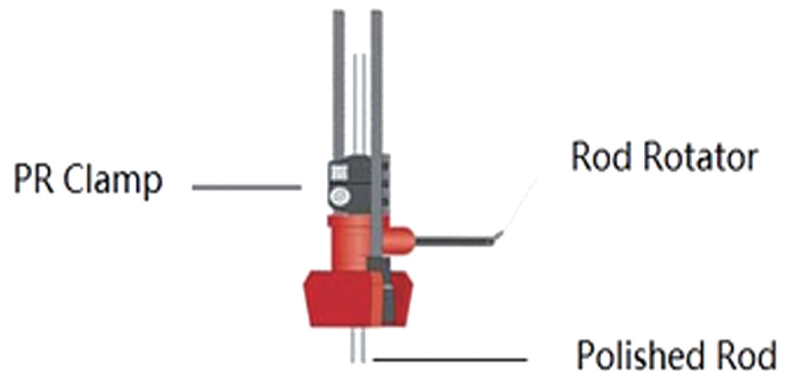
The Sprayed Metal Rod Couplings are coated with nickel base metal material. Coating thickness is 0.01-0.02 in per side. Hardness is 595HV200 minimum.

The SM coupling features mirror like surface finish, low friction factor and high corrosion resistance property.

## Rod Rotator 抽油杆旋转器

Rod rotator is one of the most effective means of reducing rod coupling and tubing wear, especially when used in conjunction with rod guides. Our 1" rod rotator is effective in removing paraffin from inside the tubing and distributing wear evenly.

抽油杆旋转器为解决现有抽油机的抽油杆与油管偏磨的问题而设计。包括底部制有通孔的筒状旋转器壳体，在旋转器壳体的侧壁上制有通孔；在筒状旋转器壳体内底部安装有推力轴承，在推力轴承的上部设置棘轮，在棘轮上部固定有中部为通孔的压力支座；在压力支座伸出筒状旋转器壳体的部分的上部安装有抽油杆固定卡盘；在旋转器壳体的侧壁上的通孔内安装有转轴，转轴伸入旋转器壳体内的一端偏离轴心的位置安装有棘爪，转轴伸出旋转器壳体的一端安装有手柄。本抽油杆旋转器将抽油机的上下往复运动转化为抽油杆的圆周旋转运动，从而使抽油杆与油管的偏磨均匀。



| Specifications | Max output torque | Max. recommended load | Polished rod sizes | Shipping weight | Rotation type | Body material | Actuator cable length* |
|----------------|-------------------|-----------------------|--------------------|-----------------|---------------|---------------|------------------------|
|                | 120 ft/lbs        | 33,000 lbs            | 1 1/8" - 1 1/2"    | 35 lbs          | Ratchet Table | Ductile Iron  | 16'                    |

| 重要指标 | 最大输出转矩     | 额定载荷       | 适用光杆直径          | 重量     | 转动方式 | 主体材质 | 钢丝绳长度 |
|------|------------|------------|-----------------|--------|------|------|-------|
|      | 120 ft/lbs | 33,000 lbs | 1 1/8" - 1 1/2" | 35 lbs | 棘轮   | 球墨铸铁 | 16'   |

## Rod Centralizer 扶正器

The rod centralizers are widely used with drive rods for PC pump application and the sucker rods for production in deviation wells. The centralizers are combined with a variety of components: sucker rod, pony rod or a shaft, nylon or soft metal sleeves in the ways of molding, insert or snapped on.

### Sizes Commonly Used :

| Description   | Rod OD | Rod Length                      | Fit for Tubing |
|---------------|--------|---------------------------------|----------------|
| 3/4" x 2 7/8" | 3/4"   | Per API 11B<br>or<br>As Request | 2 7/8"         |
| 7/8" x 2 7/8" | 7/8"   |                                 | 2 7/8"         |
| 1" X 2 7/8"   | 1"     |                                 | 2 7/8"         |
| 1" X 3 1/2"   | 1"     |                                 | 3 1/2"         |

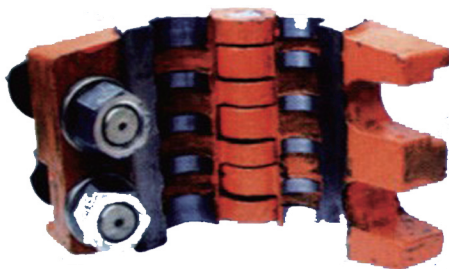


## The Polish Rod Clamps 光杆卡子

The polish rod clamps are with hinge-joint butterfly structure. The body is made of high grade casting steel and accomplished with subjected heat treatment.

The clamps hold the polish rods tightly with force of friction. No any inserts with teeth needed. So damages and cuttings on the polish rod surface can be eliminated.

The mechanical properties of the polish rod clamps meet with the API Specs 11B.



#### Specification, Model 12000

| Associated Polish Rod | Capacity Kg/lbf | Weight KG/lb |
|-----------------------|-----------------|--------------|
| 22mm / 7/8"           | 8180/17647      | 5.6/12.3     |
| 25.4mm / 1"           | 10200/22480     | 5.5/12.1     |
| 28.6mm / 1 1/8"       | 12040/26526     | 5.5/12.1     |

#### Specification, Model 16000

| Associated Polish Rod | Capacity Kg/lbf | Weight KG/lb |
|-----------------------|-----------------|--------------|
| 25.4mm / 1"           | 12040/26526     | 7.3/16.1     |
| 28.6mm / 1 1/8"       | 16020/35294     | 7.2/15.8     |
| 31.8mm / 1 1/4"       | 16020/35294     | 7.1/15.6     |

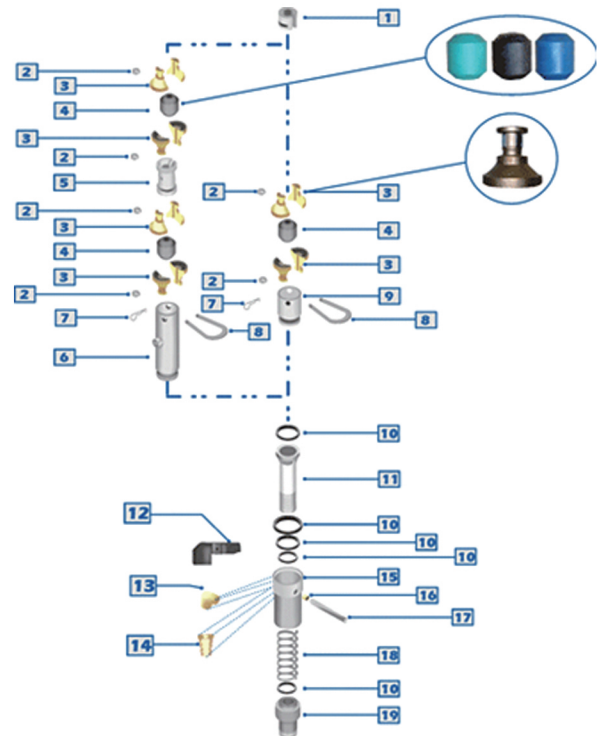
#### Specification, Model 18100

| Associated Polish Rod | Capacity Kg/lbf | Weight KG/lb |
|-----------------------|-----------------|--------------|
| 31.8mm / 1 1/4"       | 18160/40014     | 10.4/22.8    |
| 38.1mm / 1 1/2"       | 18160/40014     | 10.2/22.4    |

## Type HD Oil Saver 节油器

Type HD Oil Saver with Stainless Steel Body offers double line stripping. It has two complete sets of stripper rubbers and brass bushings and a 1" NPT drain connection between the rubbers and is rated at 1500 psi working pressure. The hydraulic oil savers strip fluids from the wireline, cut costs by saving valuable oil, and promote safety by minimizing danger of explosion or fire at the well site. Hydraulic Oil Savers are available in several types to meet every stripping requirement. The oil savers use a special oil, gas, and abrasion resistant, one piece rubber for efficient, low-cost oil removal.

HD 节油器采用不锈钢外壳，通过两套由 1 吋 NPT 螺纹管连接的刮油橡胶和铜衬套进行线缆除油。工作压力为 1500 psi。该液压节油器用于从线缆上除油，不仅可以通过收集清除下来的原油而降低成本，还可以减小发生井场爆炸或火灾的危险，提高安全性。液压节油器有多种类型可供选择以满足不同要求。该液压节油器使用特殊的耐油气、耐磨损的整体橡胶，实现高效、低成本的除油。



| Replacement Parts For Oil Saver |             |  |                 |
|---------------------------------|-------------|--|-----------------|
| Item #                          | Part Number | Description  | Number Required |
| 1                               | E618        | Gate   | 1               |
| 2                               | E5203       | Clip for Brass Bushing   | 4               |
| 3                               | E5203       | 3/8" to 5/8" Brass Bushing (39 - 3619: 3/4" to 1" Brass Bushing) | 4 Sets          |
| 4                               | OS-2        | Replacement Rubber   | 2               |
| 5                               | E625        | Bushing Spacer   | 1               |
| 6                               | E274B       | Double Brass Body  | 1               |
| 6                               | E274SS      | Double Stainless Steel Body                                      | 1               |
| 7                               | E801        | Yoke Retainer Pin  | 1               |
| 8                               | E800        | Yoke   | 1               |
| 9                               | E273B       | Single Brass Body  |                 |
| 9                               | E273S       | Single Stainless Steel Body                                      |                 |
| 10                              | E728        | 'O' Ring (Part of Repair Kit Number E728)                        | 1               |
| 11                              | E623        | Ram  | 1               |
| 12                              | E802        | Fitting Guard  | 1               |
| 13                              | WS-40639    | Housing Elbow  | 1               |
| 14                              | WS-40629    | Housing Nose   | 1               |
| 15                              | E617        | Housing  | 1               |
| 16                              | E6MP        | Housing Plug   | 1               |
| 17                              | E900        | Redress Tool   | 1               |
| 18                              | E630        | Spring   | 1               |
| 19                              | E620        | 2-3/8" EUE Base  | 1               |
| 19                              | E621        | 2-7/8" EUE Base  | 1               |
| 19                              | E624        | 3" LP Base   | 1               |

## DOUBLE PACK STUFFING BOX COMPLETE (51LBS)

### 双层封隔器

- Cone Hi-Temp or Gold Flake split packings for extended packing life.
- designed fitting for easy on-site lubrication without disassembly reduces costly maintenance time.
- Lower compression bolts allow replacement of upper primary packings while still under pressure.
- 该分隔器重量约为 51lbs (22.7kg) , 锥形耐高温盘根延长了设备的使用寿命。
- 排油顺畅简单, 无需拆卸因而减少维护的需求。
- 不易变形的螺栓使上层盘根可以在带压情况下更换。



## Knuckle Joint Swab

### 快装接头

The Knuckle Joint Swab allows cups to be changed in just 10 seconds. To disassemble, the mandrel is lifted 90 ° and the two sections of the joint are separated. The old cup can then be removed rapidly and the new one dropped in place. There are no threads on the swab knuckles, no danger of damage and galling, and no tools needed to change cups.

Made of tough, 4135 heat-treated alloy steel, the Knuckle Joint swab provides a large external bypass for fast falling and uses the cup itself as a valve. As many mandrels and cups as desired may be run with the Knuckle Joint. Upper mandrels are keyed to hold the joint sockets in line, and square shoulders reinforce the joint, preventing spreading under load.

The rigidity of the joint absolutely prevents jackknifing and disassembly in the well. The lower mandrel allows a full 360 ° swivel action. Adapted as necessary, most tubing swab cups may be run on this swab.

使用本产品能在十秒钟内达到更换洗井用橡胶套的目的。只需将挂头手动提起并扭转 90 度即可将之卸下并快速替换橡胶套。挂头部没有螺纹连接, 拆装时不需要工具且不易损坏。材质为调质钢, 并可串联使用。上轴杆用于连接两个窝槽部, 平台肩利于承重, 避免过载脱落。连接部的刚性保证了不会发生断裂以及在井下的脱落。下轴杆可以 360 度旋转, 本品可与各种设计规格的橡胶套配合使用。



## Swivel Joint and Pup Joint 弯头

The Swivel Joints are supplied with the following features:

- Minimum flow restriction.
- Heavy duty hex head style ball loading plug.
- Grease retainer ring (insures clean ball race)
- Standard packing units (operating temperatures to 255° F)
- High temperature packing units (operating temperature to 450° F)
- Superior hardened ball races insure uniform surface hardness and depth for longer life under severe thrust and radial loading.

Standard swivel joints are provided with API line pipe threads. Other end connections are available on request.

The pup joint is the combination of the standard API tubing and Model 602 or Model 607 unions. The tubing is assembled with male sub on one end and female sub with nut on another end. All pup joints are 100% hydraulic pressure tested.

Integral Pup Joints are available in 2" and 3" sizes up to 12 feet.

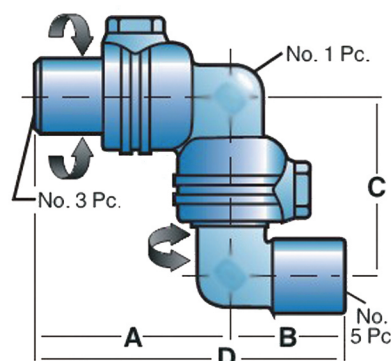
### Short Radius Swivel Joint

#### Specification

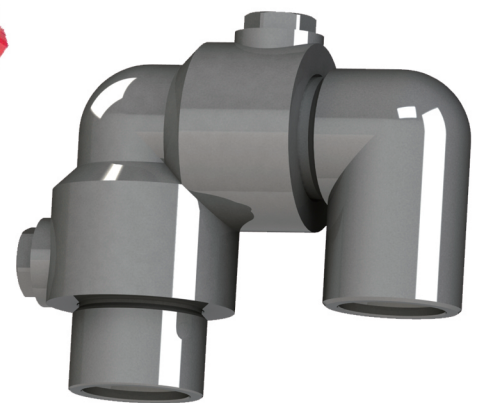
Style: No. 50  
 Working Pressure: 6,000 psi, NSCWP  
 Testing Pressure: 9,000 psi, NSCWP  
 Color Code: Silver  
 Thread: 2" API line pipe thread

#### Dimensions:

| A       | B      | C     | D     |
|---------|--------|-------|-------|
| 5 27/32 | 4 1/32 | 5 7/8 | 9 7/8 |



STYLE No. 50  
TWO PLANES OF ROTATION



## Hammer Unions

由壬

Hammer Unions are designed and manufactured for the application of high pressure fluid transmission. They are popularly used in oilfield operation, such as fracturing, acidizing and cementing.

Hammer unions are made of high grade of materials, appropriate to specific pressure ratings. Precision forging and heat treatment ensure the desirable mechanical property. All connection threads and sealing surface are processed with numerical control machines, features reliable sealing and interchangeability.

Rigid quality inspection and pressure test are accomplished with related National and International standards. Complete records are well kept for products traceability.

Unions are available in all choices of end connections. API line pipe threads are as standard.



## Union Color Designation

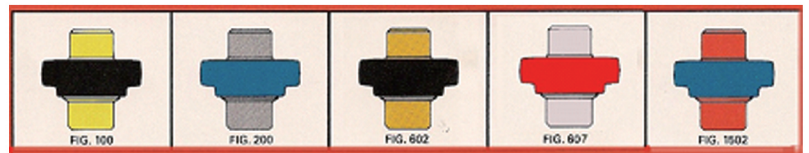


fig.602

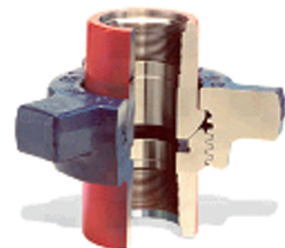


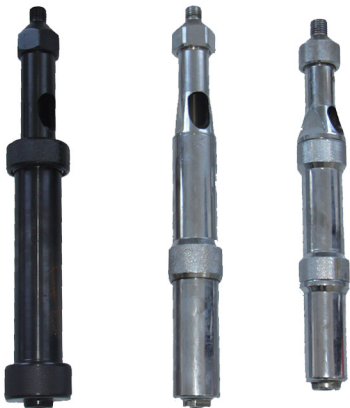
fig.1502

## SPECIFICATION AND AVAILABILITY

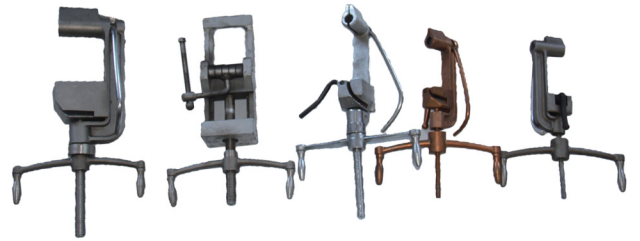
| Model | Cold Working Pressure |        | Size available |    |    |    |
|-------|-----------------------|--------|----------------|----|----|----|
|       | MPa                   | psi    | 1"             | 2" | 3" | 4" |
| 100   | 7                     | 1,000  |                | ✓  | ✓  | ✓  |
| 200   | 14                    | 2,000  | ✓              | ✓  | ✓  | ✓  |
| 206   | 14                    | 2,000  | ✓              | ✓  | ✓  | ✓  |
| 602   | 42                    | 6,000  |                | ✓  |    |    |
| 607   | 46                    | 6,666  |                | ✓  |    |    |
| 1502  | 105                   | 15,000 |                | ✓  |    |    |



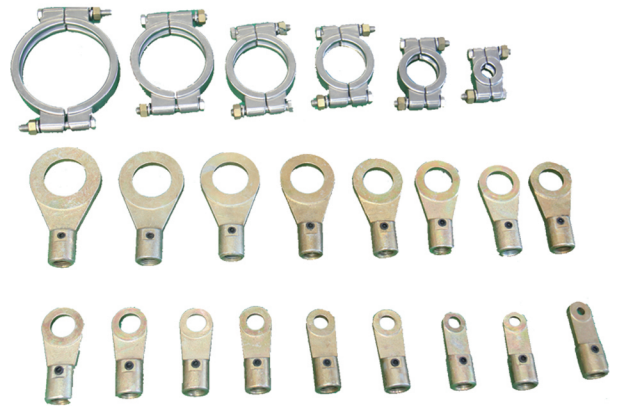
**High Pressure Flattening Machine**  
高压夹管器



**High Pressure Injection Gun**  
高压注胶枪



**Steel Belt Tensioner**  
钢带拉紧器



**Bolt Joints**  
螺栓接头



**Injection Valve**  
注射阀

The above tools are suitable for working with pressure plugging  
以上工具适用于带压堵漏工作中