

# **NI**® **Nebraska Irrigation, Inc.**

Columbus, Nebraska • Phone: 402-564-1514 • Fax: 402-563-2792

**Center Pivot Components  
Irrigation Accessories  
Since 1975**



# **Nebraska Irrigation, Inc.**

**NITECH**®

*(NITECH is an industrial division  
of Nebraska Irrigation, Inc.)*



**Located in the heartland of  
America with supply points  
throughout the U.S.**

**We ship daily!**

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**Nebraska Irrigation, Inc.**

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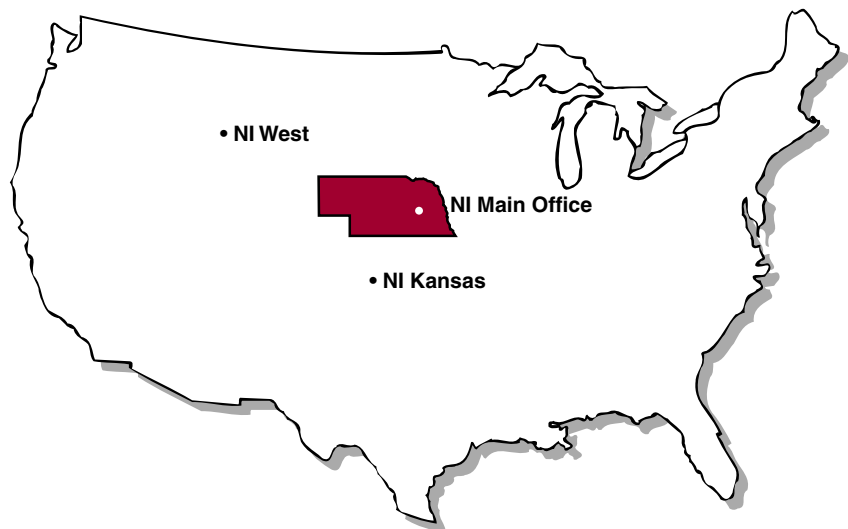
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**Established in 1975**



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Fax: 208-356-8215

**NI Kansas**

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Dodge City, KS 67801

Phone: 620-225-3472  
Fax: 620-225-3475

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Printed in U.S.A.

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# SECTION A: INTRODUCTION

## Welcome to the Nebraska Irrigation Catalog

Featuring Center Pivot Components and Irrigation Accessories

**A**

### Your ONE Source for All Your Irrigation Needs

Nebraska Irrigation, Inc., located in the heart of the center pivot irrigation industry, is a leading supplier of irrigation components, with both national and international clientele.

With one of the largest on-hand inventories in the business, NI can provide center pivot components and irrigation accessories to meet any need.

### Just the Beginning...

This catalog is a sampling of the thousands of components that we can supply or manufacture.

Contact us for more details.



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**Nebraska Irrigation, Inc. — Providing pivot dealers, service contractors, and center pivot manufacturers with quality parts for over 30 years.**

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## General Outline of This Catalog

In an effort to make this catalog as useful to you as possible, we have arranged product listings into seven major categories. Each category has its own section. Also, there is a section with illustrated parts breakdowns in the back of the catalog.

To aid in locating the item you need, use the table of contents in the front of the catalog and / or the index in the back of the catalog. The table of contents shows a summary of the products in each section. The index is an alphabetical listing of the products in this catalog.

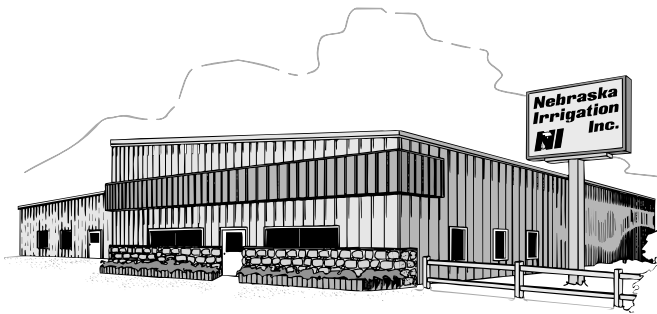


Your **IRRIGATION SOURCE™**

**Wide Selection! Great Service! More Solutions!**

**N**ebraska Irrigation specializes in problem-solving modifications and conversions for mobile irrigation systems. Equally important are the dependable, field-proven control systems and innovative products manufactured in our facilities.

Established in 1975, we have the knowledge and experience to fulfill all your irrigation needs. To assure efficiency and high quality, we utilize computer-aided design and manufacturing experts. You can count on our excellent shipping department and professionally trained sales team to provide quick, dependable service.



### Main Office:

#### Nebraska Irrigation, Inc.

P.O. Box 1023  
Columbus, Nebraska 68602-1023

911 East 23rd Street  
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Phone: 402-564-1514  
800-397-1100

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E-Mail: [sales@NebraskaIrrigation.com](mailto:sales@NebraskaIrrigation.com)  
Web Site: [www.NebraskaIrrigation.com](http://www.NebraskaIrrigation.com)

Backed by a proven track record of over 30 years, we can provide the finest quality products and service to be found anywhere.

When you need replacement parts, look to Nebraska Irrigation. We supply replacement parts for almost every type of mobile irrigation system ever manufactured. Our experience developing rebuild kits for irrigation systems has given us a thorough knowledge of the inner workings of virtually every type of system on the market today.

Along with the most extensive selection of Center Pivot Solutions anywhere, we also manufacture underground pipe fittings and supply all the ancillary items required for irrigation system installations. NI also distributes Berkeley Pumps, AquaMaster Fountains and Aerators, Firestone PondGard Pond Liners, K-Rain Residential and Commercial Sprinklers, and Netafim Drip Systems among others.

Whatever products you purchase from Nebraska Irrigation you can depend on them to deliver the performance and reliability you and your customers can trust.

### Distribution Centers:

#### NI West™

580 South Yellowstone Hwy.  
Rexburg, Idaho 83440

Phone: 208-356-8250  
Fax: 208-356-8215

#### NI Kansas™

1000 South 2nd Ave.  
Dodge City, Kansas 67801

Phone: 620-225-3472  
Fax: 620-225-3475

# NITECH<sup>®</sup>



*NITECH is an industrial division of Nebraska Irrigation, Inc.*

## NITECH<sup>®</sup> Stretch Wrappers / Pallet Packaging

NITECH, a division of Nebraska Irrigation, Inc., manufactures high quality, field-proven stretch wrapping equipment.

Since 1989, NITECH has built stretch wrappers with straight forward features and economical pricing. NITECH offers many different types of machines from foot-operated turntables to semi-automatics that allow the operator to push a button and walk away to complete other tasks.

NITECH stretch wrappers are built using structural steel throughout the machine to hold up when wrapping loads that weigh up to 5,000 lbs. All operating controls, start, stop, and dispenser controls use conventional toggle switches, dials, and buttons for durability and long life. NITECH continually strives to manufacture the highest quality stretch wrapper thus helping our customers to become more productive and competitive

### Stretch Film

NITECH is also a distributor of hand-held and machine stretch films. We stock a large variety of stretch films specifically designed for machines that incorporate different types of stretch.

Contact us for more details.

#### **NITECH**

P.O. Box 1023  
Columbus, Nebraska 68602-1023

911 East 23rd Street  
Columbus, Nebraska 68601

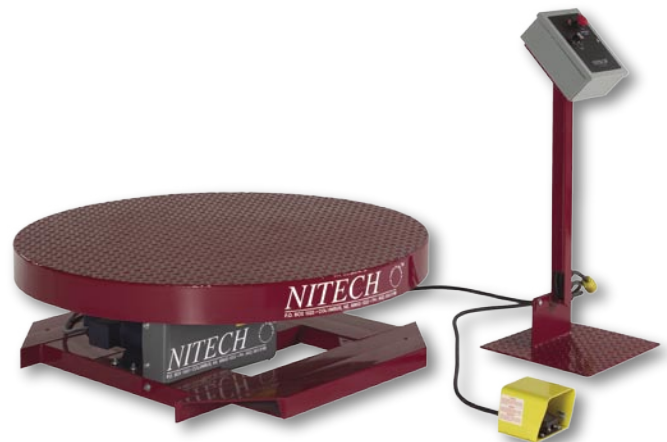
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E-Mail: [Sales@nitechindustries.com](mailto:Sales@nitechindustries.com)  
Web Site: [www.nitechindustries.com](http://www.nitechindustries.com)



*NITECH Stretch Wrappers simplify the task of securing product on a pallet. Shown is Model 77205-LPV.*



*NITECH Stretch Wrappers come in a variety of models to meet various packaging requirements. Shown is Model 77201-V.*

**For more information on  
NITECH and the NITECH Stretch  
Wrappers, contact us today!**

## POLICIES

### Credit Policy

All accounts will be C.O.D. until credit is approved. Future shipments after credit approval will be net 30 days with cash discounts only if specified.

When an account becomes past due all future shipments will be subject to being placed on C.O.D. basis.

Interest will be charged at the rate of 18% per annum on any balance not paid for within the terms stated on the invoice.

**A**

### Delivery

All delivery dates for goods sold by Nebraska Irrigation, Inc. are approximate only and no person shall be entitled to rely thereon.

Rush or Next Day orders will always be shipped via best way, with full freight added to your invoice. We normally use UPS, major freight lines, or small freight carriers to ship orders.

### Damage Claims

#### Freight Damage Claims

All shipments must be inspected when you receive them and damages noted on the Delivery Receipt. We will not be able to help you with a freight claim if you sign a Delivery Receipt and have not identified the damaged product.

All freight damage claims must be submitted within 30 days of receipt of merchandise. We will not be responsible for freight companies refusing to pay claims that are filed beyond the 30-day period.

#### Concealed Damage Claims

It is very important to inspect all shipments when you receive them. Immediately report any concealed damage to the delivering carrier within 15 days from the date of delivery. You are responsible for filing claims for concealed damage. We will assist you in this process but we will not take back items that are damaged.

### Discrepancy Claims

You are responsible for checking your order against your packing list. Any discrepancies must be reported to Nebraska Irrigation, Inc., within 24 hours from receipt of the shipment.

All claims for pricing errors, shortages, etc., must be made in writing within ten days of receipt of shipment. All claims should identify the merchandise by invoice number and date of billing.

### Returned Merchandise

On all merchandise to be returned, written "Authorization to Return" must first be obtained from Nebraska Irrigation, Inc. Nebraska Irrigation, Inc. assumes no responsibility for goods returned without such authorization. Requests for returns must refer to original invoice number and date of purchase. Unless otherwise specified, all returned goods must be shipped on a pre-paid freight basis, or shipment will not be accepted.

The return of new saleable merchandise is subject to a restocking fee. Special order items are not returnable. No return will be accepted if the buyer purchased the item more than 30 days prior to the return.

### Warranty

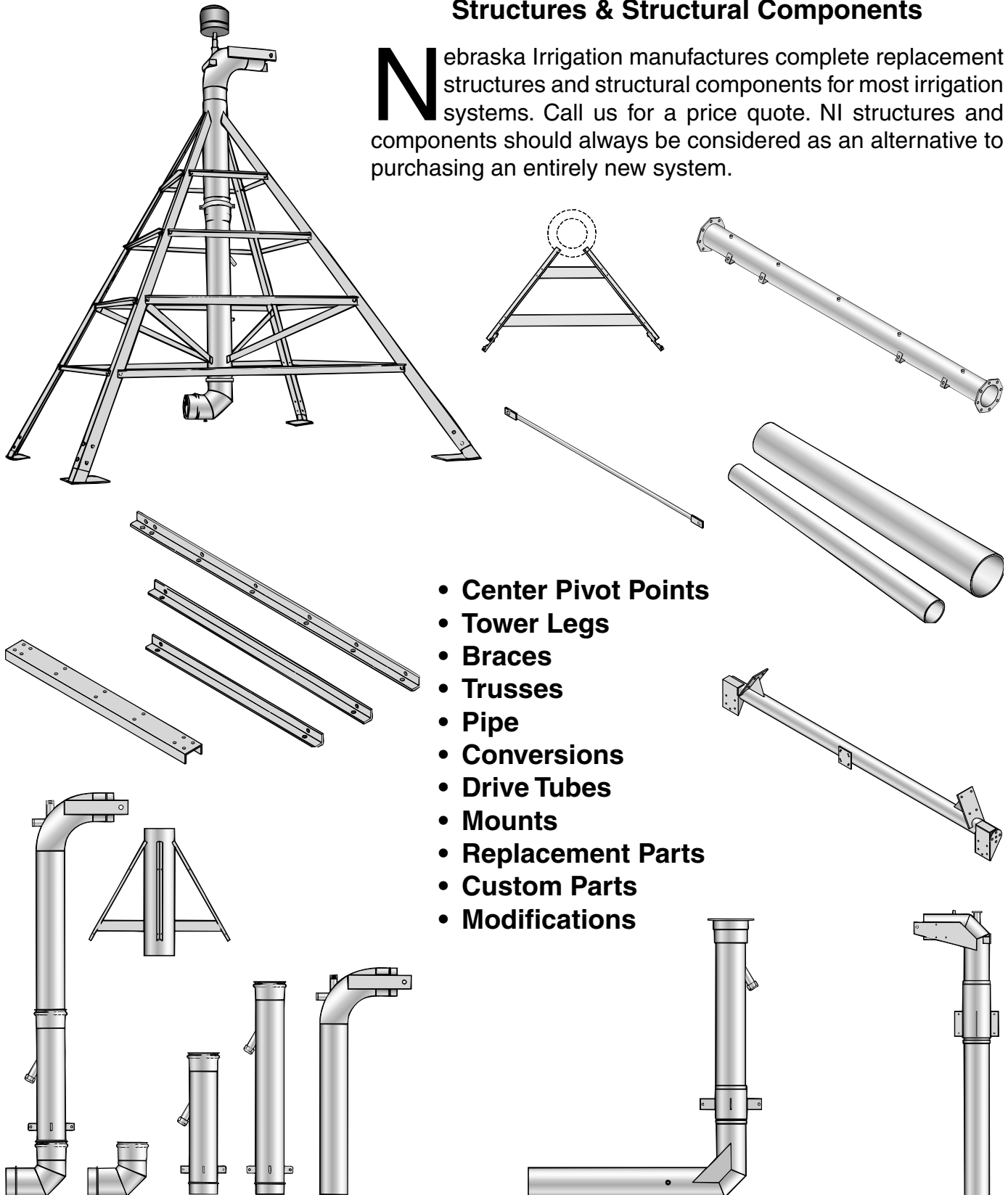
Products distributed by Nebraska Irrigation, Inc. are guaranteed only to the extent of the original manufacturer, which generally covers defects due to materials and workmanship on a replacement basis, F.O.B. factory.

Nebraska Irrigation, Inc. shall in no event be held liable for damage or delays caused by defective goods, and no allowance will be made for repairs or alteration, unless made with written consent or approval by an officer of the company.

# SECTION B: STRUCTURAL COMPONENTS

## Structures & Structural Components

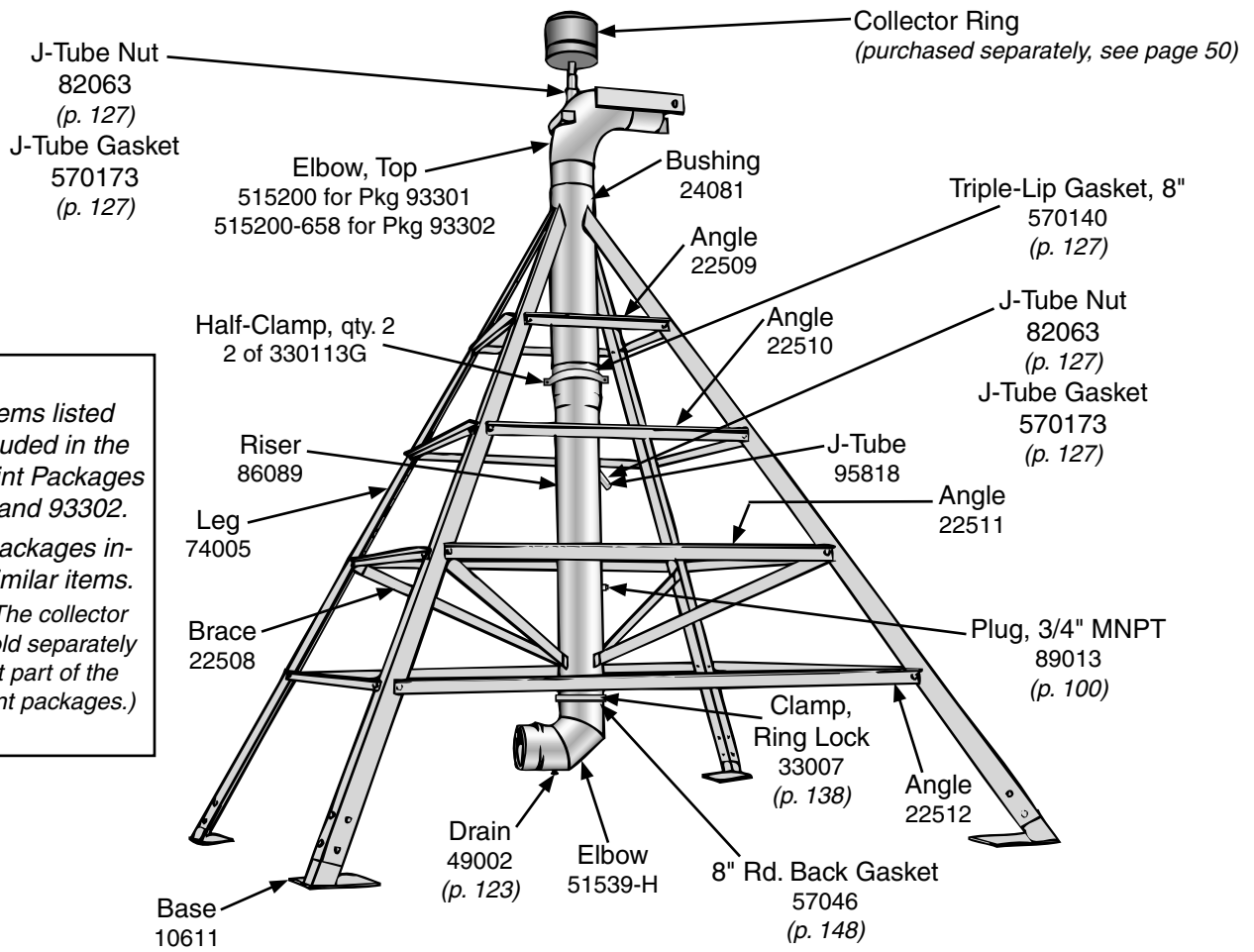
**N**ebraska Irrigation manufactures complete replacement structures and structural components for most irrigation systems. Call us for a price quote. NI structures and components should always be considered as an alternative to purchasing an entirely new system.



**B**

- **Center Pivot Points**
- **Tower Legs**
- **Braces**
- **Trusses**
- **Pipe**
- **Conversions**
- **Drive Tubes**
- **Mounts**
- **Replacement Parts**
- **Custom Parts**
- **Modifications**

PIVOT POINTS



**B** The items listed are included in the Pivot Point Packages 93301 and 93302. Other packages include similar items. (Note: The collector ring is sold separately and not part of the pivot point packages.)

**Pivot Point Packages**

NI manufactures a variety of center pivot points to suit a wide range of applications and to adapt to many systems. All pivot structures are made of galvanized steel.

The pivot point packages listed include: all bolts, legs, braces, J-pipe, triple-lip riser gasket, bottom elbow with drain.

Items not included in the listed packages, but sold separately: collector ring, anchors, main control panel, option rings, and pivot flex joints.

**Available upon request:**

Pivot Pad Dimensions and Guide that includes recommended material list.

Pivot Point Packages	
NI Part #	Description
93301	High Profile Pivot Point, 8" (standard height)
93301-LP	Low Profile Pivot Point, 8"
93301-T	Towable Pivot Point, 8" (standard height)
93302	High Profile Pivot Point, 6-5/8" (standard height)
93302-LP	Low Profile Pivot Point, 6-5/8"
93302-T	Towable Pivot Point, 6-5/8" (standard height)

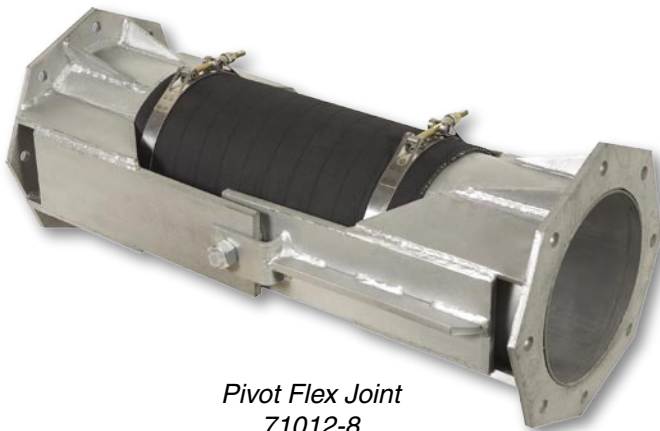


ADDITIONAL PIVOT POINT COMPONENTS

**Pivot Flex Joints**

NI Part #	Description
71012	6-5/8" Valley Style Flex Joint
71012-8	8" Valley Style Flex Joint
86040	6-5/8" Pivot Flex Pkg., Galvanized
91221	8" Stainless Steel Sleeve
860112	8" Pivot to 6-5/8" Span x 27" Long, Lockwood Style
860115	6-5/8" Pivot to 6-5/8" Span x 27" Long, Lockwood Style

NOTE: Boot Hose Kits and Flange Gaskets are not included.



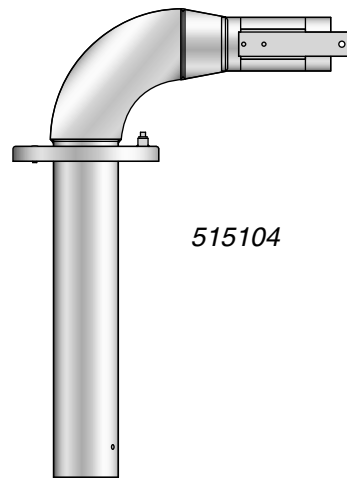
*Pivot Flex Joint  
71012-8*

**NI offers a variety of pivot flex joints to adapt to different brands of pivot spans.**

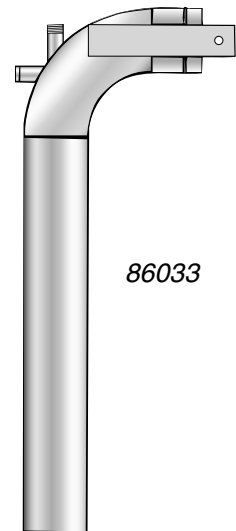
**Please specify brand of pivot and pipe diameter when ordering pivot flex connections.**

**Upper Pivot Elbows**

NI Part #	Description
515104	6-5/8" Lindsay Style Upper Pivot Elbow
515112	5-9/16" Lindsay Style Upper Pivot Elbow
515107	8" Lindsay Style Upper Pivot Elbow
86033	Upper "L" Riser, Lockwood Style
86020	Pipe, Pivot, Lower "L" Outlet, Lockwood Style



515104



86033

**Other Upper Pivot Elbows are available.**

**Contact us with your requirements.**

**B**

**Many, many styles of Pivot Point Components are available.  
Call us with your requirements.**

ADDITIONAL PIVOT POINT COMPONENTS

**Main Panels**



See the Main Panels listings in Section D: Controls.

Contact us with your requirements.

**Collector Rings**



See the Collector Rings listings in Section D: Controls.

Contact us with your requirements.

**Gaskets**

See the Gaskets listings in Section G: Water Distribution Components.

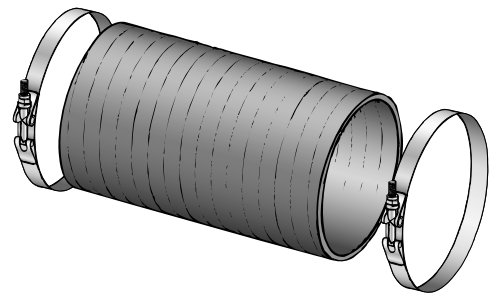
Contact us with your requirements.



**Boot Hose Kits**

See the Boot Hose Kits listings in Section G: Water Distribution Components.

Contact us with your requirements.



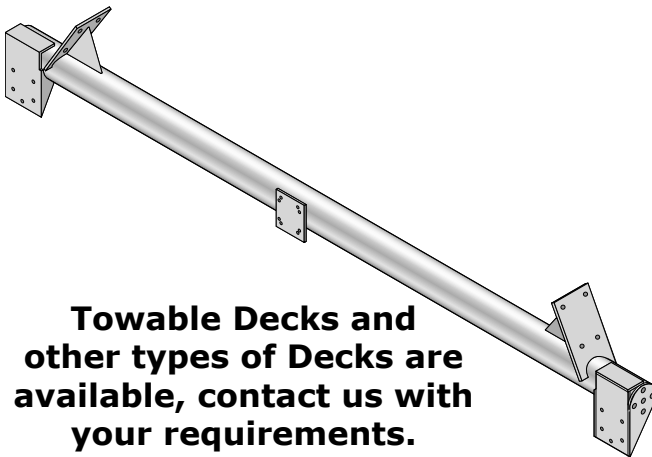


GENERAL STRUCTURAL ITEMS

**Base Decks**

NI Part #	Description
93315	Base Deck N/T Pierce Type
93315-RC	Base Deck N/T Raincat Type
93323	Base Deck N/T Reinke Type
93312	Base Deck N/T Olson Type
93334	Base Deck N/T Valley Type
93305	Base Deck N/T Gifford Hill Type
93351	Base Deck N/T Zimmatic Type
93384	Base Deck N/T Lockwood Type

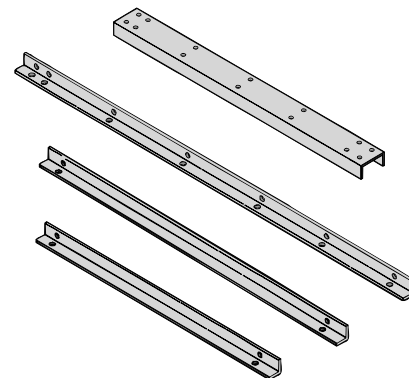
When ordering Base Decks, you must specify model number and year. Other dimensions may be needed.



**Towable Decks and other types of Decks are available, contact us with your requirements.**

**Tower Legs**

NI Part #	Description
74016	Lockwood Style, RH, Tower Leg
74017	Lockwood Style, LH, Tower Leg
74018	Valley Style, RH, Tower Leg
74019	Valley Style, LH, Tower Leg
74020	Lindsay Style, RH, Tower Leg
74021	Lindsay Style, LH, Tower Leg
74001	Reinke Style Tower Leg



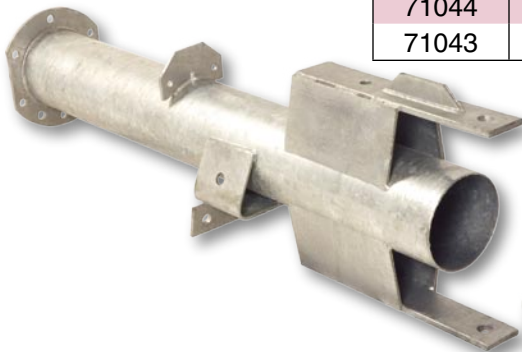
**Other Tower Legs are available, contact us with your requirements.**

**B**

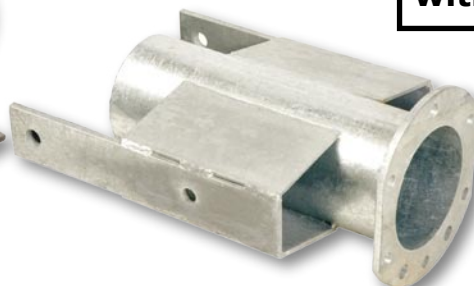
**Tower Joints**

NI Part #	Description
71009	Joint, Long, Lindsay Style, 6-5/8", 307
71010	Joint, Short, Lindsay Style, 6-5/8", 307
898161	Ring, Octagon, 6-5/8", 307, 410
71057	Joint, Pivot Point, Receiver, 6-5/8", Reinke Style
71044	Joint, Pivot Point, Hook, 6-5/8", Reinke Style
71043	Joint, Tower, Hook, 6-5/8", Reinke Style

*Lindsay Style Tower Joint, Long  
71009*



**Other Tower Joints are available, contact us with your requirements.**



*Lindsay Style Tower Joint, Short  
71010*

GENERAL STRUCTURAL ITEMS

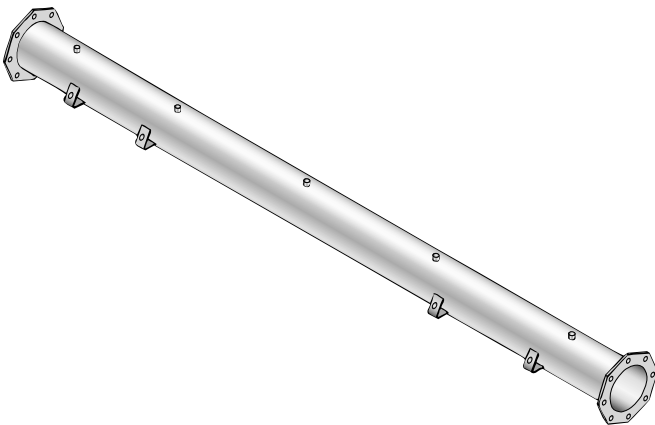
**Span Pipes**

NI Part #	Description
933XX-	6-5/8" Intermediate Span Pipes, Flange x Flange
933XX-	6-5/8" End Span Pipes, Flange x Tower End

**NI can custom manufacture span pipes in a variety of sizes.**

When ordering, call NI with your machine model number, year, and pipe location.

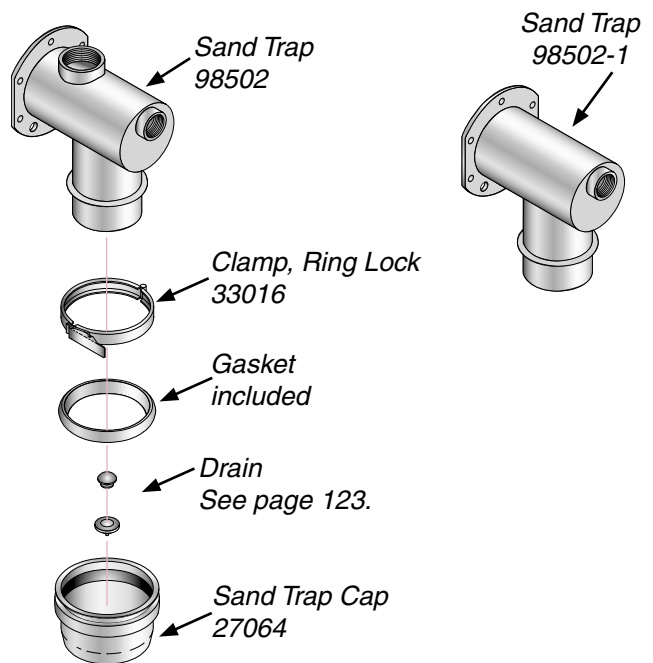
In some cases, NI will require that you provide dimensions or a sample pipe.



**Various structural items can be fabricated. Contact us with your requirements.**

**Sand Traps**

NI Part #	Description
98502	Lindsay Type Sand Trap w/ 3" coupler top, w/ 2" coupler on end
98502-1	Lindsay Type Sand Trap w/ 2" coupler on end
27064	Cap, Sand Trap, 6" w/ Drain Hole
33016	Clamp, Ring Lock, 6", Plated
890102	Plug, Valley Type Sand Trap, 4", w/ 1" F NPT Outlet w/ 1" x 3/4" Bushing



**Automatic Flush Sand Traps**

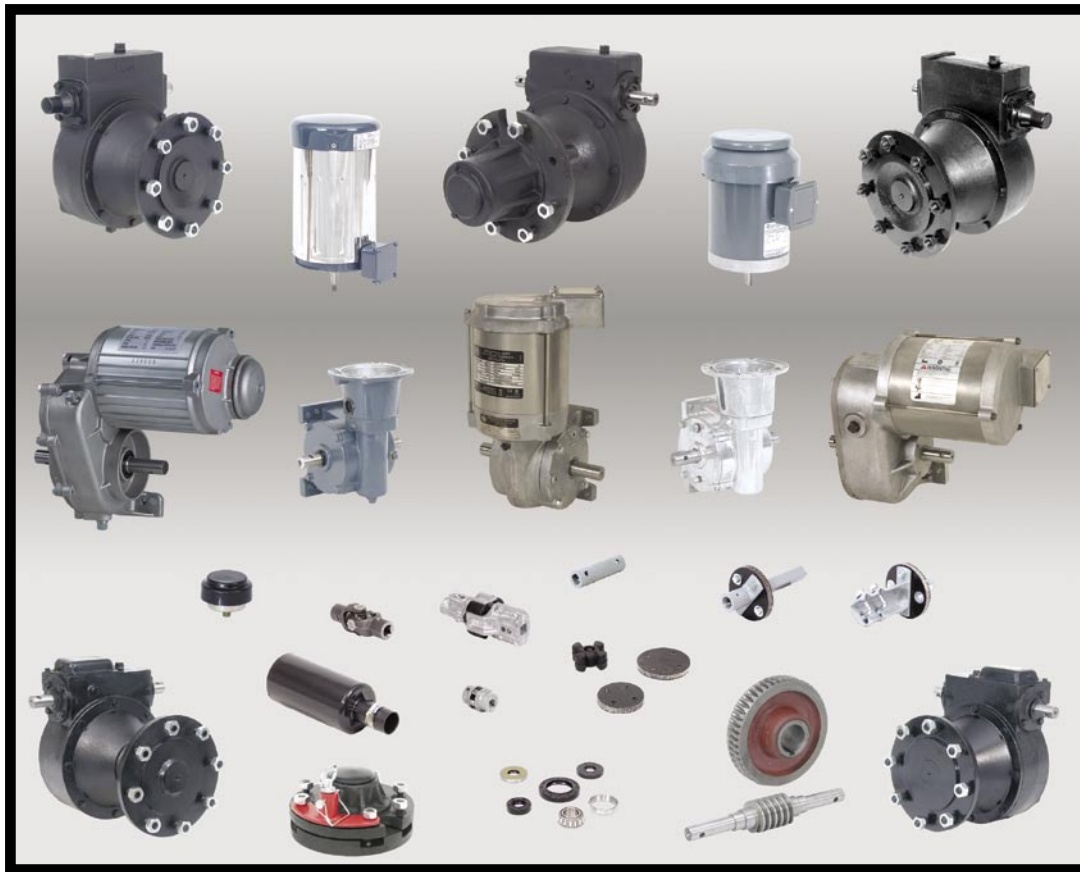
NI Part #	Description
98504	Sand Trap, Automatic Flush

Electrically controlled sand trap allows opening and closing of valve at predetermined times. Dump excess sand periodically or use it to flood field corners for increased yield.



# SECTION C: DRIVE TRAINS

## Replacement Parts for All Types of Machines

**C**

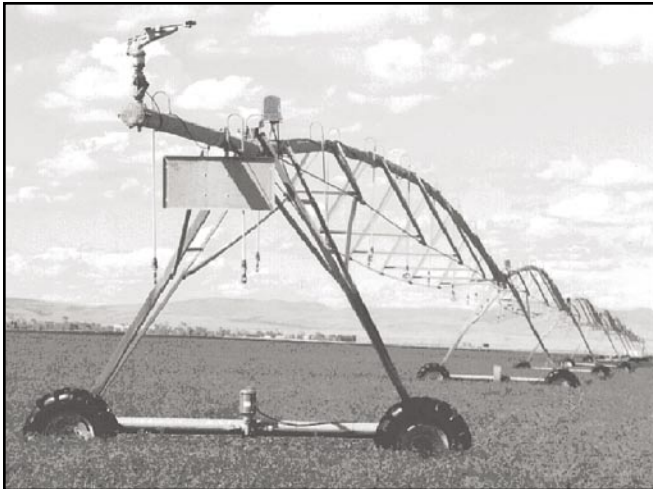
## Drive Components

Drive components from Nebraska Irrigation are designed to exactly fit the systems they are used on. In many cases, they are actually better than the parts they replace.

**For a full line of components and conversion packages or just one item, Nebraska Irrigation can supply you with exactly what you need. Give us a call.**

CONVERSIONS

**NI Electric Drives and Control Conversions**



*NI Electric Control & Drive Train Conversion.*

For over 30 years, Nebraska Irrigation (NI) has been manufacturing and supplying drive train and control conversions. Our conversion kits utilize components that are field tested to handle the toughest conditions. They are also tailored to specific irrigation systems. In fact, we've supplied conversion kits for virtually every type of irrigation system ever made.

NI control packages consist of individual control panels and control boxes or complete electrical system conversions as required.

NI control packages include:

- Pivot main panels.
- Collector rings.
- Intermediate, stall, and last tower control boxes.
- Required wire.
- All necessary hardware and mounts, as needed.



*NI Electric Drive & Control Conversion utilizing existing system base deck and structure.*

- Increase the life of a structurally sound irrigation system.
- Save money by rebuilding machines instead of replacing them.
- NI controls and drives make systems operate like new.
- NI's heavy duty controls and linkage will improve an older system's alignment.
- Towable or non-towable conversions.



*NI Electric Pivot Conversion, including pivot panel with options, collector ring, & accessories.*

**Save by Converting**

Converting, improving, and updating irrigation systems has been a primary focus of Nebraska Irrigation for over three decades. Our experience and tested techniques will provide a dependable operation.

**COMPONENTS ARE FIELD TESTED**

**Due to the variety of machines in use, NI offers many different conversion options. Please contact our sales office for more information.**

CONVERSIONS

**NI Hydrostatic Drives**

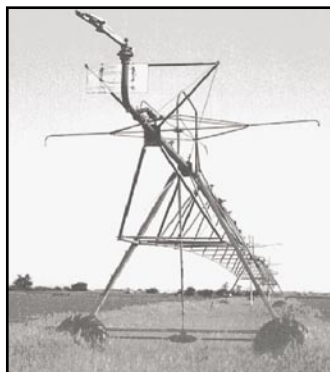
- Continuous motion
- Non-stopping
- Variable speed
- Reversible
- Utilizes a variable volume hydrostatic pump



This unique worm drive design features an automatic built-in brake that will prevent the system from coasting. One hydraulic motor is utilized per tower. Oil is supplied to the motor by high pressure steel lines and fittings. A variable flow control valve regulates direction, speed and, when required, provides an optional safety for misalignment.

**NI Water Spinner Drives**

- Primarily used to replace a chain drive with gearboxes.
- Excellent choice for water drive machines.



All NI conversion kits are based on quality field-tested components.

Please call our sales office with the make and model of the irrigation system and find out how we can help with improvements.

**Drive Train Conversion Kits**

NI drive train packages include:

- Heavy-duty wheel drive and center drive gearboxes.
- High-torque motors and couplers.
- Most kits also include:
  - Drive shafts and drive shaft shields.
  - Bolt-on or weld-on gearbox mounts.
  - Hardware and other accessories as needed.



**Electric Drives**



**Water Drives**



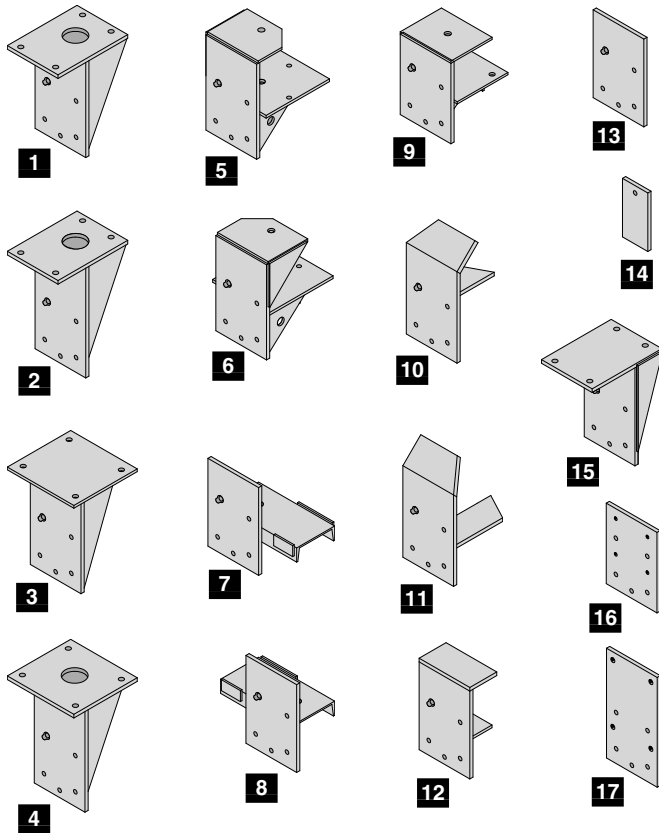
**Hydrostatic Drives**

**C**

NI MOUNTS

Conversion mounts to be used with complete drive train packages.

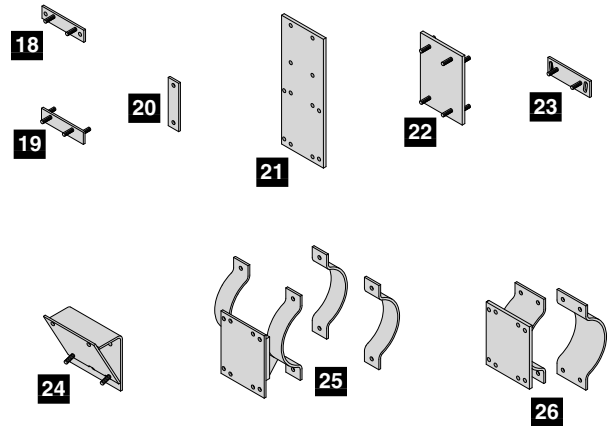
**Wheel Gearbox Mounts**



Wheel Gearbox Mounts		
Item	NI Part #	Description
1	792201	Mount, Bolt-On, GB, US 621, 622, Std.
2	792201-1	Mount, Bolt-On, GB, US 621, 622, Ext.
3	792202	Mount, Bolt-On, GB, US 632, Std.
4	792202-1	Mount, Bolt-On, GB, US 632, Ext.
5	792203	Mount, Bolt-On, GB, RH, Alumigator
6	792204	Mount, Bolt-On, GB, LH, Alumigator
7	792205	Mount, Bolt-On, GB, Electrogator Channel
8	792206	Mount, Bolt-On, GB, Electrogator Channel
9	792207	Mount, Bolt-On, GB, Minigator
10	792211	Mount, Weld-On, GB, Rd, RH, Higo Deck
11	792212	Mount, Weld-On, GB, Rd, LH, Higo Deck
12	792213	Mount, Weld-On, GB, Higo Sq
13	792214	Mount, Weld-On, GB, Flat Plate 12" (use brace 792222)
14	792222	Mount, Brace for 792214 on rd. drive tube, Olson type tube
15	792235	Mount, Bolt-On, GB, Mel Brown 621
16	88017	Plate, Mtg., GB, Lindsay to Durst
17	88025	Plate, Mtg., GB, Lockwood to Durst

**Center Drive Mounts**

Center Drive Mounts		
Item	NI Part #	Description
18	11003	Adapter, CD, NI x US Pattern
19	110109	Adapter, CD, NI x Durst/Ohio Pattern
20	33053	Clamp, CD Mount Strap, Gifford Hill, Sq. Deck
21	792110-2	Mount, Bolt-On, CD, Gifford Hill, Square Extended Mount
22	792228	Mount, Adapter, CD, NI, Durst to Ohio
	792227	Mount, Adapter, CD, NI, Ohio to US
	792258	Mount, Adapter, CD, NI, Durst to US
23	792232	Mount, Bolt-On, CD, Adapter, US, Durst to NI, slotted holes
24	792218	Mount, Adapter, NI CD to End Drive Gearbox, Pringle
25	79225P	Mount Pkg., Motor, PowerTrac to Worm
26	792102P	Mount Pkg., Bolt-On, CD, NI Alumigator Electrogator



This is a small sampling of the mounts that are available at NI. Call us with your specific requirements.

*DRIVE COUPLERS*

**Cloverleaf® Drive Couplers**

Cloverleaf® couplers feature a high quality insert that absorbs drive-line stress and shock, extending gear life.

- Castings are made of a high strength aluminum alloy – won't rust or seize on shafts.
- High strength die cast coupler jaws.
- Dissipates shock loads to other components.
- Design provides automatic re-alignment.
- Fertilizer, weather, and UV resistant.
- Fits virtually all irrigation system drive lines.
- Supplied with grade 5 carriage bolts – for easy assembly.
- For easy identification, each part has its part number on it.
- Each coupler is prepackaged – makes it easy to organize your inventory.
- Combination ends provide versatility – stock fewer sizes.
- Made in the USA.

**Important:** For safety, always shield drive shafts and couplers. For shield kits, see Drive Line Shields on page 33 later in this section.



Cloverleaf® Coupler Selection Chart	
NI Part #	Round End x Square End
42049	1" x 3/4"
42059	1" x 7/8"
42057	1" x 1"
42039	1" w/ key x 3/4"
42062	1" w/ key x 7/8"
42022	1" w/ key 1"
420173	1-1/8" x 3/4"
420174	1-1/8" x 7/8"
420172	1-1/8" x 1"

**C**

**Made in the U.S.A.**



Cloverleaf® Insert  
69002

Cloverleaf® Coupler Parts	
NI Part #	Description
69002	Cloverleaf Insert
20013-1	Bolt Kit, Cloverleaf
420103	Casting - 1" Round w/ keyway
42035	Casting Only - 3/4" Square
42030	Casting Only - 1-1/8" Rd. x 1" Sq. Combo
42010	Castings - 1" Rd. x 7/8" Sq. Combo

Cloverleaf® is a registered trademark of Nebraska Irrigation, Inc.

DRIVE COUPLERS

**Steel-Flex Drive Couplers**

NI's original disk coupler. The Steel-Flex features a unique heavy-duty drive disk that tolerates misalignment and absorbs shock from motor starts; adding life to gearboxes.

- Features a sunlight resistant, reinforced PVC disk.
- Round end is split to tighten on worn shafts – adds life to old shafts.
- Fits virtually all irrigation system drive lines.
- Supplied with grade 5 bolts; prepackaged for easy assembly.
- Coupler ends are made of high tensile American steel and feature a high quality industrial coating.
- Coupler ends are precision welded, robotically – provides consistent quality.

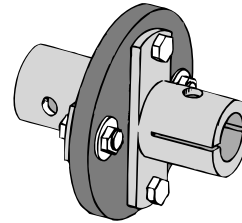
**Important:** For safety always shield drive shafts and couplers. For shields kits, see Drive Line Shields on page 33 later in this section.



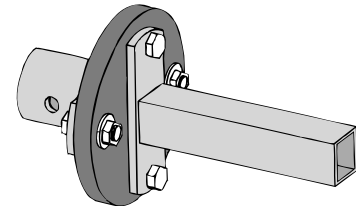
Steel-Flex Drive Coupler w/ Large Diameter Disk



Steel-Flex Drive Coupler w/ Small Diameter Disk



Typically 5" overall length



Typically 7" to 9" overall length with extended end

**Made in the U.S.A.**

**Steel-Flex Coupler Selection Chart**

NI Part Number Disk Diameter		Round End	Square End	Overall Length
Large	Small			
42038	42038s	1"	3/4"	5"
42052	42052s	1"	3/4"	7"
42054	42054s	1"	3/4"	9"
42023	42023s	1"	7/8"	5"
42050	42050s	1"	7/8"	7"
42037	42037s	1"	7/8"	9"
42090	42090s	1"	1"	5"
42093	42093s	1"	1"	7"
42014	42014s	1"	1"	9"
420179	420179s	1"	1-1/8"	7"
42094	42094s	1"	1-1/8"	9"
42060	42060s	1" w/key	3/4"	5"
42011	42011s	1" w/key	3/4"	7"
42074	42074s	1" w/key	3/4"	9"
42013	42013s	1" w/key	7/8"	5"
42034	42034s	1" w/key	7/8"	7"
42021	42021s	1" w/key	7/8"	9"
42056	42056s	1" w/key	1"	5"
42091	42091s	1" w/key	1"	7"
42068	42068s	1" w/key	1"	9"
42058	42058s	1" w/key	1-1/8"	7"
42087	42087s	1" w/key	1-1/8"	9"
42051	42051s	1-1/8"	3/4"	5"
42029	42029s	1-1/8"	3/4"	7"
42041	42041s	1-1/8"	3/4"	9"
42086	42086s	1-1/8"	7/8"	5"
42032	42032s	1-1/8"	7/8"	7"
42042	42042s	1-1/8"	7/8"	9"
42075	42075s	1-1/8"	1"	5"
42063	42063s	1-1/8"	1"	7"
42071	42071s	1-1/8"	1"	9"
42025	42025s	1-1/8"	1-1/8"	7"
42047	42047s	1-1/8"	1-1/8"	9"

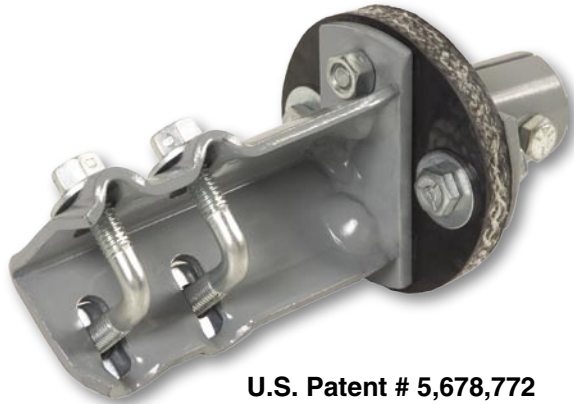
**Steel-Flex Coupler Parts**

NI Part Number Disk Diameter		Description
Large	Small	
47002	----	Disk, PVC, Heavy-Duty, Large Dia., 4-9/16"
----	47002s	Disk, PVC, Heavy-Duty, Small Dia., 3-3/4"
47002-5	----	Disk, PVC, Heavy-Duty, 5" Dia., Northwest Style
20014	20014	Bolt Kit, Steel Flex
42081	42081s	1" Round / Split x 2"
420152	420152s	1" Round w/ Keyway x 2"
42015	42015s	3/4" Square x 2"
42096	42096s	3/4" Square x 4"
42036	42036s	3/4" Square x 6"
420106	420106s	3/4" Square x 4" Solid End
42040	42040s	7/8" Square x 2"
42089	42089s	7/8" Square x 4"
42001	42001s	7/8" Square x 6"
42080	42080s	1" Square x 2"
42020	42020s	1" Square x 4"
42016	42016s	1" Square x 6"
42064	42064s	1-1/8" Round x 2"
42085	42085s	1-1/8" Square x 4"
42069	42069s	1-1/8" Square x 6"
<b>For Pringle Systems:</b>		
420144	----	Pringle Complete, 1-1/8" Round w/ Keyway x 1" Rd w/ KW
420153	----	1-1/8" Round w/ Keyway, End only, Pringle
42006	----	1" Rd w/ KW, End only, Pringle



DRIVE COUPLERS

**Universal Steel-Flex Couplers**



U.S. Patent # 5,678,772

The patented Universal Steel-Flex Coupler is the most versatile coupler on the market today. It can be taken to the field fully assembled for quick installation. Simply slide the round end over the gearbox shaft and insert the pin bolt, then place the drive shaft in the universal end and secure it with "L" bolts.

It features a unique, heavy-duty drive disk that tolerates misalignment and absorbs shock from motor starts, adding life to gearboxes. The disk is also sunlight resistant and won't be eaten away under abrasive soil conditions.

- Round end is split to tighten on worn shafts – adds life to old shafts.
- Universal end fits 3/4", 7/8", 1" Square Shafts.
- Supplied with grade 5 bolts – bolts prepackaged for easy assembly.
- Coupler ends feature a high quality industrial coating.
- Coupler ends are made of high tensile American steel.
- Coupler ends are precision welded (robotically) – provides consistent quality.

**Important:** For safety, always shield drive shafts and couplers. For shield kits, see Drive Line Shields on page 33 later in this section.

***Made in the U.S.A.***

Universal Steel-Flex Coupler Selection Chart		
NI Part Number		Round End x Square End
Disk Diameter		
Large	Small	
420281	420281s	1" x Universal
420295	420295s	1" w/ key x Universal
420282	420282s	1-1/8" x Universal

Universal Steel-Flex Coupler Parts		
NI Part Number		Description
Disk Diameter		
Large	Small	
47002	----	Disk, PVC, Heavy-Duty, Large Dia., 4-9/16"
----	47002s	Disk, PVC, Heavy-Duty, Small Dia., 3-3/4"
47002-5	----	Disk, PVC, Heavy-Duty, 5" Dia., Northwest Style
200102	200102	Bolt Kit, Universal Steel Flex
420300	420300s	Universal End, fits 3/4" - 1" sq.
42081	42081s	1" Round Split x 2"
420152	420152s	1" Round w/ keyway x 2"
42064	42064s	1-1/8" Round x 2"



47002 Disk, PVC, Heavy-Duty, Large Diameter  
Diameter: 4-9/16"



47002s Disk, PVC Heavy-Duty, Small Diameter  
Diameter: 3-3/4"



47002-5 Disk, PVC, Heavy-Duty, Northwest Style  
Diameter: 5"

WHEEL GEARBOXES

**Durst Wheel Gearboxes**

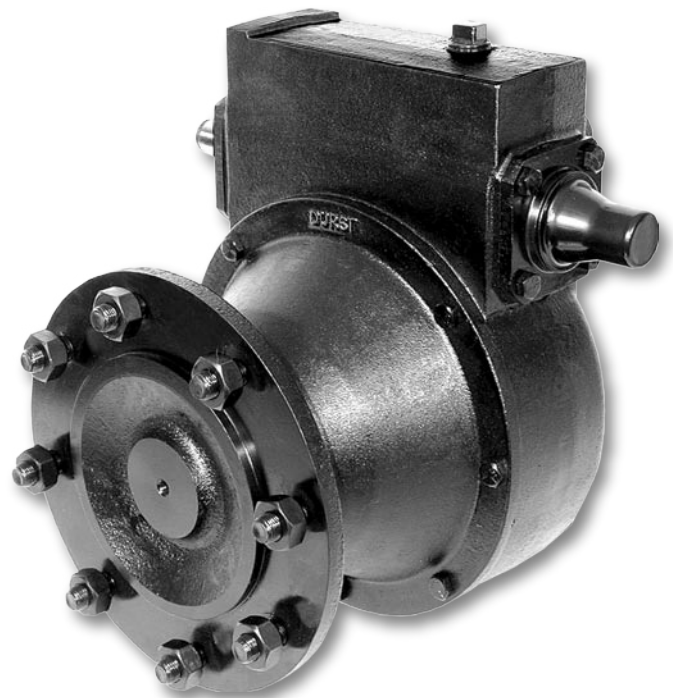
**Outstanding Features and Benefits**

- 13-hole universal mount pattern — the most versatile in the industry. Fits multiple brands of lateral and center pivot systems.
- Input and output Trakseals – a rotational multi-lip seal that prolongs the life of the gears, shafts, and bearings. Keeps oil in and contaminants out.
- Dual input worm shaft provides versatility.
- The highest strength bull gear on the market.
- One-piece large diameter, high strength output shaft with wheel support ring.
- Designed to handle the heaviest spans in the industry.
- Totally enclosed internal air expansion chamber.
- Manufactured in an ISO 9000 certified factory ensures the highest quality standards.
- Every unit is date coded for accurate tracking.

**Durst Extreme Duty Gearbox, 50:1**

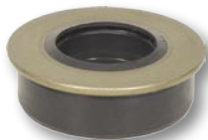
**C** In addition to the features listed above, the Extreme Duty Gearbox also features:

- Replaces most 50:1 gearboxes.
- Ductile steel end caps – 40% stronger.
- Independent testing proves the new Durst wheel drive is 30% stronger than the competition.
- Built-in expansion chamber with oil fill sump – prevents lube over-fill and eliminates excessive pressure build up.
- Shaft protector snaps onto either end to protect the unused shaft.



Durst Extreme Duty Gearbox, 50:1  
610103

NI Part #	Description
610103	Gearbox, Durst, Extreme Duty, Non-Towable, Dual Input, 50:1, 2-1/4" Output, with Trakseals on input and output shafts



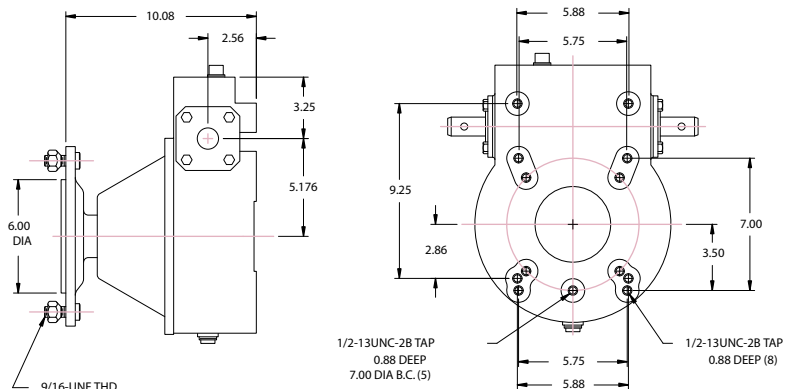
Input Trakseal™



Output Trakseal™

**Durst Gearboxes feature Trakseals™ on the input and output shafts.**

**610103 Dimensions**



WHEEL GEARBOXES

**Durst Wheel Gearboxes (continued)**

**Durst Valley Style Gearbox, 52:1**

In addition to the features listed on the previous page, the Valley Style Gearbox also features:

- Direct replacement for Valley's 52:1 gearbox and features interchangeable parts.
- Highest strength threaded end cap in the industry.
- Dyno-Lab testing proves this wheel drive is the strongest 52:1 gearbox in the industry.
- Built-in expansion chamber with side fill port for easy serviceability.

Also Available:

**Durst Valley Style Gearbox, 50:1**

With all the features listed above and on the previous page, this Valley Style Gearbox has a 50:1 gear ratio and standard short output shaft.

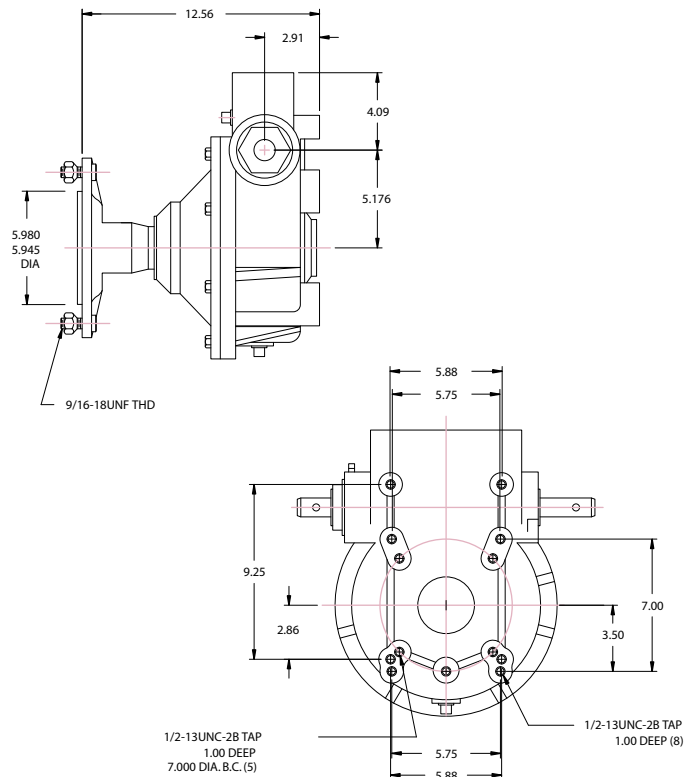


Durst Valley Style Gearbox, 52:1  
610104



NI Part #	Description
610104	Gearbox, Durst, Valley Style, Non-Towable, Dual Input, 52:1, 2-1/4" w/ Long Tapered Output, with Trakseals on input and output shafts
610105	Gearbox, Durst, Valley Style, Non-Towable, Dual Input, 50:1, 2-1/4" w/ Standard Short Output Shaft, with Trakseals on input and output shafts.

**610104 Dimensions**



Input Trakseal™



Output Trakseal™

**Durst Gearboxes feature Trakseals™ on the input and output shafts.**

WHEEL GEARBOXES

**Omni Wheel Gearboxes**  
**Outstanding Features and Benefits**

**External V-Ring Seals**  
 Provide additional barrier against debris and corrosion.

**Input Shaft Seals**  
 Triple-lip for maximum protection.

**Thrust Bearings**  
 On input shaft have highest load rating.

**Input Caps**  
 High tensile castings with water drainage system and tapped holes for easy installation of DPS-100 drive-train protection system.

**Surface Finish**  
 Worms are either precision ground to 32 ra or precision finished to 125 ra for higher efficiency rating.

**Input Shaft Protector**  
 Gold zinc dichromate plated for maximum corrosion resistance.

**Bull Gears**  
 Made from either high tensile castings or are centrifugally cast aluminum bronze.

**Worm Shafts**  
 Made from either high carbon hardened steel or alloy heated treated and ground steel.

**Expansion Chamber**  
 Internal bellows (12 cu. in.) or Big Chamber™ (39 cu. in.) units available.

**Smooth Surface**  
 On output hub reduces mud build-up.

**Steel Output Shaft**  
 Takes highest axial & torsional loads.

**Double Welded**  
 Output shaft and flange enables usage of the largest tires and wheels.

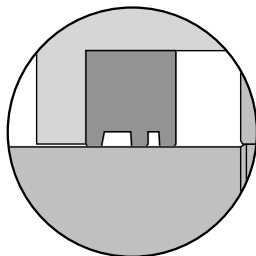
**Custom Blended Lubricant**  
 Continuously coats gears during off-season to reduce internal corrosion and provide long-wear under extreme use conditions.

**Internal Ribs**  
 On output hub provide overhung load strength.

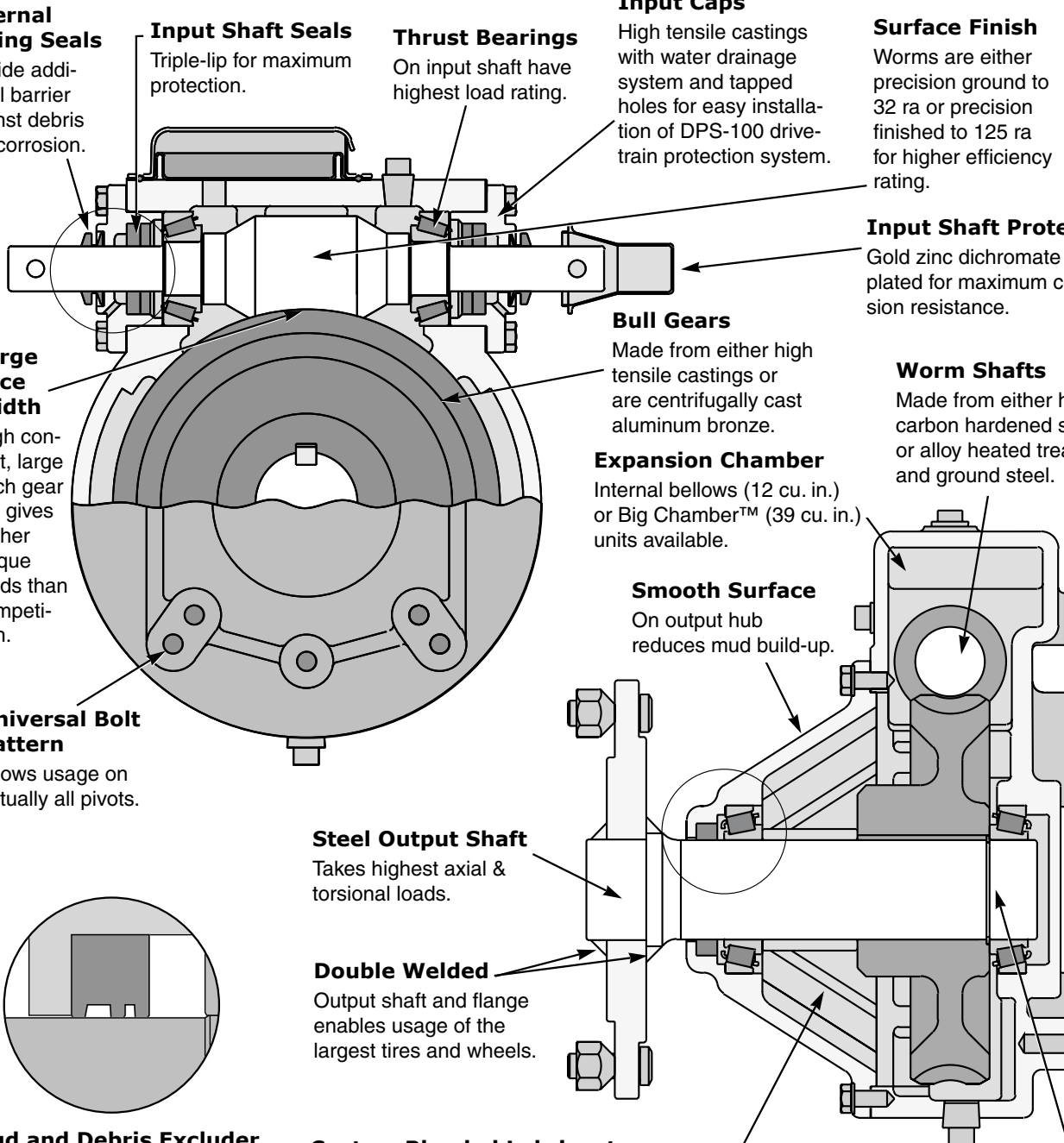
**Retaining Ring**  
 Locked in place between gear & bearing, can not push off shaft under highest loads.

**Large Face Width**  
 High contact, large pitch gear set gives higher torque loads than competition.

**Universal Bolt Pattern**  
 Allows usage on virtually all pivots.



**Mud and Debris Excluder**  
 Labyrinth design provides for debris exclusion and internally installed oil seal with triple lips eliminate debris from penetrating gear case.



**Check out the warranty on NI-Omni units.**

WHEEL GEARBOXES

**Omni Wheel Gearboxes Specifications**  
**Worm Gear Wheel Drives**

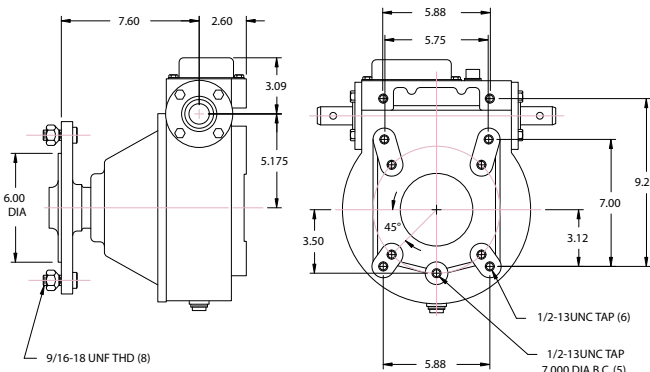


**Standard**

610502

**Specifications for Standard Model**  
**— NI # 610502**

Category	Description
Torque Capacity	70,000 lb.-in. (7,909 Nm)
Ratio	50:1 (others available)
Shaft Size	2.25" (57 mm)
Weight	115 lbs. (52.2 kg)
Oil Capacity	126 fl. oz. (3.7 L)
Expansion Chamber	Bellows Type
<b>Additional Features</b>	
• Multiple mount pattern fits most pivots.	



NI Part #	Description
610512	Gearbox, G2, Non-Towable, Dual Input, 50:1, 2.25" Output, Larger Bearings
610502-HYD	Gearbox, NI, Non-Towable, Dual Input, 50:1, 2.25" Output, w/ Two-Bolt Hydraulic Adapter

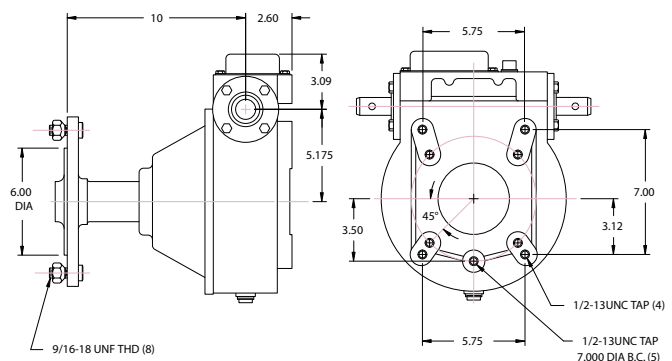


**Valley Type**

610504

**Specifications for Valley Type**  
**— NI # 610504**

Category	Description
Torque Capacity	70,000 lb.-in. (7,909 Nm)
Ratio	52:1 (others available)
Shaft Size	2.25" (57 mm)
Weight	112 lbs. (50.8 kg)
Oil Capacity	126 fl. oz. (3.7 L)
Expansion Chamber	Bellows Type
<b>Additional Features</b>	
• Replaces Valley Drives.	
• 12 cubic inch expansion area.	
• Dual inputs for left or right mounting.	
• Class A hobbed and hardened steel worm.	



**C**

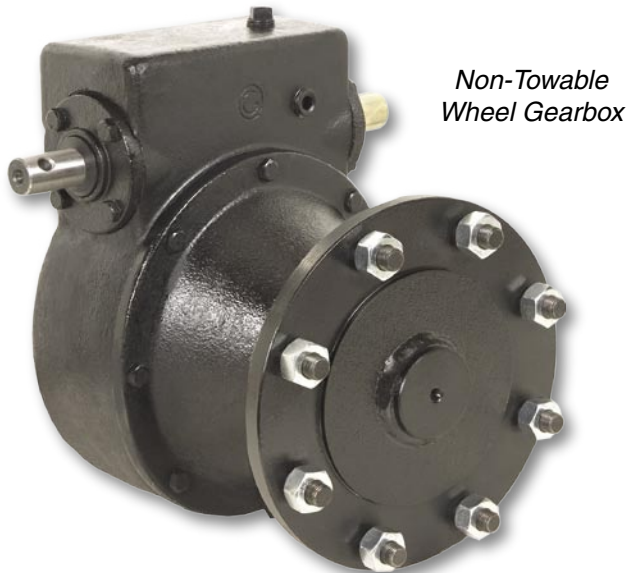
WHEEL GEARBOXES

**Omni Wheel Gearboxes**

**Specifications for Worm Gear Wheel Drives** (continued)

**Big Chamber™**

610505



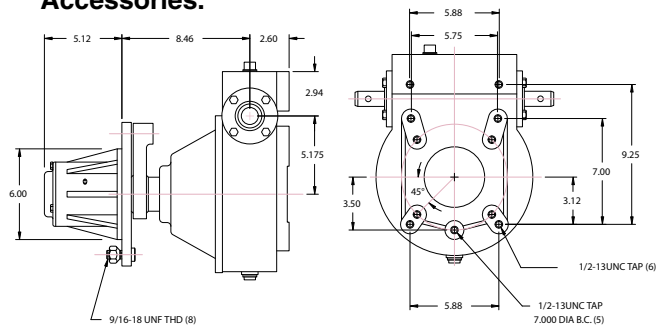
*Non-Towable Wheel Gearbox*

**True-Tow Towable**

610507



See page 36 for Towable Gearbox Accessories.



**Specifications for Big Chamber™ — 610505**

Category	Description
Torque Capacity	70,000 lb.-in. (7,909 Nm)
Ratio	50:1 (others available)
Shaft Size	2.25" (57 mm)
Weight	110 lbs. (49.0 kg)
Oil Capacity	126 fl. oz. (3.7 L)
Expansion Chamber	Big Chamber™
<b>Additional Features</b>	
<ul style="list-style-type: none"> <li>• DPS-100 Gearbox Guard mounts easily.</li> <li>• 39 cubic inch expansion area.</li> <li>• Oil level plug eliminates overfilling.</li> <li>• Replaces Durst and Zimmatic drives.</li> </ul>	

**Heavy-Duty**

610508

*Non-Towable Wheel Gearbox, Equal to Durst A110*

**Specifications for Heavy-Duty — 610508**

Category	Description
Torque Capacity	90,000 lb.-in. (10,170 Nm)
Ratio	50:1 (others available)
Shaft Size	2.5" (65 mm)
Weight	164 lbs. (74.4 kg)
Oil Capacity	215 fl. oz. (6.3 L)
Expansion Chamber	Bellows Type
<b>Additional Features</b>	
<ul style="list-style-type: none"> <li>• High capacity thrust bearings on worm.</li> <li>• Highest torque wheel drive available.</li> <li>• Ideal for hose drag linear carts.</li> <li>• 6.1" (156 mm) gear center distance.</li> </ul>	

**Specifications for True-Tow Towable — NI # 610507**

Category	Description
Torque Capacity	70,000 lb.-in. (7,909 Nm)
Ratio	50:1 (others available)
Shaft Size	2.25" (57 mm)
Weight	130 lbs. (58.9 kg)
Oil Capacity	126 fl. oz. (3.7 L)
<b>Additional Features</b>	
<ul style="list-style-type: none"> <li>• External Expansion or Big Chamber™ housing.</li> <li>• True towable design eliminates add-on kits.</li> <li>• Relief plug protects from over-greasing.</li> <li>• Adjustable bearing lock nut eliminates shims.</li> <li>• Cross-drilled pin easily stows while towing.</li> </ul>	

NI Part #	Description
610509	Gearbox, NI, Quick-Tow/Non-Towable, Dual Input, 50:1, 2.25" Output

**Additional Models are available. Please contact our sales office for more information.**

CENTER DRIVES

**Durst Helical Gearmotors**

**Features and Benefits**

- Aluminum gearbox with heavy-duty bearings and gearing.
- Helical gearing for extended life and quiet operation.
- Universal (8-hole) footprint.
- Interchangeable with Valley type unit.
- Drive shaft bell adapters.
- Finned aluminum motor casing for cool operation.
- Steel sleeve inside aluminum housing at bearing seats.
- Electric conduit junction box sealed with o-ring.
- Loctite sealing of all motor junction faces.
- Three condensation drain ports in motor.
- Threaded conduit box for cord connector.
- Three Phase 460V/60Hz - 380V/50Hz.
- Installation Class - F.
- Thermal protection.
- UL & CSA Certified.
- Continuous Duty.



<b>Durst Helical Gearmotor Specifications</b>				
NI Part #	Gear Ratio	HP	Motor RPM	Output RPM
62086	40:1	1.5	3500	86
62068	50:1	1.5	3500	68
62043	40:1	.75	1750	43
62034	50:1	.75	1750	34

<b>Durst Gearmotor Stators</b>	
NI Part #	Description
79077D	Stator, 3/4 hp, Durst
79066D	Stator, 1.5 hp, Durst

**Omni Helical Gearmotors**

**Specifications for Irri-Torq™ Series**

Category	Description			
	62060	62040	62030	62020
Speed Range	Low	Medium	Med.-Hi	High
Output RPM:				
460 Volts AC	28	43	56	86
380 Volts AC	23	35	47	72
Gearbox Ratio	40:1	40:1	30:1	40:1
Motor HP	0.50 hp	0.75 hp	1.0 hp	1.50 hp
Poles in Motor	6	4	4	2
Motor RPM:				
460 Volts AC	1150	1725	1725	3490
380 Volts AC	930	1425	1425	2850
Service Factor	1.0	1.0	1.0	1.0
Oil Capacity	56 fl. oz.	56 fl. oz.	56 fl. oz.	56 fl. oz.
Weight	64 lbs.	63 lbs.	64 lbs.	65 lbs.

**Irri-Torq™ Series Features**

- High torque center drive.
- Carburized gears for higher strength.
- Two-stage efficient helical gear reduction.
- Large low speed gear for higher torque.
- TI® Klixon® thermal protector.
- CSA and CE approved motor.
- Universal mounting pattern.



<b>Omni Stators</b>	
Part #	Description
79078	Stator, 3/4 hp
79079	Stator, 1 hp
79094	Stator, 1.5 hp

**Specifications C56 Helical Gearbox Only**

Same as above except less motor & w/ C56 adapter.

Category	Description		
	610530H	610540H	610590H
Gearbox Ratio	30:1	40:1	90:1
Torque Capacity	8,700 lb.-in.	10,000 lb.-in.	12,000 lb.-in.
Oil Capacity	56 fl. oz.	56 fl. oz.	56 fl. oz.
Weight	35 lbs.	35 lbs.	35 lbs.

CENTER DRIVES

**US Gearmotors**



62006

US Gearmotor Selection Chart	
NI Part #	Description
62011	US 1 hp, splined, 39:1, 45 r.p.m.
62007	US 1 hp, splined, 47:1, 37 r.p.m.
62006	US 1 hp, splined, 58:1, 30 r.p.m.
62004	US 1.5 hp, splined, 21:1, 84 r.p.m.
62010	US 1.5 hp, splined, 31:1, 56 r.p.m.
62014	US 1.5 hp, splined, 47:1, 37 r.p.m.

- Gasketed, one-piece outlet box and upper bracket exclude moisture.
- Class B temperature rise, with full Class F insulation to increase winding life.
- Stainless steel case with aluminum end bell and junction box. Thermally protected.
- Entire frame and winding are double dipped and baked in polyester varnish to protect against moisture.

**US Splined Motor Modules**



79014

US Splined Motor Modules	
NI Part #	Description
79014	US, 1 hp, Splined, 1750 rpm
79034	US, 1.5 hp, Splined, 1750 rpm
79020	US, 1 hp, Splined, 1140 rpm, old style 6.5" OAL
79028	US, 1 hp, Splined, 1140 rpm, new style, 5.5" OAL
79035	US, Stator, 1 hp, 1800 rpm, new style, 5.5" OAL
79058	US, Stator, 1 hp, 1800 rpm, new style, 5.5" OAL, w/ End Bell Bracket
79021	US, Stator, 1.5 hp, 1750 rpm, new style, 6.5" OAL
79032	US, Stator, 1 hp, 1140 rpm, old style, 6.5" OAL
79026	US, Stator, 1 hp, 1140 rpm, new style, 5.5" OAL

**US and NI Splined Gearboxes**



61009

NI Part Number		Ratio	R.P.M.
US	NI		
61001	N/A	21:1	84
61012	61012-1	31:1	56
61010	61010-2	39:1	45
61006	N/A	47:1	37
61009	61009-1	58:1	30



CENTER DRIVES

**Center Drive Gearboxes**

**NI Aluminum C56 Gearboxes**



61025

This sturdy aluminum gearbox with plated finish is equipped with a C56 flange. Output shafts are 1" in diameter with a 3/8" pin hole and keyway to accommodate various drive line couplers. The splined input shaft is standard equipment, providing longer gearbox life.

Other ratios and configurations for a variety of horsepower motors are available.

NI Part #	Description
61040	NI C56, 10:1 gear ratio
61039	NI C56, 12½:1 gear ratio
61037	NI C56, 15:1 gear ratio
61034	NI C56, 20:1 gear ratio
61013	NI C56, 30:1 gear ratio
61038	NI C56, 40:1 gear ratio
61025	NI C56, 50:1 gear ratio
61033	NI C56, 60:1 gear ratio
420134	Coupler, 3-piece, motor to gearbox, splined end x keyed end with keyway

**Built with quality and pride in the U.S.A.**

**NI Universal Mounting C56 Gearboxes**



610550

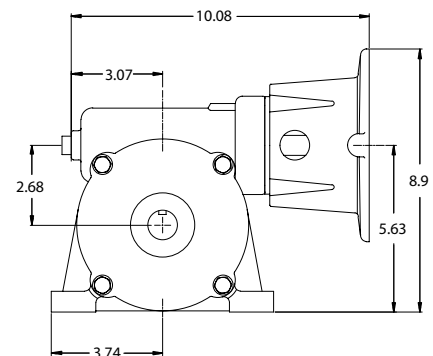
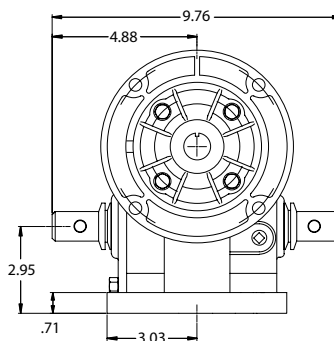
This gearbox is designed to mount onto virtually every center drive center pivot ever built.

The mounting foot has universal mounting holes to provide full flexibility. This superior reducer incorporates output shafts that have pin holes and keyways. These units are available in most common ratios and stocked in 30:1 and 50:1 ratios.

NI Part #	Description
610530	Universal C56, 30:1 Gear Ratio
610550	Universal C56, 50:1 Gear Ratio
610560	Universal C56, 60:1 Gear Ratio
420273	Coupler, 3-piece, motor to gearbox, keyway both ends

**Specifications for Worm Gear Center Drives**

Category	Description
Torque Capacity	4,500 lb.-in. (133 Nm)
Ratio	50:1 and 30:1 (others available)
Shaft Size	1.0" (25.4 mm)
Weight	16 lbs. (7.3 kg)
Oil Capacity	11 fl. oz. (1.2 L)
Motor Mount	NEMA 56C
<b>Additional Features</b>	
<ul style="list-style-type: none"> <li>• Multi-mount bolt pattern fits all pivots.</li> <li>• Heavy-duty unit for severe conditions.</li> <li>• Lovejoy® type jaw coupler included.</li> <li>• Low distortion nitrited worm shaft.</li> <li>• 2.7" (68 mm) gear distance.</li> </ul>	



CENTER DRIVES

**C-Face Motors**

**NI Stainless Steel C-Face Motors**

NI Stainless Steel C-Face, 56 Frame Motors	
NI Part #	Description
790128	Motor, 1.0 hp, C-56, 1725 r.p.m.
790129	Motor, 1.5 hp, C-56, 1725 r.p.m.
790126	Motor, 1.5 hp, C-56, 1725 r.p.m. w/ fan

- NEMA 56C face motor mount.
- 360/480 volts AC 50/60 Hz multiphase.
- True rated horsepower.
- CSA and CE approved.
- Removable drain plugs for vertical mounting.
- TI® Klixon® thermal protector.
- Internally fan-cooled; stainless steel housing, bolts, and conduit cover.



C

**GE C-Face Motors**

GE C-Face, 56 Frame Motors	
NI Part #	Description
79061	GE 1 C-56, 1 hp, 1725 r.p.m.
79064	GE 1.5 C-56, 1.5 hp, C-56, 1725 r.p.m.

- Designed for heavy-duty center pivot use and extended life.
- Double-sealed ball bearings are grease-packed for extended life.
- Epoxy Air Dry Varnish is coated on conduit cavity interior, rotor O.D., and stator I.D.
- Windings are Class F design and double-dip baked for added protection.
- Thermal overload protection with automatic reset.



460V, 3-phase,  
1725 RPM,  
50/60 Hz

**Franklin C-Face Motors**

Franklin C-Face, 56 Frame Motors	
NI Part #	Description
79017	Franklin C-56, 1 hp, 1725 r.p.m.
79005	Franklin C-56, 1.5 hp, 1725 r.p.m.

- The motor is thermally protected, which eliminates the need for costly installation of thermal protection in the tower box.
- Full NEMA Hp features for superior performance under heavy loads.
- Completely enclosed with stainless steel rainshield to assure greater protection against moisture and corrosion.
- Totally enclosed fan-cooled construction means lower operating temperature for extended life.
- Copper winding resists the corrosive effects of moisture.
- External conduit box allows easy access of wiring.
- Zinc phosphated CRS shaft resists corrosion.
- Ball bearings are double-sealed for longer life.
- Epoxy paint provides a durable finish for long-term weatherability.



79017

**US C-Face Motors**

US C-Face, 56 Frame Motors	
NI Part #	Description
79013	US Motor, 1.0 hp, C-56, 1750 r.p.m.

**Other motors, horsepower, and voltage ratings are available, contact us with your requirements.**

**DRIVE LINE SHIELDS**

**Drive Line Shields**

NI Part #	Description
90604-2	Large Bell Tower Package: 2 - 60" Shaft Shield 4 - Bells 4 - Worm Clamps
90611-2	Small Bell Tower Package: 2 - 60" Shaft Shield 4 - Bells 4 - Worm Clamps
18001	Small Bell
18002	Large Bell
33018	Clamp, Worm, #24
95805	Shaft Shield, 60"
95828	Shaft Shield, 150"

*Large Diameter Bell  
18002  
with optional #24  
Worm Clamp  
33018*



**Large Diameter Bell**

Fits several flex couplers and virtually every other coupler or U-joint made. For couplers to 5-1/2" O.D. and 8" long. Fits tube diameters up to 2-3/8" O.D.

**Small Diameter Bell**

Shields couplers about 4" in diameter and 8" or less in length.



*Small Diameter Bell  
18001  
with optional #24  
Worm Clamp  
33018*

**Be Safe!  
Keep All Shields  
Installed.**



**Shaft Shield**

Custom lengths and diameters available.

**Call us with your requirements.**

**Shields are also available for drive shafts between engine and gear heads and other exposed shafts.**

**Call our sales office today.**

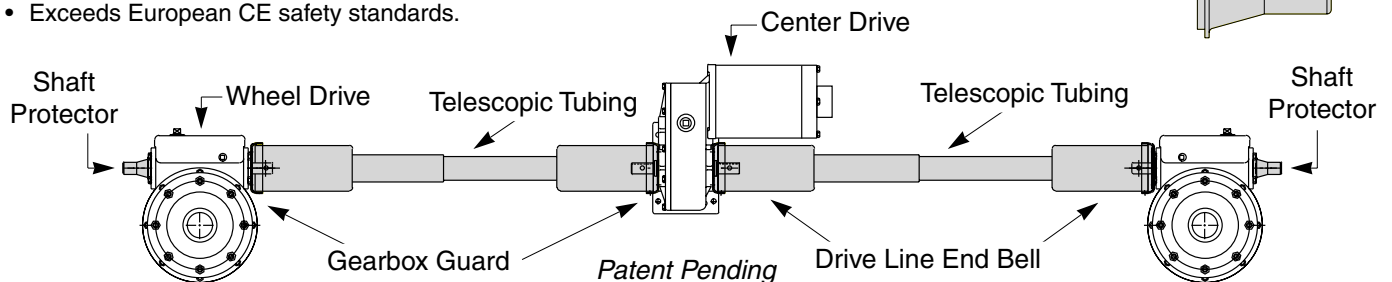
**Totally Enclosed Drive Protection Systems**

**Features**

- Completely protects the drive train from crop wrappage.
- Polyethylene plastic withstands UV rays and is weather-proof.
- Telescopic tubing and end bells easily snap into place and will not rotate.
- Exceeds European CE safety standards.

NI Part #	Description
906100	Shield, Totally Enclosed Drive Protection System
90633	Shield, Shaft Protector

Shaft Protector optional 90633



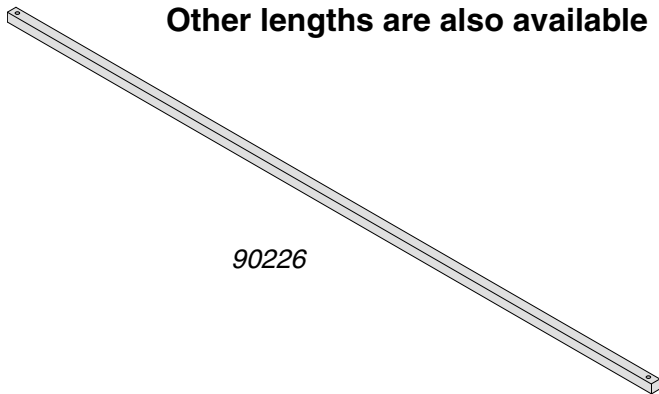
DRIVE SHAFTS

**Drive Shafts**

Painted

NI Part #	Description
90277-595	Drive Shaft, 3/4" sq. x 59.5" w/o hole
90226	Drive Shaft, 3/4" sq. x 80" w/ hole
90277	Drive Shaft, 3/4" sq. x 80" w/o hole
90289	Drive Shaft, 3/4", 2200 Lockwood, Long Side
90290	Drive Shaft, 3/4", 2200 Lockwood, Short Side
90278-60	Drive Shaft, 7/8" sq. x 60" w/o hole
90204	Drive Shaft, 7/8" sq. x 80" w/ hole
90278	Drive Shaft, 7/8" sq. x 80" w/o hole
90237	Drive Shaft, 1" sq. x 80" w/ hole
90279	Drive Shaft, 1" sq. x 80" w/o hole

Other lengths are also available



90226

**Important:**

For safety, always shield drive shafts and couplers.

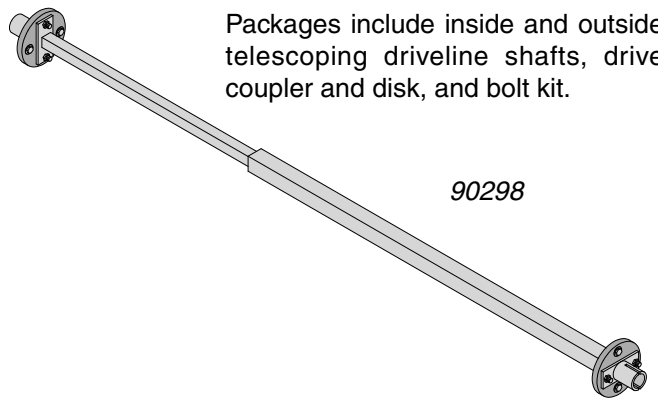
For shield kits, see Drive Line Shields on page 33.

**Telescoping Drive Lines**

**Telescoping Drive Line Packages**

NI Part #	Description
90298S	Telescoping Drive Line Pkg., Small, 3-3/4" diameter
90298	Telescoping Drive Line Pkg., Large, 4-9/16" diameter
90298NW	Telescoping Drive Line Pkg., Northwest, 5" diameter

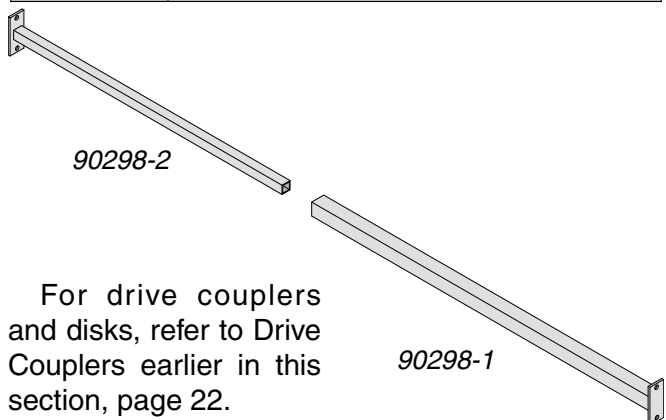
Packages include inside and outside telescoping driveline shafts, drive coupler and disk, and bolt kit.



90298

**Telescoping Drive Line Components**

NI Part #	Description
90298S-1	Telescoping Driveline Shaft, Small, Outside, less ends
90298S-2	Telescoping Driveline Shaft, Small, Inside, less ends
90298-1	Telescoping Driveline Shaft, Large, Outside, less ends
90298-2	Telescoping Driveline Shaft, Large, Inside, less ends
90298NW-1	Telescoping Driveline Shaft, Northwest, Outside, less ends
90298NW-2	Telescoping Driveline Shaft, Northwest, Inside, less ends
47002-5	Disk, PVC, Heavy-Duty, 5" Dia., NW
20014	Bolt Kit



90298-2

90298-1

For drive couplers and disks, refer to Drive Couplers earlier in this section, page 22.

**U-JOINTS, COUPLERS**

**Steel U-Joints**

Choose from regular and split-end U-joints. All U-joints come with plain bearings unless needle bearings are specified. Keyways are another option.

NI Part #	Description
96421	U-Joint, 1" Rd (split) x 3/4" Sq, 6" overall length
96413	U-Joint, 1" Rd x 3/4" Sq, 6" overall length
96416	U-Joint, 1" Rd with 1/4" Keyway x 3/4" Sq, 6" overall length
96423	U-Joint, 1" Rd (split) x 7/8" Sq, 6" overall length
96406	U-Joint, 1" Rd x 7/8" Sq, 5" overall length
96407	U-Joint, 1" Rd with 1/4" Keyway x 7/8" Sq, 5" overall length



Regular Round End

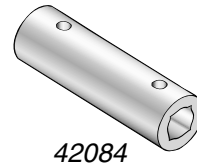


Split Round End

Other lengths and diameters of plain bearing or needle bearing steel U-joints are available. Call us with your needs.

**Couplers**

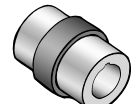
NI Part #	Description
42084	Coupler, Straight, 1" rd x 3/4" sq
42028	Coupler, Spline, US
42061	Coupler, Solid, 5/8" x spline, NI
420134	Coupler, 3-piece pkg., 5/8" x spline, NI & Dresser
420273	Coupler, 3-piece pkg., 5/8" w/KW x 5/8" w/KW, NI
420130	Coupler, 3-piece pkg., 5/8" x 3/4", Boston
69010-W	Insert, Rubber, Spider, Star
69010	Insert, Rubber, Spider, Star
92710	Sprocket Chain, 4-piece pkg., 1" x 1", NI
420331	Coupler, Hydraulic Motor to Gearbox, Spline x Spline
420331-1	Coupler, Hydraulic Motor to Gearbox, Spline x 1" w/KW



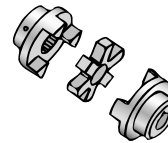
42084



42028

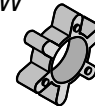


420130

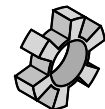


420134

69010-W



69010



**GEARBOX REPAIR**

**Repair Sleeves**

Repair Sleeves (Speedy Sleeves)				
NI Part #	Sleeve ID	Sleeve OAL	Shaft Dia.	Req. Seal ID
91201	1"	7/16"	0.998" to 1.002"	1"
91226	1"	1-1/4"	1"	1.125"
91202	1-3/4"	11/16"	1.747" to 1.753"	1-3/4"
91203	2"	1"	1.997" to 2.003"	2"
91204	2-5/8"	15/16"	2.618" to 2.625"	2-5/8"



**For Worn Gearbox Shafts**

- Repair grooves made by seals.
- Save worn shafts.
- Installation tool supplied.
- Flange is removable.
- Made of stainless steel.

**Shaft Seal**



NI Part #	Description
911203	Seal, Input Shaft Excluder

**GEARBOX ACCESSORIES**

**Towable Conversion Kits and Components**

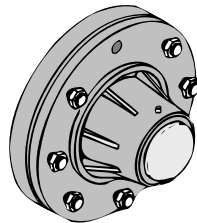
- Converts standard drive to towable drive.
- Adjustable bearing locknut eliminates shims.
- Cross drilled pin easily stows while towing.
- Unique triple-lip spindle seal design.
- High carbon steel tow pin and bracket will not bend under load.
- Relief plug protects from over-greasing.
- Large bearings for improved load capacity.
- Easy repairability with bolt-on dust cover.
- PTO clip-pin with tab is easy to remove.
- Pin and bracket usable on all towable gearboxes and conversion kits.
- Anti-corrosion zinc plated pin.



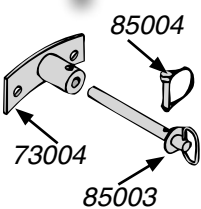
**Towable Gearbox Hubs**

For converting non-towable gearboxes to towable

NI Part #	Description
68010	Hub, Towable, Bolt-on, w/ studs (does not include bracket and pin, sold separately, P/N 22820)

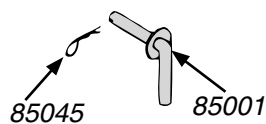


**Towable Gearbox Brackets**



NI Part #	Description
22820	Bracket, Towable, Gearbox, pkg. (w/ long pin)
73004	Latch Weldment, Tow Pin (latch only)
85004	Pin, Latch (small)
85003	Pin, Tow, Gearbox (long)

**Gearbox Tow Pins**

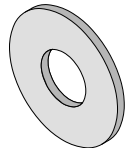


NI Part #	Description
85001	Pin, Tow, Gearbox
85045	Clip, Bridge, Pin

**Gearbox Flanges, Reinforcement Rings, and Lug Bolts**



54003WS



54002

NI Part #	Description
54003WS	Flange, Gearbox Output, weld-on, w/ 2" bore, w/ 8 studs
54043WS	Flange, Gearbox Output, weld-on, w/ 2 1/4" bore, w/ 8 studs
54002	Flange, Gearbox Output, weld-on, Reinforcement Ring, 2" bore
54043	Flange, Gearbox Output, weld-on, Reinforcement Ring, 2 1/4" bore
20004	Lug Bolt, 9/16" x 1.31" long
20005	Lug Bolt, 9/16" x 1.69" long
20008	Lug Bolt, 5/8" x 1.44" long
200140	Lug Bolt, 2" long
20087	Stud, Press-In, 1/2"
20002	Stud, Press-In, 9/16" x 1-5/8"
20002-1	Stud, Press-In, 9/16" x 2-1/8"
82011	Nut, Lug, 1/2"
82002	Nut, Lug, 9/16"
82053	Nut, Lug, 5/8"

**Gearbox Lube**

High Grade 85/140 for heavy duty applications. Available in containers of 2.5 gal. or 55 gal. drum.

NI Part #	Description
82500-2.5	Gearbox Lube, 85/140, 2.5 gal.
82505-2.5	Gearbox Lube, 80W/90, 2.5 gal.

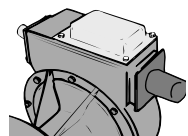
**Expansion Chamber**

NI Part #	Description
32002	Expansion Chamber, Round, w/ built-in diaphragm



**Shaft Protector**

NI Part #	Description
90614	Shaft Protector, for either round or square bolt-on input caps



FLOTATION ASSISTANCE

**Track Sack™**

**The Ultimate Rut Reducer**

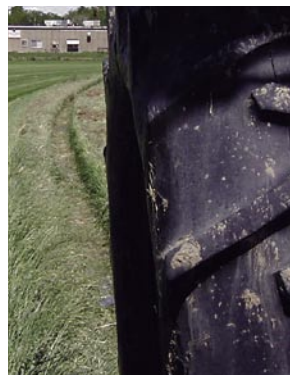
- Minimize wheel track ruts with the finest polymer, Soilpam, technology.
- Cut pivot maintenance costs by reducing compaction around wheel tracks.
- Reduce hard clods that form around wheel tracks.
- Eliminate standing water in pivot tracks, lowering disease potential.
- Prevent sprinklers from getting stuck in wheel track ruts.



NI Part #	Description
10401	Track Sack per pail
10402	Track Sack Tablets per pail



Pivot track without Track Sack.



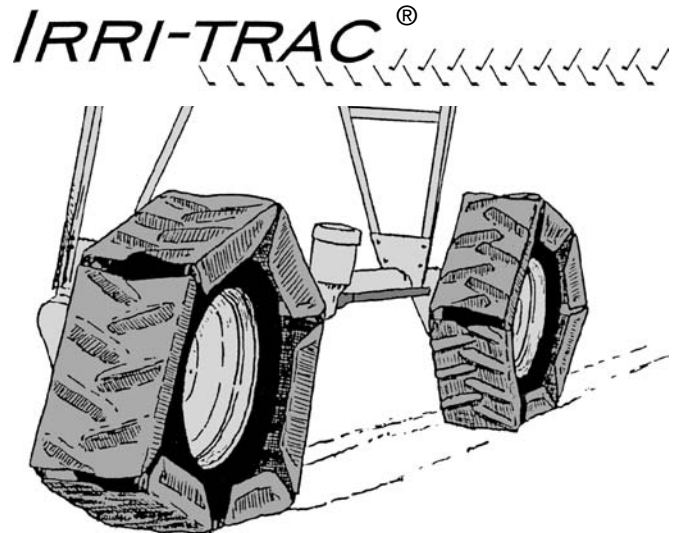
Pivot track with Track Sack.

**Irri-Trac®**

NI Part #	Description
950500	Irri-Trac® for 11.0 x 24.5 tire
91825	Spacer*, 2", for use with Irri-Trac
200115	Kit, Bolt, Bushing, Washer & Nut

\* Spacers required when mounting on any system except Valley.

**Other sizes available.**



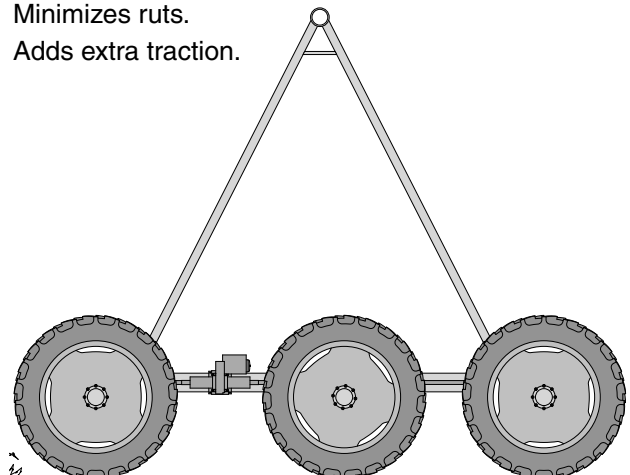
- Reduces Ruts.
- Reduces Slippage.
- Increases Flotation.
- Increases Traction.
- Operates Smoothly.
- Protects tires from sharp objects and helps shade tires from UV light.

**NI 3-Wheel Drive**

NI Part #	Description
41544	NI 3-Wheel Drive

*Specify make and model year of pivot system.*

- Excellent solution for challenging soil conditions.
- 50% more flotation than standard drive units.
- Minimizes ruts.
- Adds extra traction.



TIRES & WHEELS

**Wheel Assemblies**



Nebraska Irrigation features Goodyear, Firestone, and Titan tires.

NI offers many more tire sizes besides those shown. Contact our sales office with your needs.

**Tires (only)**



**Wheel Assemblies with New Tires**

NI Part #	Description
97809	Wheel Assembly, 11.2 x 24
97802	Wheel Assembly, 14.9 x 24
97804	Wheel Assembly, 16.9 x 24
97810	Wheel Assembly, 11.2 x 38

NOTE: When ordering, specify right or left and offset.

**Wheel Assemblies with Recap Tires**

NI Part #	Description
97803	Wheel Assembly, 10.00 x 20
97806	Wheel Assembly, 11.00 x 22.5
97808	Wheel Assembly, 11.0 x 24.5

NOTE: When ordering, specify right or left and offset.

NOTE: Galvanized Wheels also available.

**Tires (only) – New Tires**

NI Part #	Description
94801	Tire, 11.2 x 24
94804	Tire, 14.9 x 24
94807	Tire, 16.9 x 24
94810	Tire, 11.2 x 38

**Tires (only) – Recap Radial Tires**

NI Part #	Description
94803	Tire, 10.00 x 20
94806	Tire, 11.00 x 22.5
94802	Tire, 11.0 x 24.5

NOTE: Recap radial tires have higher flotation than bias-ply recap tires.

**Accessories**

NI Part #	Description
89837	Wheel Flange (8-hole weld-on reinforcement ring)
82002	Nut, Lug, 9/16" - 18



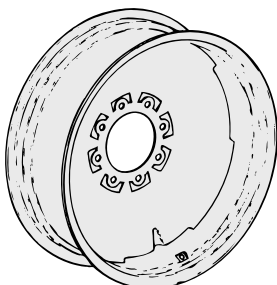
If lug bolts are required, see listing on page 36.

**Tubes for Tires**

NI Part #	Description
95803	Tube, 10.00 x 20
95806	Tube, 11.00 x 24
95808	Tube, 14.9 x 24
95804	Tube, 16.9 x 24
95829	Tube, 11.2 x 38

**Rims**

(Galvanized or Painted)



Rims are available in various diameters: 20, 22, 22.5, 24, 24.5, 38 and others. All rim part numbers have the prefix 897. Please specify offset when ordering.

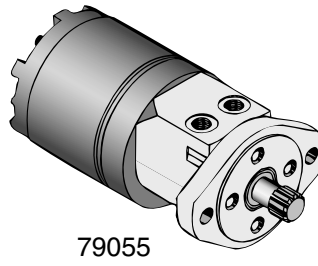
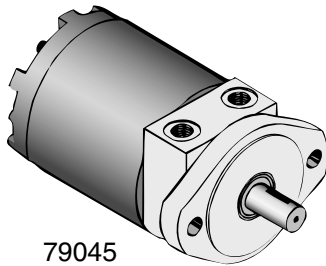
A variety of tire sizes, tower weights and clearances are required for different systems. Please contact our sales office for assistance so that we can help you obtain the correct rim.



HYDRAULIC MOTORS AND ACCESSORIES

**Hydraulic Motors**

NI Part #	Description
79045	Motor, Hydraulic, 2-bolt flange, keyed shaft, 1/2" FNPT, hi-torque
79055	Motor, Hydraulic, 2-bolt flange, splined shaft, 1/2" FNPT, hi-torque



**Nebraska Irrigation has worked with hydraulic drive systems for over 30 years. Call us for various sizes of motors, pumps, and other hydraulic accessories.**

**Hydraulic Fittings**

**Hydraulic Hose**

Please contact our sales office for custom-manufactured hydraulic hoses that handle a wide variety of applications. To provide you with the best possible product, we need to know the following information: hose diameter, operating pressure, overall length, fitting thread size and type.

**Hydraulic Oil**

Heavy-duty hydraulic drive oil is available for hydraulic drive pivots. Container sizes range from 15- to 55-gallon drums. Please consult our sales office for assistance.

NI Part #	Description
82501	Oil for Hydraulic Drive, 55-Gallon Drum

**Hydraulic Valves**

NI Part #	Description
966114	Valve, Hydraulic Alignment, Assembly w/ Fittings
966115	Valve, Hydraulic Flow Control, Assembly w/ Fittings
966116	Valve, Hydraulic Directional Control, Assembly w/ Fittings
966117	Valve, Speed & Directional Control, Assembly w/ Fittings
96650	Valve Only, Hydraulic Flow Control
96649	Valve Only, Hydraulic Directional Control
96666	Valve Only, Hydraulic Alignment Control

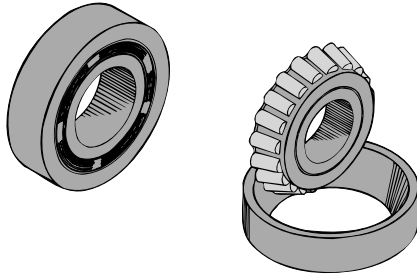
NI Part #	Description
24051	Bushing, Reducer, HP, 1/2" MNPT x 3/8" FNPT
24050	Bushing, Reducer, HP, 3/4" MNPT x 1/4" FNPT
24052	Bushing, Reducer, HP, 3/4" MNPT x 1/2" FNPT
24054	Bushing, Reducer, HP, 1" MNPT x 1/2" FNPT
93706	Swivel, Straight, 1/2" FNPT x 1/2" MNPT
93702	Swivel, 90°, 1/2" FNPT x 1/2" MNPT
93704	Swivel, 90°, 3/4" FNPT x 3/4" MNPT
93707	Swivel, Straight, 3/4" FNPT x 3/4" MNPT
93701	Swivel, 90°, 1" FNPT x 1" MNPT
93905	"T", HP, 3/4"

**Compression Fittings**

NI Part #	Description
39032	Connector, Compression, 1" Tube x 1" FNPT
39033	Connector, Compression, 1" Tube x 1" MNPT
39034	Connector, Compression, 1" Tube x 3/4" MNPT
39038	Connector, Compression, 1/2" Tube x 1/2" MNPT
51508	Elbow, 45°, 1/2" Tube x 3/8" MNPT
51511	Elbow, 90°, 1/2" Tube x 1/2" MNPT
39040	Union, HP, 1" Tubing
39041	Union, HP, 1/2" Tubing
91217	Sleeve Only, for hydraulic compression fitting, 1/2" tubing
91214	Sleeve Only, for hydraulic compression fitting, 1" tubing

BEARINGS, SEALS, AND FASTENERS

**Bearings**

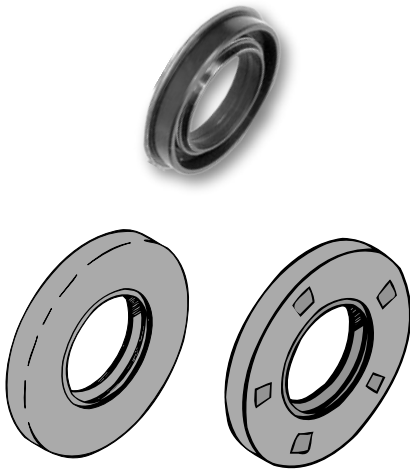


- Ball Bearings
- Roller Bearings
- Tapered Bearings

Nebraska Irrigation can supply the bearing you need. Contact our sales office with your special needs.

C

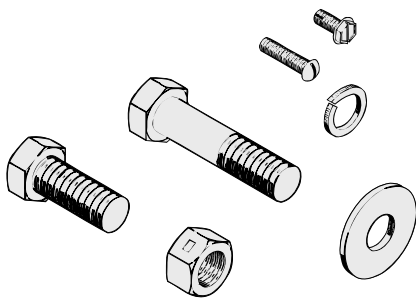
**Seals**



- Seals
- Custom-Made Seals

We also supply custom-made seals for special applications. Please contact our sales office with your requirements.

**Fasteners**



- Grade 5 Bolts
- Self-Locking Nuts
- Plain Washers
- Lock Washers
- Machine Screws
- Self-Tapping Screws

Nebraska Irrigation supplies all types of fasteners commonly used for irrigation applications. Contact our sales office with your fastener needs.

# SECTION D: CONTROLS

**Convert old, undependable controls  
to new controls from Nebraska Irrigation.**

**Add new life to older, structurally sound systems.**



**D**

**Please call us with  
your questions about  
adapting NI Controls  
to existing irrigation  
systems.**

NI MAIN PANELS

# Programmable Irrigation Control System

## NI Programmable Irrigation Control System – PICS SmartPanel®



220102

The NI Programmable Irrigation Control System – PICS SmartPanel® – features a large LCD display screen and 20-button key pad for programming. Store up to 8 programs with 18 steps each.

- **Save Trips to Fields**
- **Save Labor & Time**
- **Save Water**
- **Save Energy**
- **Save Down Time**
- **FITS ANY PIVOT**

The PICS SmartPanel® is an irrigation panel with a built-in microprocessor that allows the operator on-site programming of functions that formerly had to be performed manually.

Optionally, the panel can be controlled via radio telemetry and will automatically supply information to a database for irrigation and crop management.

NI Part #	Description
220101	NI PICS I Keypad only; radio-ready for use with base station
220102	NI PICS II Keypad & Manual Control; radio-ready for use with base station
220103	NI PICS III Manual Control; radio-ready for use with base station

Consult the NI sales office for more information on base station application.

### Standard PICS SmartPanel® Functions

Each PICS SmartPanel® allows the operator to program the following:

- Start at preset time
- Start and stop at preset location
- Speed set and direction based on location
- Speed by water applied or by percent
- Pump and chemical injection control
- End gun operation

Programming is simple. System control can be set by time or by location in degrees, 0° - 359°.

### Optional Radio Telemetry Package

The optional radio telemetry package provides control of all pivots from a computer base station and from voice band radios.

- Remotely monitor and control all pivots from pickups, tractors, combines, etc.
- Voice alarm broadcasts over existing voice band radios.

### Optional Record Keeping

- Keep complete record of each system's maintenance history on file.
- Provides inputs for water flow, pressure, soil moisture, and weather station information.
- Expandable to include many more features.

**Call NI today for details on how a PICS SmartPanel can give a new or existing irrigation system advanced, programmable features.**

NI MAIN PANELS

# Main Control Panels for Irrigation Systems

**C**onvert old, undependable controls to new controls from Nebraska Irrigation. Add new life to older, structurally sound systems. An NI Main Control Panel is adaptable to control almost any system. It comes equipped with many standard features, and options may be added at the time of purchase or a later date. Basic bolt-on mounting brackets are included.

Please call us with your questions about adapting NI Main Control Panels to existing irrigation systems.

**NI Main Control Panels can also directly replace panels on other brands of systems.**

## NI Main Control Panels

*Includes standard features listed below.*

NI Part Number		Description
UL Listed	Standard	
22023U	22023	NI Panel, Basic
22003U	22003	NI Panel, Econo
22014U	22014	NI Panel, Lindsay Type
22051U	22051	NI Panel, Lockwood Type
22051SU	22051S	NI Panel, Lockwood Type w/ Stall Timer
22035U	22035	NI Panel, Reinke Type
22052U	22052	NI Panel, Valley Type

### NI Main Control Panels Standard Features:

- Heavy-duty, weather-tight enclosure.
- All components are UL and CUL approved.
- Percent timer.
- Hour meter.
- Volt meter.
- 24 V auxiliary tap.
- Directional switch.
- Main power disconnect.
- Galvanized steel and painted box.
- Bolt-on mounting brackets.



22023

## Options

For NI Main Control Panels

NI Part #	Description
220201	<b>Auto Restart - #1</b> Automatically triggers your system to resume operation from electrical or pressure signal.
220202	<b>Auto Reverse - #2</b> Allows the system to operate in the opposite direction when it has reached a preset point.
220203	<b>Low Pressure Shutdown - #3</b> Stops the system if the water pressure drops below a particular point.
220204	<b>Preselected Stop - #4</b> Allows you to automatically shut the system down at a predetermined point.
220205	<b>Line Check - #5</b> Ensures that incoming power line fuses are functional or power is not otherwise disrupted.
220206	<b>Surge Protection - #6</b> Protects electrical components from sudden power surges.
220207	<b>Low Temp Shutdown - #7</b> Stops the system at a predetermined temperature.

**These and other options are available for all NI models and other brands of control panels.**

*For parts breakdowns of the NI main control panels, see Section I: Parts Breakdowns, pages 166 to 167.*

NI ALIGNMENT CONTROLS

**NI Valley Type Tower Control Boxes**  
For Valley Type as well as Many Other Brands of Systems



22018

**NI** is a leading manufacturer and supplier of replacement guidance controls to make irrigation systems dependable. We build them to be the **STRONGEST** and most **TROUBLE-FREE** electric irrigation system alignment control boxes in the industry.

NI Tower Control Boxes are designed to perform smoothly and flawlessly season after season. They can withstand harsh elements, both inside and out. They are versatile, so they can replace virtually any tower box from any manufacturer.

**Standard Features:**

- Heavy-duty galvanized frame.
- Heavy-duty electrical components.
- Components are UL and CUL approved.
- Stainless steel cam and bearing assembly.
- Zinc-plated cam shaft.
- Weather- and chemical-resistant bearing.
- Heavy-duty, impact- and sunlight-resistant control box cover.
- Plated latches.
- Easy installation.

**Optional Features:**

- Bolt-on or weld-on mounting hardware.
- Overload relay protection; wide range of sizes for different horsepower motors.
- Stainless steel or polyester powder coated frame.

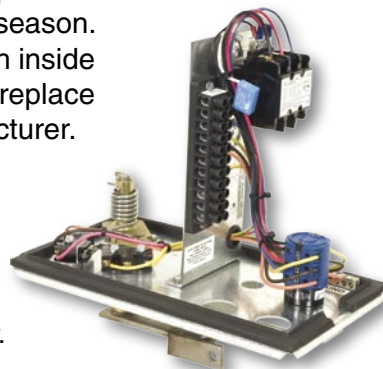
**NOTE:** For span cable and motor drop cable, see page 66 in Section E: Electrical Components.

**NI Tower Control Boxes  
Boxes Only**

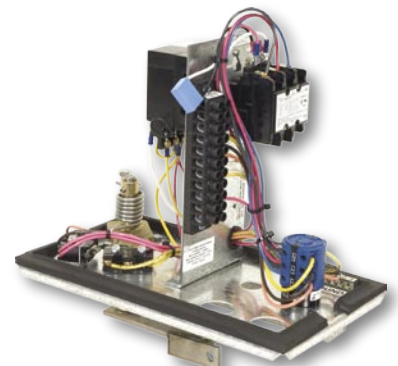
The NI premium boxes are 10-wire control boxes. They have been installed on many brands of pivot systems including Valley type systems. However, if 11-wire boxes are desired, choose the 11-wire Valley type listings.

NI Tower Control Boxes — Boxes Only			
NI Part Number			Description
Inter- mediate	Stall	Last Tower	
22018	22024	22009	Tower Box Only (10-wire)
22018-11	22024-11	22009-11	Tower Box Only, Valley Type (11-wire)
22041	22040	22042	Tower Box Only (10-wire) w/ 1 hp Overload Protection
22046	22045	22047	Tower Box Only (10-wire) w/ 1.5 hp Overload Protection

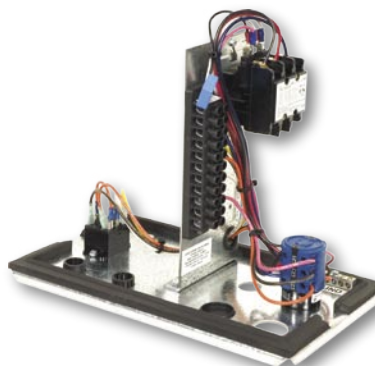
Includes Wired Box Only.  
Overload protection included when specified.  
(No cord connectors, linkage, or mounts.)  
*Specify brand of system when ordering.*



NI Intermediate Tower Box  
22018



NI Stall Timer  
Tower Box  
22024



NI Last Tower Box  
22009

*For parts breakdowns of the NI tower control boxes, see Section I: Parts Breakdowns, pages 158 to 160.*

NI ALIGNMENT CONTROLS

**NI Premium Tower Control Box Conversion Kits**

Complete NI Tower Control Box Conversion Kits			
NI Part Number			Description
Inter-mediate	Stall	Last Tower	
22002	22021	22011	w/ Standard Mounts
22013	22010	22004	w/ Standard Mounts & 1 hp Overload Protection
22049	22048	22050	w/ Standard Mounts & 1.5 hp Overload Protection
22002-LIN	22021-LIN	22011-LIN	w/ Mounts for Lindsay Type Systems
22002-LOC	22021-LOC	22011-LOC	w/ Mounts for Lockwood Type Systems
22002-OLS	22021-OLS	22011-OLS	w/ Mounts for Olson Type Systems

Complete Kits less mounts			
NI Part Number			Description
Inter-mediate	Stall	Last Tower	
22020	22016	22022	w/ 10-Wire Box
22020-11	22016-11	22022-11	w/ 11-Wire Box

Includes wired box, cord connectors, and linkage. (No mounts or overload protection.)

**10-Wire or 11-Wire Boxes; Less Mounts**

The NI premium tower control conversion can be mounted on Valley type systems utilizing existing mounts. Kits are available with 10-wire or 11-wire boxes.

Includes wired box, cord connectors, linkage, & mounts w/ bolts.

Overload protection included when specified.

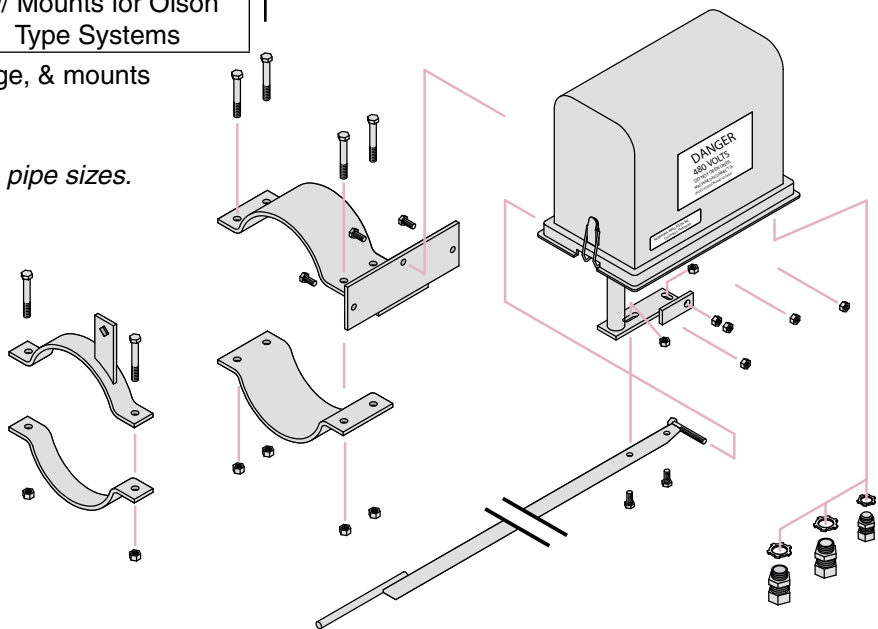
Please specify brand & model of system & pipe sizes.

**10-Wire Boxes; Bolt-On Mounts**

The NI premium tower control conversion can be mounted on most any system.

The premium controls with overload protection are typically used on Reinke type systems and other machines that do not have thermally protected motors.

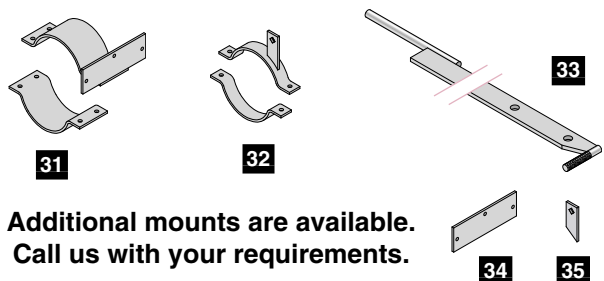
The Lindsay type, Lockwood type, and Olson type conversions listed include the same premium boxes with mounts to fit those specific machines.



**NOTE:** For span cable and motor drop cable, see page 66 in Section E: Electrical Components.

Item	NI Part #	Description
30	792118	Mount, Tower Box & Actuator Arm, Bolt-On, w/ Bolts, 6", 6-5/8" (Items 31 & 32)
31	79210	Mount, Tower Box, Bolt-On, w/ bolts, 6", 6-5/8"
32	792119	Mount, Arm, Actuator, Bolt-On, w/ bolts, 6", 6-5/8"
33	89902	Rod, Linkage, NIV
34	792150	Mount, NIV Tower Box, Weld-On
35	12063	Arm, Actuator Tab, Weld-On, w/ sq. hole
-	72521	Kit, Stiffener, NIV Tower Box
-	39006	Connector, Cord, w/ Jam Nut, 1/2"
-	39007	Connector, Cord, w/ Jam Nut, 1"

**Tower Box Mounts**



Additional mounts are available. Call us with your requirements.

## NI ALIGNMENT CONTROLS

### NI Lockwood Type Tower Box Kits

#### NI Wire Alignment Tower Box Kits

Use with existing Lockwood wire alignment system.

Tower box assembly kits to be used with existing alignment wire on Lockwood units. See illustration.

NI Wire Alignment Tower Box Kits	
NI Part #	Description
220110	NI Intermediate Tower Box Pkg.
220111	NI Next to Last Tower Box Pkg.
220112	NI Last Tower Box Pkg.

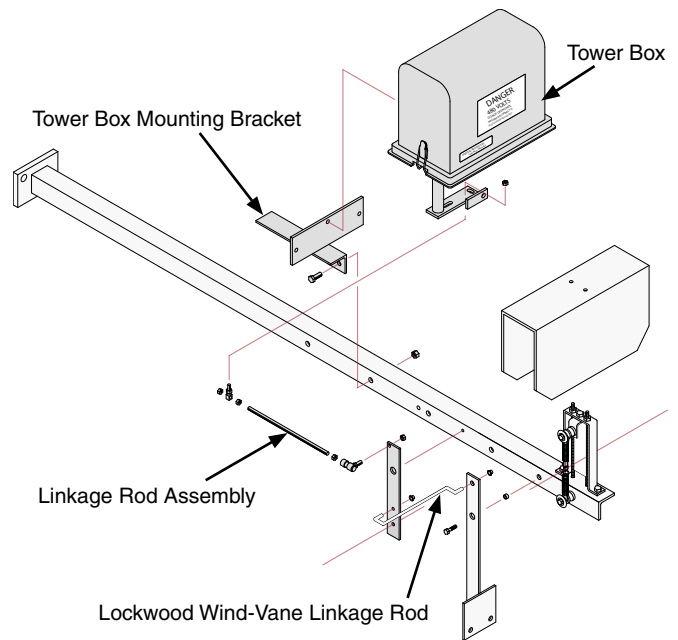
**Notes:**

- Conversion kit includes:  
tower box,  
tower box mounting bracket, and  
the linkage rod assembly.
- All other parts are reused Lockwood components.
- Some holes will have to be drilled.
- The Lockwood wind-vane linkage rod will have to be modified to fit.

**NOTE:** To assure the required mounting hardware is included, please specify model of machine and pipe diameter.

**NOTE:** For span cable and motor drop cable, see page 66 in Section E: Electrical Components.

When replacing the Lockwood wire alignment system, use the NI Premium Tower Control Boxes listed on page 45.



**Lockwood Wire Alignment Conversion Kit utilizing existing alignment wire.**

For parts breakdowns of Lockwood alignment assembly and tower control box, see Section I: Parts Breakdowns, pages 162 to 163.

### Lockwood Alignment Components

NI Part #	Description
98201	Lockwood Alignment Wire, 1400 ft.
70002	Insulator Fence Post
65128	Thimble, Alignment Wire
92613	Spring Tension, 2.50"
92615	Alignment Spring 26" Long
17005	Bearing, Sintered, 0.190 x .315 x .375
82003	Retaining Clip for Alignment
89300	Rectifier AC/DC



89300



92613



17005



70002



92615

98201



NI ALIGNMENT CONTROLS

**NI Lindsay Type Tower Control Boxes**

**NIL Type Tower Control Boxes**

Includes Complete Control Box.  
(No linkage, mounts, or overload protection.)

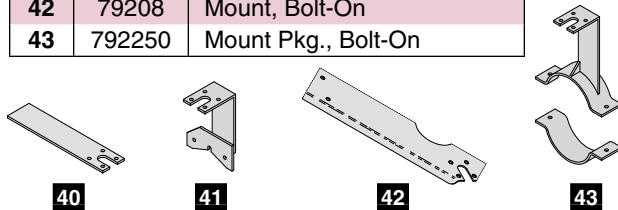
NIL Type Tower Control Boxes	
NI Part #	Description
22056	Box, Control, Intermediate
22057	Box, Control, Stall
22058	Box, Control, Last Tower
22061	Box, Control, Booster*, w/ Pressure Switch
22054	Box, Control, Booster*, w/o pressure switch

\* See the next page for more details on the NIL booster pump control boxes.

**Options:**

- Mounting hardware and actuator, bolt-on or weld-on.
- Overload relay protection (wide range of sizes for motors of different horsepower).

NIL Tower Box Mounts		
Item	NI Part #	Description
40	79209	Mount, Weld-On
41	79201	Mount, Bolt-On
42	79208	Mount, Bolt-On
43	792250	Mount Pkg., Bolt-On



*NIL Stall Timer Tower Box 22057*



*NIL Intermediate Tower Box 22056*

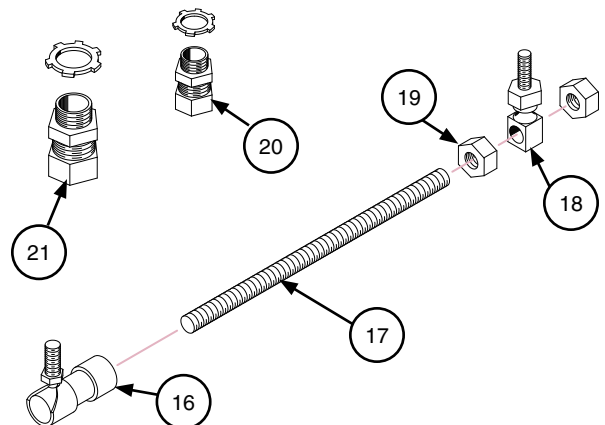


*NIL Last Tower Box 22058*

**NIL controls & parts can be used as direct replacements for Lindsay style boxes.**

**Linkage for NIL Type Boxes**

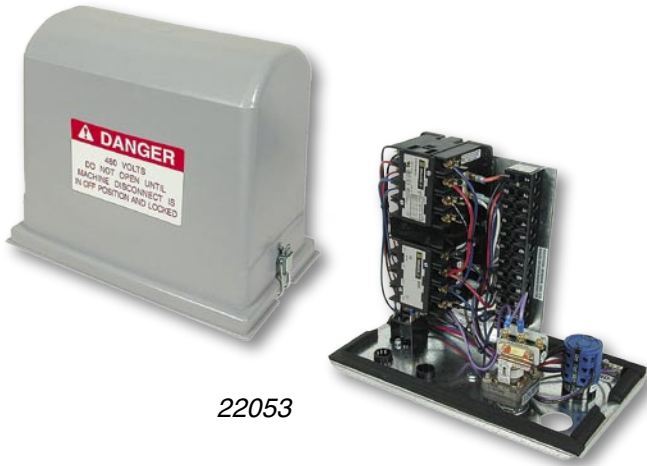
Item	NI Part#	Inter. Qty	Stall Qty	Last Qty	Description
16	71002	1	1	--	Joint, Ball, Quick Disconnect
17	89906	1	1	--	Rod, Linkage, 6", short
-	89934	1	1	--	Rod, Linkage, 10"
-	89904	1	1	--	Rod, Linkage, 13"
-	89900	1	1	--	Rod, Linkage, 16"
-	89937	1	1	--	Rod, Linkage, 24"
18	71001	1	1	--	Joint, Swivel, Adjuster, 1/2" Stem
-	71001-L	1	1	--	Joint, Swivel, Adjuster, 3/4" Stem
19	82010	2	2	--	Nut, Hex, 5/16" NF
-	82000	2	2	--	Nut, Hex, 1/4" NF
20	39006	1	1	1	Connector, Cord, 1/2", w/ Jam Nut
21	39052	2	2	1	Connector, Cord, 3/4", w/ Jam Nut
-	792XX				Mount, Actuator Arm



**Note:** For a complete parts breakdown of the NIL type tower control boxes, see the parts listings in Section I: Parts Breakdowns, page 161.

NI ALIGNMENT CONTROLS

**Booster Pump Control Boxes**



22053



NIL  
22061

NI Part #	Description
<b>Booster Pump Control Boxes with Pressure Switch</b>	
22036	Booster Pump / Last Tower Combo Control Box, with Pressure Switch and Cord Connectors
22053	Booster Pump Control Box, with Pressure Switch
22053-1	Booster Pump Control Box, with Pressure Switch & Solenoid
<b>Booster Pump Control Boxes without Pressure Switch</b>	
22006	Booster Pump Control Box, without pressure switch
<b>Mounting Packages</b>	
79210	Control Box Mounting Package, Clamp-On, for NI boxes

For parts breakdowns of the NI booster pump control boxes, see Section I: Parts Breakdowns, pages 159 to 160.

NI Part #	Description
<b>Booster Pump Control Boxes with Pressure Switch</b>	
22061	Booster Pump Control Box, NIL Type, with Pressure Switch
<b>Booster Pump Control Boxes without Pressure Switch</b>	
22054	Booster Pump Control Box, NIL Type, without pressure switch
<b>Mounting Packages</b>	
79201	Control Box Mount, Weldment, Bolt-On, for NIL boxes

For parts breakdowns of the NIL booster pump control boxes, see Section I: Parts Breakdowns, page 161.

**For Complete Booster Pump Kits and other accessories, see Section F: Sprinklers, page 110.**

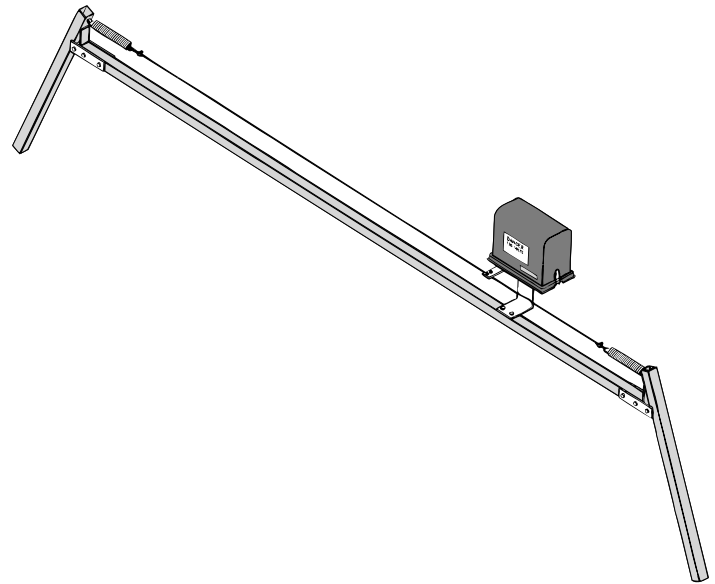


22053-1

**NI ALIGNMENT CONTROLS**

**Barricade Stops**

- Prevent crashes.
- Stop machine from any tower.
- Provide additional safety.
- Package includes control box, sensing arm, cable, springs, traverse arm.
- Auto-reverse available, if required.
- Available in 1-, 2-, or 3-piece configurations.



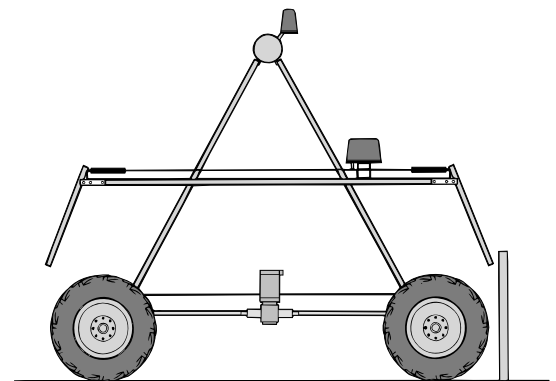
*Specify brand of system when ordering.*

<b>Barricade Stop Packages, Safety Only</b>	
<b>NI Part #</b>	<b>Description</b>
932101	2-Piece Arm
932101-LOC	2-Piece Arm, Lockwood Style
93229	3-Piece Arm, Extra Long

<b>Barricade Stop Packages, Safety &amp; Auto Reverse</b>	
<b>NI Part #</b>	<b>Description</b>
932100	2-Piece Arm
932100-LOC	2-Piece Arm, Lockwood Style
93228	3-Piece Arm, Extra Long

**Please consult our sales office for assistance in equipping a machine with a barricade stop.**

**D**



*Sensing Arm Stop (customer supplied)*

COLLECTOR RINGS

**Heavy-Duty Collector Rings**

- Count on NI collector rings for reliable, uninterrupted power to controls and drive train.
- Bronze, oil-impregnated, oversized bearings offer trouble-free rotation.
- Copper alloy rings and graphite brushes ensure maximum conductivity.
- Sturdy housing keeps moisture away from electrical parts.

NI Part #	Description
898103-1	NI 11-Conductor, Heavy-Duty
89815	Aeromotive 11-Conductor, Heavy-Duty
898103	Ring, Collector, S.P., 11-Conductor
89804	Ring, Collector, S.P., 10-Conductor
89898	Ring, Collector, 11-Conductor, Lin Type
89818	Ring, Collector, 10-Conductor, Lin Type



89815



898103-1



Collector Ring with Cover Removed  
898103-1



Collector Ring with Cover Removed  
89898 or 89818



89804

**We also have brushes, brush holders, and other collector ring parts. Call us with your model number.**

PUMP CONTROL PANELS

**Pump Control Panels**

**Features and Benefits**

- Combination starters are available in a complete array of enclosure types. Select the one that exactly fits your needs.
- Choose between fuseable disconnect or motor circuit protectors.
- Precise sizing — a starter rated for virtually any motor horsepower — means you don't have to settle for anything less than a perfect match.
- Complete motor overload protection helps prevent motor burn-out.
- A flange-mounted disconnect mechanism and positive door interlock system add to user safety.
- Ample wiring space makes for ease of rewiring for future add-ons and modifications.

**NEMA Type Pump Panels**

NI Part #	Description
84039	3, 5, 7.5, & 10 HP, 480V, 3 Phase
84040	15, 20, 25 HP, 480V, 3 Phase
84041	30 HP, 480V, 3 Phase
84042	40, 50 HP, 480V, 3 Phase
84037	60, 75, & 100 HP, 480V, 3 Phase



84040

Pump panels are full voltage start panels.

Fuses not included. See fuses listed on page 64 in Section E: Electrical Components.



**IEC Type Pump Panels**

NI Part #	Description
84043	1 HP Pump Panel, 480V
84052	2 HP Pump Panel, 480V
84053	3 HP Pump Panel, 480V
84054	5 HP Pump Panel, 480V
84055	7.5 HP Pump Panel, 480V
84056	10 HP Pump Panel, 480V
84044	15 HP Pump Panel, 480V
84012	20 HP Pump Panel, 480V
84057	25 HP Pump Panel, 480V
84035	30 HP Pump Panel, 480V
84030	40 HP Pump Panel, 480V
84058	50 HP Pump Panel, 480V
84060	60 HP Pump Panel, 480V
84002	75 HP Pump Panel, 480V
84029	100 HP Pump Panel, 480 V
840125	125 HP Pump Panel, 480V

Fuses included: dual element LPJ type fuses.

Pump panels are full voltage start panels.



84057

**Several brands of pump panels are available with various voltage and horsepower ratings; including full-voltage, part-winding start, and circuit breaker panels as well as other types to meet your requirements.**

Contact our sales office for help in selecting the exact panel for your needs.

BOXES

**Disconnect Boxes**

NI Part #	Description
465081	30 Amp Fusible w/ 60 Amp Enclosure
465091	30 Amp Non-Fusible w/ 60 Amp Enclosure
465111	60 Amp Fusible
465131	60 Amp Non-Fusible
465141	100 Amp Fusible
465151	100 Amp Non-Fusible
465161	200 Amp Fusible
465171	200 Amp Non-Fusible



Disconnect Box  
465081



**Junction Boxes**

NI Part #	Description
46505	100 Amp Junction Box
46506	200 Amp Junction Box



Junction Box  
46505



**Hubs**

NI Part Number		Description
For Disconnect Boxes	For Junction Boxes	
390581	39068	1" Hub
390551	39069	1-1/4" Hub
390591	39070	1-1/2" Hub
390661	39071	2" Hub



Hub for Junction Box  
39068.

Hubs for disconnect boxes are similar.

D

# SECTION E: ELECTRICAL COMPONENTS

## Replacement Parts for All Types of Machines



**E**

### *Electrical Components*

Nebraska Irrigation supplies reliable, field-tested electrical components that meet or exceed the original manufacturer's specifications.

**For a full line of components and conversion packages or just one item, Nebraska Irrigation can supply you with exactly what you need. Give us a call.**

LIGHTS

**Tower Light Kits**



Globe Light Kit w/ Rough Service Bulb  
76013 or 76030



Globe Light Kit w/ Strobe Light  
76013-S or 76030-S



Strobe Light Kit  
76017

**End Tower Lights**

- Clamps to pipe.
- Easy to install.
- Adjustable.
- Complete packages with rough service bulb and power cord available for any size pipe.

**Please specify size of pipe when ordering.**

**Strobe Lights**

- High intensity strobe light.
- Visible in all kinds of weather.
- Water resistant.
- Capable of operating in temperatures from -30° F to 150° F.
- Single or Double flash.
- Lens color options include:
  - Amber
  - Blue
  - Green
  - Red
  - Clear
- Various voltages are available.

NI Part #	Description
76013	Globe Light Kit w/ 120 VAC rough service bulb
76030	Globe Light Kit w/ 12 VDC rough service bulb
76013-S	Globe Light Kit w/ 120 VAC screw-in strobe (specify color)
76030-S	Globe Light Kit w/ 12 VDC - 80 VDC screw-in strobe (specify color)
76017	Light Kit w/ 12 VAC strobe light (specify color)
76017-12	Light Kit w/ 12 VDC strobe light (specify color)
76023	Light Kit w/ magnetic base and plug w/ 12 VDC strobe light (specify color)

**Bolt-on light kits are for 6" & 6-5/8" pipe unless otherwise specified.**

**Other pipe sizes available.**

**Note:** Strobe light kits will be shipped with clear lenses unless otherwise specified.

**Check with local and state government agencies regarding the use of colors other than amber.**

**Other types of warning lights are also available.**



LIGHTS

**Light Bulbs, Globes, Lenses**

**Strobe Lights, Screw-In**

NI Part #	Description
76018	Light, Strobe, 120 VAC, Screw-In *
76029	Light, Strobe, 12-80 VDC, Screw-In *
76033	Lens only (specify color) *
76021	Bulb only



\* Specify desired lens color when ordering:  
Clear – C  
Amber – A  
Blue – B  
Green – G  
Red – R

**Strobe Lights, NPT Base Mount**

NI Part #	Description
76034	Light, Strobe, 120 VAC, single flash, 1/2" NPT *
76047	Light, Strobe, 120 VAC, double flash, 1/2" NPT *
76015	Strobe Light, 115V *
76040	Lens only (specify color) *
76025	Bulb only



**E**

**Light Bulbs and Globes**

NI Part #	Description
76011	Light Bulb, Rough Service, 75 Watt, 120 VAC
76014	Light Bulb, Rough Service, 100 Watt, 12 VDC
76012	Globe and Base, 3/4" NPT
76010	Globe and Base, 1/2" NPT
76000	Globe only



**Indicator Light and Retaining Clip**

NI Part #	Description
76002	Light, Indicator, Amber, 120 VAC, 1/3 W, 5/16" mounting hole
82003	Clip, Retaining, Light



CONTACTORS

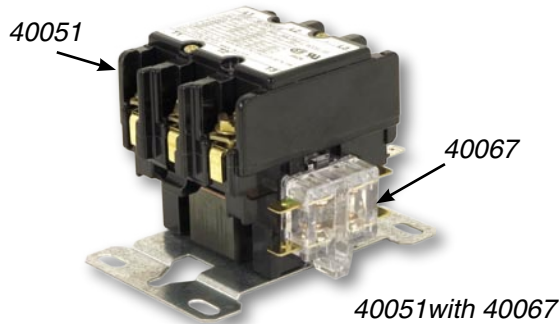
**Definite Purpose Contactors**

**Common Uses:**

**Tower Control:** 40011, 40015, 40051

**Main Panel:** 40018, 40014, 40009

**Booster Pump:** 40006, 40009



**NI Premium Contactors**

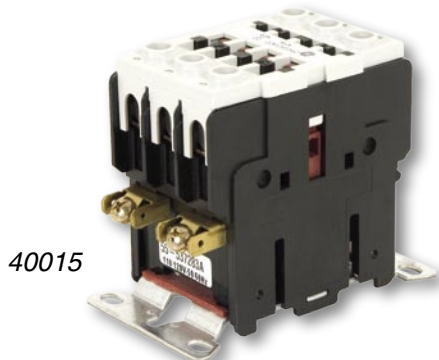
NI Part #	Description
40051	30 FLA, 3 pole, 110V coil

**Auxiliary Contacts**

NI Part #	Description
40067	N.O. / N.C. Contacts

**GE Contactors**

NI Part #	Description
40015	25 FLA, 3 pole, 110V coil, GE
40040	30 FLA, 3 pole, 110V coil, GE

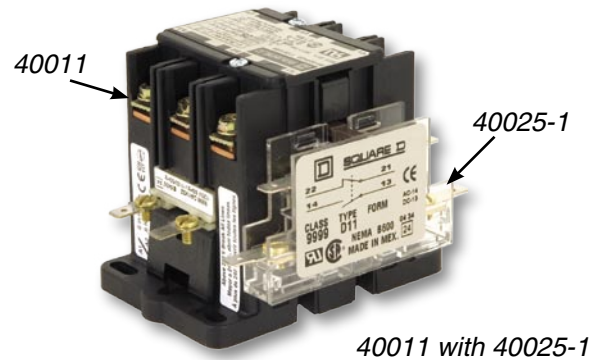


**Square D Contactors**

NI Part #	Description
40011	25 FLA, 3 pole, 110V coil, Square D
40018	30 FLA, 3 pole, 110V coil, Square D
40014	30 FLA, 4 pole, 110V coil, Square D
40039	40 FLA, 3 pole, 110V coil, Square D
40090	40 FLA, 3 pole, 460V coil, Square D
40069	25 FLA, 3 pole, 240V coil, Square D
40033	30 FLA, 4 pole, 110V coil 2 N.O. / 2 N.C., Square D
40055	40 FLA, 4 pole, 110V coil 3 N.O. / 1 N.C., Square D

**Auxiliary Contacts**

NI Part #	Description
40025-1	N.O. / N.C. Contacts, Square D
40052	N.C. Contacts, Square D



**Square D Forward / Reversing Contactors**

NI Part #	Description
40030	Interlocked 25 FLA, 3 pole, 110V coil
40009	Interlocked 30 FLA, 4 pole, 110V coil

40009



**NOTE:**  
Can also use auxiliary contacts with these contactors.

More styles and sizes available, contact us with your requirements.

CONTACTORS

**IEC Type Contactors, Starters, and Overload Relays**

**Common Uses:**

**Tower Control:** 40057, 92910, 92911, 89648, 89642

**Main Panel:** 40062, 40064

**Booster Pump:** 40062, 40064, 92906, 92907

**IEC Contactors**

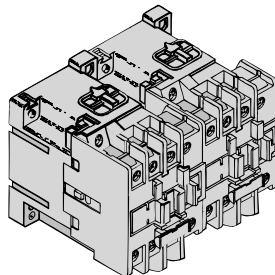
NI Part #	Description
40057	25 FLA, 4 pole, 110V coil, Contactor only
40059	25 FLA, 4 pole, 480V coil, Contactor only



40057

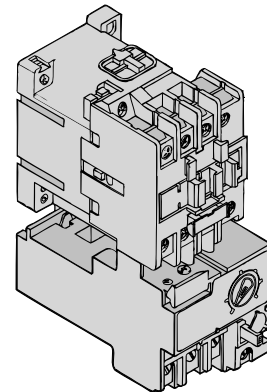
**IEC Interlocked Contactors**

NI Part #	Description
40062	25 A, 4 pole, 110V, Reversing, Interlocked, IEC 7.5 hp
40064	25 A, 4 pole, 480V, Reversing, Interlocked, IEC 7.5 hp



**IEC Starters**

NI Part #	Description
92904	25 A, 4 pole, 480V, 1 hp IEC Contactor & Overload
92905	25 A, 4 pole, 480V, 1-1/2 hp IEC Contactor & Overload
92910	25 FLA, 4 pole, 110V coil - Contactor & Overload, 1 hp
92911	25 FLA, 4 pole, 110V coil - Contactor & Overload, 1-1/2 hp
92906	IEC Reverse Contactor & Overload, 480V
92907	IEC Reverse Contactor & Overload, 110V



**E**

**IEC Direct-Mount Overload Relays**



89670

NI Part #	Description
89670	Relay, Overload, 1 hp
89671	Relay, Overload, 1-1/2 hp

**IEC Independent-Mount Overload Relays**



89642

NI Part#	Description
89655	Relay, Overload, 1/3 hp
89648	Relay, Overload, 1 hp
89642	Relay, Overload, 1-1/2 hp

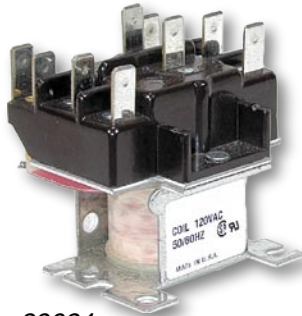
RELAYS

Here is a sampling of relays available through Nebraska Irrigation. If you need a relay that's not listed here, let us know. Even if we don't have it in stock, we can get it for you. We also supply various printed circuit boards for all applications. Call us with your needs.

**Relays**

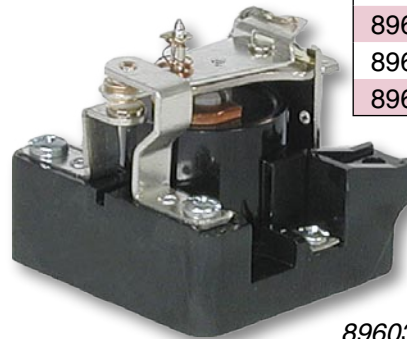


89618



89624

Part #	Description
89623	480 VAC SPDT
89624	120 VAC DPDT



89603 / 89604

Part #	Description
89602	12 VAC SPDT
89603	24 VAC SPDT
89604	120 VAC SPDT
89605	6 VDC SPDT
89606	12 VDC SPDT

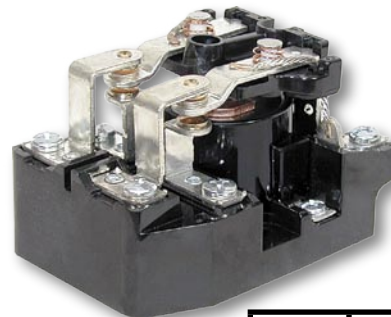


89619



89615

Part#	Description
89611	120 VAC 4PDT
89626	115 VAC DPDT
89635	12 VDC DPDT
89615	120 VAC DPDT



89607

Part #	Description
89640	120 VAC DPST 30A N.O.
89607	120 VAC DPDT 25A
89608	12 VAC DPDT
89609	24 VAC DPDT

Part #	Description
89619	12 VDC DPDT, Flange Mt.
89617	12 VDC DPDT, Socket Mt.
89618	110 VDC DPDT, Socket Mt.
89616	120 VAC DPDT, Socket Mt.
89620	24 VAC 3PDT, Socket Mt.
89621	120 VAC 3PDT, Flange Mt.



89630

Part #	Description
89630	120 VAC SPDT



89662

Part #	Description
89662	Alternating Relay, 120 V coil



89613

Part #	Description
89612	120 VAC DPDT
89613	6 VAC DPDT

SWITCHES

**Alignment and Control Switches**

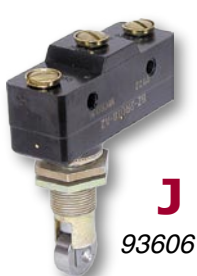
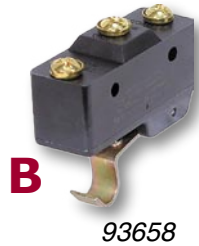
All alignment and control switches supplied by NI have been used on center pivot controls and have been proven in the field. Whatever your application, we can get you the switch. Call us about other types of irrigation switches, too.

**Applications for Alignment & Control Switches**

Application	NI Part #
Gifford Hill	93630
Hydrus	93630
Lindsay	936117*, 93606**
Lockwood	93655, 93658
NI	93652
Olson	93607
Pierce	93629
Raincat	93635
Reinke	93630
Valley	93652, 936124**, 93602**

\* Preferred choice.

\*\* Plunger style.



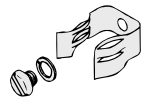
NI Part #	Style	Description
93630	A	Short arm with roller, spade connection
93658	B	Short arm with simulated roller, flat terminal spade connection
936117	C	Long arm with roller, spade connection, black
93629	D	Long arm with roller, spade connection
93655	E	Short arm with simulated roller, spade side connection
93607	F	Long arm with roller and adjustment screw, pressure connector
93652	G	Short arm with adjustment screw, pressure connector
93635	H	Double switch with single adjustable arm, pressure connector
93602	I	Plunger, button actuator, spade connection, with boot kit
93606	J	Plunger with roller, short stroke, spade connection, less boot
936124	K	Plunger with roller, long stroke, spade connection, with boot kit
43016	L	Boot Kit

**E**

SWITCHES

**Disconnect Switches**

NI Part #	Description
936130	Switch, Main Disconnect, 30 Amp, Complete; includes: 93666, 34008, 65001
93666	Switch, Main Disconnect, 30 Amp only (requires 34008)
34008	Clip, Fuse, Kit for Main Disconnect, 30A, 600V; includes: 6 clips, washers, screws
65001	Handle Kit, Main Disconnect, NI Type; includes: handle, shaft, gasket, and fasteners



Fuse Clip Kit  
34008



Main Disconnect Switch  
93666



Handle  
65001

NI Part #	Description
93601	Switch, Disconnect, 6-Pole
936122	Switch, Disconnect, 10-Pole



93601



936122



936112

NI Part #	Description
936112	Switch, Disconnect, 7-pole

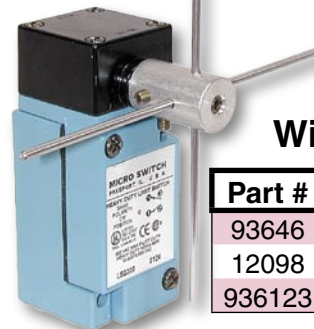
**Limit Switches**

**Roller Arm Limit Switches**



936150

Part #	Description
93649	Switch, with Roller Lever Actuator, extra heavy duty
936150	Switch, with Roller Lever Actuator, heavy duty



93646

**Windmill Switches**

Part #	Description
93646	Complete Switch with Arm
12098	Arm, Actuator
936123	Body & Head Only

**Roller Plunger Limit Switches**



93684

Part #	Description
93684	Switch w/ Roller Plunger, momentary action, 0.190 overtravel

**Cat Whisker Limit Switches**



93633

NI Part #	Description
93633	Switch with Spring Whisker, extra heavy duty

**Mercury Switches**

NI Part #	Description
936109	Single Mercury Tube
936110	Double Mercury Tube

E

SWITCHES

**Toggle Switches**



93679

Part #	Description
93675	3 Pole, Double Throw
93676	4 Pole, Double Throw
93680	Double Pole, Double Throw
93679	Single Pole, Single Throw
93677	Double Pole, Single Throw

Other toggle switches also available.

**Low Pressure Shutdown Switches**

Part #	Description
93643	Switch, Pressure, Barksdale, Open, 0-90 psi
936136	Switch, Pressure, Barksdale, Open, 0-15 psi
93609	Switch, Pressure, Barksdale, Enclosed, 0-90 psi
936200	Switch, Pressure, Barksdale, Enclosed, 0-15 psi



93643 or 936136



93609 or 936200

**Push-Button Operators**



Part #	Description
93671	Operator, Momentary

Available in a variety of styles. When ordering, specify whether you want momentary, latched, or maintained; illuminated or non-illuminated.

**Selector Switches**

Available in two, three, or four position, maintained, spring return, and key operated units. All function normally with up to eight contact blocks in any combination.



93669

Part #	Description
93669	3-Position
93672	3-Position, Spring Return
93670	2-Position

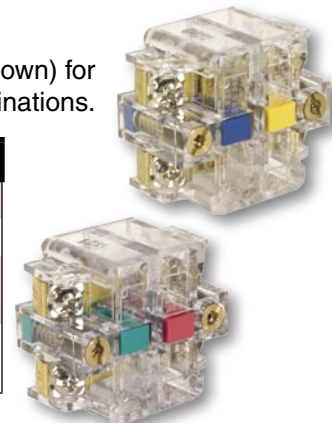
Others available — please call.

**Contact Blocks**

**For Selector & Push-Button Switches**

- Transparent case.
- May be interlocked (as shown) for various switching combinations.

Part #	Description
93667	N.O. green
93668	N.C. red
93673	N.O. early make, yellow
93674	N.C. late break, blue



**Terminal Strips**



93809



93801



93803



77005

Part #	Description
93801	Terminal Strip, 12-Pole, 85A, 600V for wire sizes #4-18
93803	Terminal Strip, 12-Pole, 30A, 600V, for wire sizes #10-18
93809	Terminal Strip Block, 4-Pole
77005	Lug, Ground, Terminal Strip, for wire sizes #4-14

TIMERS

**Percentage Timers**



94401

Part #	Description
94401	60-Second, 120 V
94409	30-Second, 120 V



94411

Part #	Description
94411	60-Second, 120 V
94404	30-Second, 120 V
94422	60-Second, 120 V, Motor Only
94410	30-Second, 120 V, Motor Only

Part #	Description
94416	60-Second, 120 V, Plug-In Type

E



94416

Part #	Description
94460	Programmable Percent Timer



94460

**Multi-Function Timers**



94465

NI Part #	Description
94465	On Delay / Interval
89661	On Delay / Off Delay / Interval / Repeat Mounting Socket
94465-500	Cycle

**Delay Timers**



94433

Part #	Description
94435	60-Min ON Delay, 120 V
94436	60-Min OFF Delay, 120 V
94433	10-Min OFF Delay, 120 V
94413	5-Min ON Delay, 120 V
94403	5-Min OFF Delay, 120 V



94438

Part #	Description
94438	20-Min OFF Delay, 120V
94414	10-Min ON Delay, 120V
94423	10-Min OFF Delay, 120V
94424	5-Min ON Delay, 120V



94418

Part #	Description
94418	Safety, NI, 3-second OFF Delay, 120V

Part #	Description
792219-2	Din Mount Rail, 2-1/3" h x 1-3/8" x 2" long

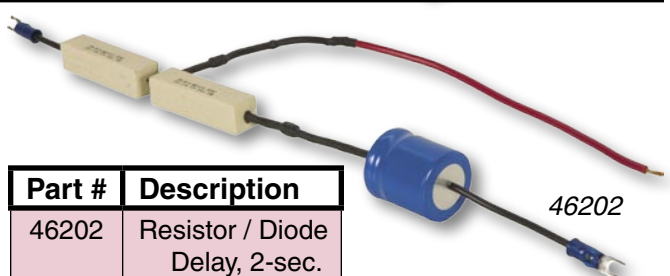


91401

Part #	Description
91401	Snap Track



792219-2



Part #	Description
46202	Resistor / Diode Delay, 2-sec.

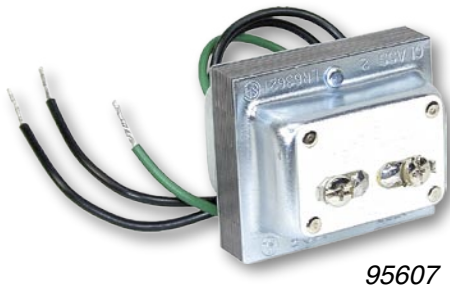
46202



TRANSFORMERS, VOLTMETERS

**Transformers**

NI Part #	Description
95607	120/16 V/10 VA
95605	120/24 V Open Case
95606	120/24 V/40 VA



95607

NI Part #	Description
95608	.025 kVA 480/240/120 V
95601	.35 kVA 480/120/24 V
95611	.375 kVA 480/120 V
95603	.5 kVA 480/120/30 V
95614	.5 kVA 415/380/220/115/95 V
95602	.75 kVA 480/240/120 V



95608



95603

**Voltmeters**

**NI Enclosed Voltmeter**

Monitor voltage anywhere with the NI Enclosed Voltmeter. Install at main control panel or generator. Supplied with mounting bracket and 8 feet of shielded cable.

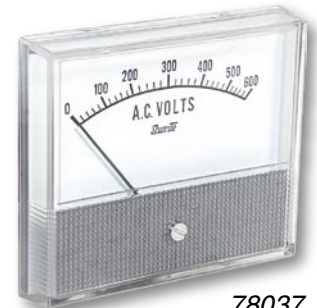
NI Part #	Description
220136	Voltmeter, Enclosed, 480 VAC



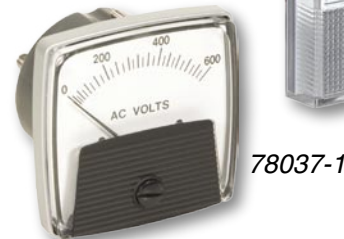
220136



78004



78037



78037-1

NI Part #	Description
78004	Voltmeter, Large Face, 0 - 600 VAC, 3-1/2" Face, 2-3/4" mounting hole
78054	Voltmeter, Large Face, 0 - 600 VAC, 4-1/2" Face, 2-3/4" mounting hole
78037-1	Voltmeter, Small Face, 0 - 600 VAC
78037	Voltmeter, Small Face, 0 - 600 VAC

**E**



FUSES AND FUSEHOLDERS





NI also handles many other sizes of fuseholders and fuses. Please call us with your needs.

**Fuses**

E

Amps	 Time Delay, 500V	 Dual-Element, Time Delay, 600V	250V
1/8	550122		
4/10	550150		
1/2	55002		
6/10	550107		
8/10	55006		
1	55020	550161	
1-1/8	55011		
1-1/4	55054		
1-4/10	550169		
1-1/2	550149		
1-6/10	550170	55033	550199
1-8/10	550171	55029	550200
2	55003	55021	550201
2-1/4	550172	550178	550202
2-1/2	55024	550179	550203
2-8/10	550173	550180	550204
3	55030	55034	55055
3-2/10	55025	550181	550205
3-1/2	55017	550182	550206
4	55013	55095	550207
4-1/2	550174	550183	550208
5	55018	55014	55084
5-6/10	55083	550184	550209
6	55016	55005	550210
6-1/4	550175	550186	550211
7	55023	550187	550212
7-1/2	550176	550188	550213
8	55007	55028	550214
9	55015	550189	550215
10	55032	55019	55052

Amps	 Time Delay, 500V	 Dual-Element, Time Delay, 600V	250V
12	55012	55035	55053
15	55027	55010	550156
17-1/2	550177	55008	550217
20	55009	55022	550134
25	55004	55036	550123
30	55026	55031	55082
35		55037	550165
40		55038	550166
45			550118 550145
50			55057 55056
60			55091 55058
70			55092 55060
75			550191 550224
80			550135 550167
90			55081 550168
100			55039 550110
110			55061 550227
125			55079 55062
150			55094 550158
175			550153 550229
200			550105 55064
225			550142 550231
250			550195 550232
300			550106 550233
350			550148 55065
400			550113 550234
450			550196 550235
500			550197 550236
600			550198 550237

FUSES AND FUSEHOLDERS

**Fuseholders**

For fuses 13/32" in diameter and 1-1/2" long:	
NI Part #	Description
56001	Fuseholder, 30A, 600V, 1-Pole
56003	Fuseholder, 30A, 600V, 2-Pole
56002	Fuseholder, 30A, 600V, 3-Pole
56008	Fuseholder, 30A, 600V, 3-Pole, for Class CC Type Fuses

For larger, FLSR fuses:	
NI Part #	Description
56009	Fuseholder, 30A, 600V, 3-Pole, for FLSR Type Fuses



Fuseholder, 1-Pole 56001

Fuseholder, 2-Pole 56003

Fuseholder, 3-Pole 56002

HEATERS, ETC.

**Starter Heaters**

NI Part #	Description
65506	Heater, GE, 1.63 Amp
65511	Heater, GE, 2.20 Amp
65503	Heater, GE, 2.39 Amp
65504	Heater, GE, 3.01 Amp
65505	Heater, GE, 3.56 Amp
65507	Heater, GE, 4.66 Amp



65511

Other heaters are available on request. Call our sales office for assistance.

**Lightning Arrestors**

NI Part #	Description
14001	600 V, 3 pole
14003	250 V, 2 pole



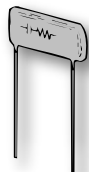
14001



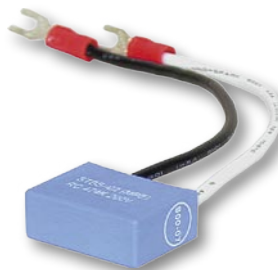
14003

**Arc Suppressors**

Part #	Description
93401	Suppressor, Arc
93402	Suppressor, Arc, w/ Pigtail Leads



93401



93402

**Hour Meters**

NI Part #	Description
78001	Meter, Hour, 120 V, 60 Hz, 2-3/16" mounting hole



78001

**GE Coils**

NI Part #	Description
36029	GE 24 V
36001	GE 120 V
36027	GE 240 V
36028	GE 440 V
36026	GE 480 V



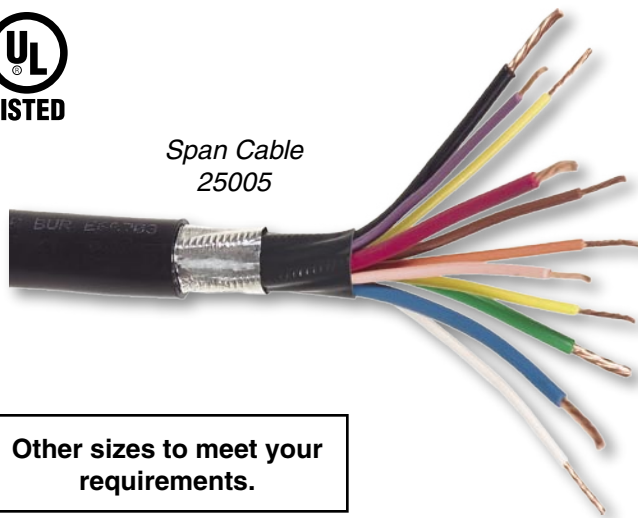
36027

CABLE / WIRE

**Center Pivot Cable / Wire**

**RainTEC® Span Cable**

RainTEC® Span Cable			
NI Part #	Size	Wt/M ft	Type
25005	10/4-14/7	525 lbs.	11-Conductor Shielded Span Cable
25002	10/4-14/6	500 lbs.	10-Conductor Shielded Span Cable
25054	12/4-14/6	400 lbs.	10-Conductor Shielded Span Cable



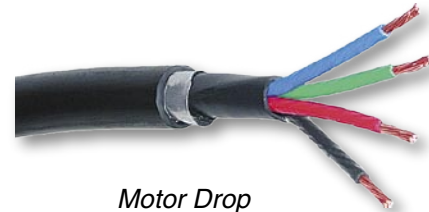
Span Cable  
25005

E

Other sizes to meet your requirements.

**RainTEC® Motor Drop**

RainTEC® Motor Drop Cable			
NI Part #	Size	Wt/M ft	Type
98240	14/4	250 lbs.	4-Conductor Motor Drop, Shielded less Drain



Motor Drop  
98240

**Guidance Wire**

Guidance Wire			
NI Part #	Size	Wt/M ft	Type
98215	14/2	140 lbs.	Guidance Wire, Gopher Proof, Stainless
98213	14/1	69 lbs.	Guidance Wire, Gopher Proof, Stainless

**Quadruplexed Aluminum Direct Burial Wire**

Reduced neutral (UL).  
Specify length when ordering.



NI Part #	Phase	Neutral	Wt/M ft	Name	Description
98226	4	4	258#	Tulsa	Quad #4 w/ Full Neutral
98223	2	4	346#	Dyke	Quad #2 w/ Reduced Neutral
98227	1/0	2	541#	Notre Dame	Quad #1/0 w/ Reduced Neutral
98228	2/0	1	664#	Syracuse	Quad #2/0 w/ Reduced Neutral
98225	4/0	2/0	979#	Wake Forest	Quad #4/0 w/ Reduced Neutral
98219				Slippery Rock	Quad 350 MCM w/ Reduced Neutral

Other sizes also available.

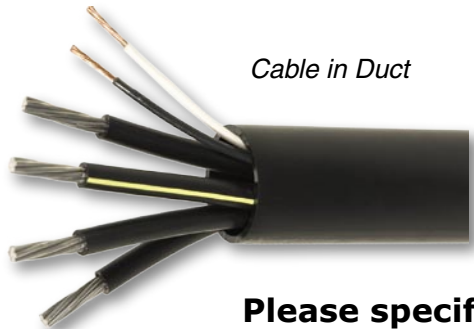
Please specify length when ordering.

**If you need more information or want to purchase cable for applications not listed in this catalog, give our sales office a call.**

CABLE

**Cable in Duct**

NI Part #	Description
250127	0.75" Power Duct, 2 #12 UF Sol Cu THHN
250128	1.25" Power Duct, 4 #6
250129	1.25" Power Duct, 4 #6 w/2 #12
250131	1.25" Power Duct, 4 #6 w/6 #12
250123	1.25" Power Duct, 4 #4
250118	1.25" Power Duct, 4 #4 w/2 #12
250132	1.25" Power Duct, 4 #4 w/6 #12
250148	1.25" Power Duct, 4 #4 w/7 #12
250133	1.25" Power Duct, 4 #2
250119	1.25" Power Duct, 4 #2 w/2 #12
250139	1.50" Power Duct, 4 #2 w/7 #12
250126	1.50" Power Duct, 3 #1/0 & 1 #4
250134	1.50" Power Duct, 3 #1/0 & 1 #4 w/2 #12
250125	2.00" Power Duct, 3 #2/0 & 1 #2
250135	2.00" Power Duct, 3 #2/0 & 1 #2 w/2 #12
250124	2.00" Power Duct, 3 #4/0 & 1 #2
250136	2.00" Power Duct, 3 #4/0 & 1 #2 w/2 #12



Cable in Duct

Please specify length when ordering.

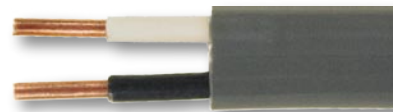
**Underground Feeder Cable**

- Copper Type, U/F.
- Standard lengths of 250 ft to 1,000 ft & 5,000 ft reels.
- Other lengths are also available.



Specify length when ordering.

Plain		w/ Ground		Size
NI Part #	Wt/M ft	NI Part #	Wt/M ft	
982350	96#	982351	118#	14/3
982348	65#	982349	80#	14/2
98221	127#	98217	148#	12/3
98205	833#	98204	110#	12/2
98211	173#	98212	208#	10/3
98218	114#	98200	156#	10/2



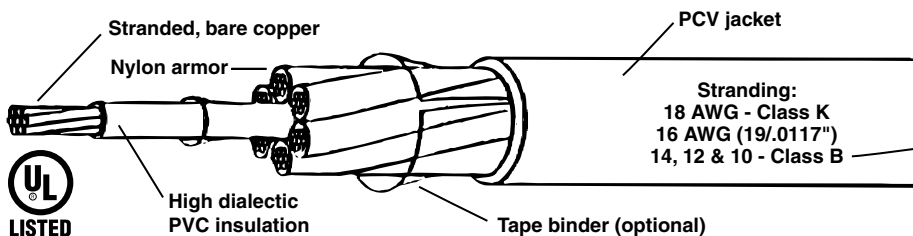
Feeder Cable

**Tray Direct Burial Cable**

NI Part #	Description
25038	12/7 Tray Cable
25039	14/7 Tray Cable



**Type TC Control & Instrumentation Cable (Tray Cable)**



- UL listed
- OSHA acceptable
- 18 - 10 AWG
- 600 volts
- 90°C dry & 75°C wet
- Sunlight resistant

**Scope:** Multiconductor cables having TTFN or VW-1 THHN/THWN (PVC/Nylon) conductors with an overall polyvinyl chloride (PVC) jacket, conforming to Article 318 "Cable Trays" and Article 340 "Power and Control Cable Type TC" of the 1990 National Electrical Code, and Standard 1277 of Underwriters Laboratories, Inc. Meets the requirements of the 70,000 BTU "Cable Tray Propagation Test" per IEEE-383 and shows reserve capabilities by also passing the 210,000 BTU flame test. Rated 600 volts, 90° C dry and 75° C wet. UL file number E60749.

**Applications:** UL listed and OSHA acceptable. Recognized for use in Class 1 or 2, Division 2 hazardous locations and for installation in trays, wireways, troughs, channels, ducts and conduit. Specifically approved for direct burial, wet or dry locations and outdoors in cable trays where a sunlight resistant rating is required. Designed for control, power, lighting, telemetering, signals and relay or traffic control.

**Sizes:** From 2 to 37 conductors per cable. Gauges from 18, 16, 14, 12, 10, 8, 6, 4, 2, 1, 1/0, 2/0, 4/0 AWG; 250, 300, 350, 400, 500 MCM.

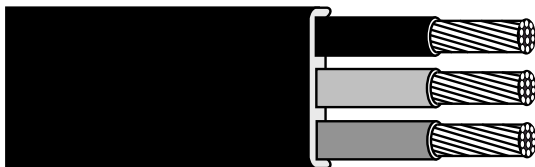
Call our sales office for more information.

CABLE

**Submersible Pump Cable**

**Flat THHN PVC Submersible Pump Cable**

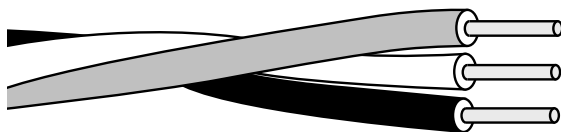
- 600 volt submersible pump cable with THHN/THWN insulated conductors and PVC jacket.
- Insulation is rated 90° C dry and 75° C wet.
- Standard put ups of 500 and 1,000 ft.



Plain		w/ Ground		Size	Stranding
NI Part #	Wt/M ft	NI Part #	Wt/M ft		
25072	95#	25065	138#	12/3	STR
25073	138#	25067	210#	10/3	STR
25074	269#	25068	360#	8/3	STR
25075	387#	25069	487#	6/3	STR
25076	591#	25070	721#	4/3	STR
25077	875#	25071	1061#	2/3	STR
Call	1394#	25061	1657#	1-0/3	STR
Call	1701#	25063	1998#	2-0/3	STR
Call	2172#	25041	2424#	3-0/3	STR
Call	2567#	25042	2992#	4-0/3	STR
25052	3104#	Call	3530#	250 MCM	STR
25053	4192#	Call	4550#	350 MCM	STR

**Twisted PVC Type TW Submersible Pump Cable**

- In either 2 conductors or 3 conductors, with or without ground, twisted.
- Rated at 600 volts at copper operating temperatures of -25° C to +75° C.
- Standard put ups of 500 and 1000 feet.



Plain		w/ Ground		Size	Stranding
NI Part #	Wt/M ft	NI Part #	Wt/M ft		
25081	69#	25064	95#	14/3	Solid
25043	46#	25078	69#	14/2	Solid
25082	96#	25031	132#	12/3	Solid
25085	64#	25032	96#	12/2	Solid
25083	137#	25033	185#	10/3	Solid
25044	91#	25034	137#	10/2	Solid
25084	198#	25035	262#	8/3	7 STR
25045	132#	25046	198#	8/2	7 STR
25047	328#	25036	402#	6/3	7 STR
25055	516#	25037	491#	4/3	7 STR

**Ground Wire Submersible Pump Cable**

- Standard lengths of 500 ft. & 1000 ft.

**PVC Ground Wire – Type TW**

NI Part #	Size	Wt/M ft	Stranding
25017	14	19#	Solid
25018	12	36#	Solid
25019	10	48#	Solid



**Rubber Ground Wire – Type CPE**

NI Part #	Size	Wt/M ft	Stranding
25023	14	41#	Solid
25024	12	50#	Solid
25025	10	66#	Solid
25020	8	90#	STR
25021	6	120#	STR
25022	4	170#	STR

**Other types, styles, and lengths are available on request.**

CABLE / WIRE ACCESSORIES

**Clamps, Clips, Etc.**

NI Part #	Description
33026	Clamp, Band, Adjustable Strap, Galvanized, for 6" dia. pipe
33024	Clamp, Band, Adjustable Strap, Galvanized, for 8" dia. pipe
33089	Clamp, Band, Adjustable Strap, Galvanized, for 10" dia. pipe
34013	Clip, Span Cable, for 5" dia. pipe
34009	Clip, Span Cable, for 6-5/8" dia. pipe
94202	Tie Wrap, Black, Plastic, 29" overall
89926	Ground Rod, 5/8" x 8'
33061	Clamp, Ground, for 5/8" ground rod



33026

NI Part #	Description
982352	Ground Wire, #6 bare copper
39023	Wire Nuts, Yellow
39027	Wire Nuts, Red
39031	Wire Nuts, Orange
92203	Splice, Direct Burial, long body
92204	Splice, Direct Burial, short body

Splice kits & other accessories are also available.

**Cord Connectors**

- Tapered dome nut grips and holds cable, wire, or tubing.
- Superior pull-out resistance — holds seal ring in place.
- Annular concentric rings form a liquid tight seal between body and housing.
- Overlapping splines are split diagonally to seal odd-shaped cables.
- Stamped steel locknuts.
- Many other sizes available.

**Nylon Cord Connectors with Jam Nuts**

NI Part #	Description
39006	1/2" NPT for .39" - .56" diameter cable
39001	3/4" NPT for .51" - .71" diameter cable
39052	3/4" NPT for .7" - .8" diameter cable
39007	1" NPT for .70" - .98" diameter cable



**E**

**Metal Cord Connectors**

NI Part #	Description
39003	1/2" NPT
39002	3/4" NPT
39005	1" NPT

**Woodhead Cord Connectors**

NI Part #	Description
39054	Connector Woodhead, M, 30A, 480V
39053	Connector Woodhead, F, 30A, 480V
39057	Connector Woodhead, M, 30A, 120V
39056	Connector Woodhead, F, 30A, 120V



39053

39054

GENERATORS, PHASE CONVERTERS

**Lima Generators**

Lima Mac 1800 RPM – 2 Bearing		
NI Part #	Size	Model
63001	5 KW	250MDL1237
63010	7.5 KW	250MDL1238
63002	10 KW	280MDL0054
63003	12 KW	280MDL0055
63004	15 KW	280MDL0056
63005	20 KW	360MDL0057
63006	25 KW	360MDL0058
63030	30 KW	360MDL0059
63040	40 KW	360MDL0060
63050	50 KW	440MDL0885

**A wide selection of pulleys and hubs are available for generators.**

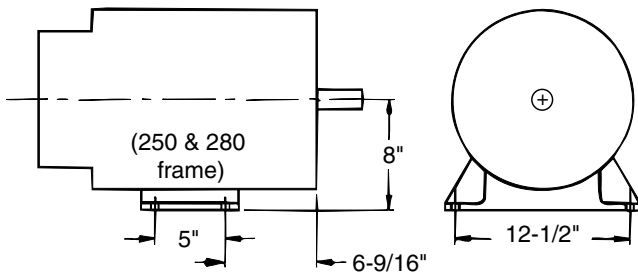
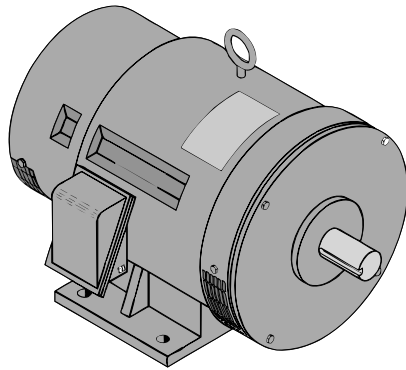
**Call our sales office for assistance in choosing the pulley and hub to match your needs.**

**Stamford Generators**

NI Part #	Size
63014	8.5 KW
63007	10 KW
63008	12.5 KW
63009	17.5 KW
63011	20 KW

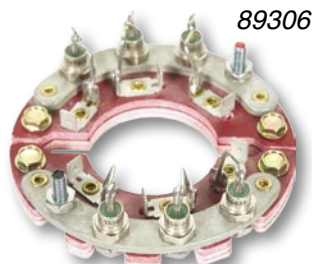
Other sizes of Stamford Generators are available. Please call NI Sales Office.

- Rugged construction.
- 1 hp/KW, 3 phase, Code G motor-starting capabilities.
- 5 to 300 KW.
- 4% voltage regulation.
- Minimum maintenance.
- Self-regulated.
- Double bearing.
- Single bearing units available for close-coupling to engines.



**Rectifier Kits**  
For Lima Generators

Part #	Description
89306	Rectifier Kit for 280 frames, new style
89307	Rectifier Kit for 280 frames, old style



**ARCO Phase Converters**



NI Part #	KVA	Model	Max. Start Capacity (HP)	Total System (HP)
63017	4	PVO	3	6
63018	8	PV1	4	8
63019	10	PV2	6	12
63020	14	PV3	8	16
63021	18	PV4	12	25
63022	22	PV5	15	22
63023	28	PV6	20	28
63027	40	PV7	25	40

**Larger sizes & options available.**  
**Transformers also available.**



***MOTORS & RELATED PRODUCTS***

**Power Supply Monitors**

**MotorSaver® Monitors**

MotorSaver® products monitor the power supply and protect electric motors by disconnecting the motor before damage occurs to the windings of the compressor, pump, and other motors that can be damaged by a fault.

**3-Phase Voltage Monitors**

*P/N 78513 and 78512*

The three-phase voltage monitors are microcontroller based. Factory-calibrated for highly accurate and precise voltage measurements to provide high sensitivity while minimizing nuisance tripping.

**78513** – an auto-ranging voltage monitor designed to protect 3-phase motors regardless of size. A unique microcontroller-based voltage and phase sensing circuit constantly monitors the three phase voltages to detect harmful power line conditions.

**78512** – combines load and line side monitoring to alert the user of contactor failure or impending contactor failure.

**78513 Features**

- Low voltage trip.
- Opt. high voltage trip.
- Single phase trip.
- Reverse phase trip.
- Fixed 6% voltage unbalance trip.
- Single LED diagnostics.
- Separate indications for:
  - Power up restart delay
  - Reverse phase trip
  - Good voltage/relay energized
  - Unbalance/single phase trip
  - High/low voltage trip

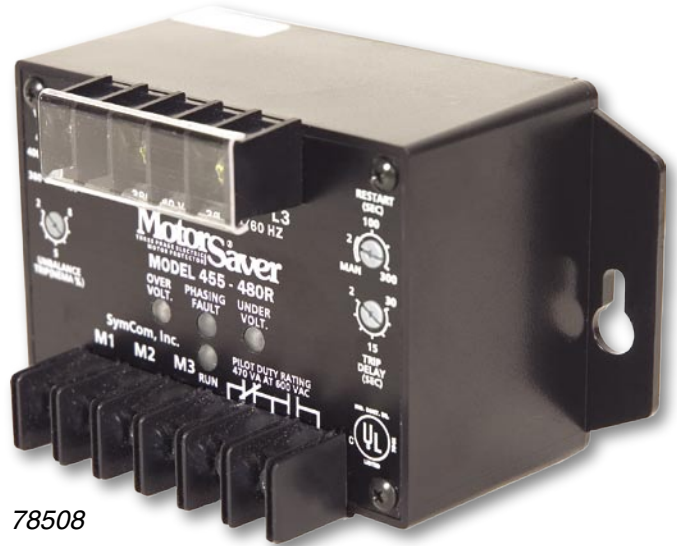
**78512 Features**

- Load side monitoring of contactor.
- Multiple LEDs for diagnostics, special indicators for overvoltage, undervoltage, and phasing fault.
- Prevents rapid cycling by monitoring contactor or starter.
- Protects 3-phase motors from:
  - Contact failure
  - Loss of any phase (single phasing) on the load or line side
  - Low voltage
  - High voltage
  - Voltage unbalance
  - Phase reversal
  - Rapid cycling.

**Single-Phase Current Monitors**

*P/N 78508*

**78508** – an undercurrent monitor designed to monitor one leg of a three phase system. It is commonly used as a tower monitor on center pivot irrigation systems to detect stalled or stuck towers to prevent overwatering.



78508

MotorSaver® Monitors	
NI Part #	Description
78513	3-Phase Voltage, w/ Relay
78512	3-Phase Voltage, Load and Line Side
78508	Single-Phase, Undercurrent

**PumpSaver® Monitors**  
**Submersible Pump Protectors**

- Fully-programmable motor and pump protection relay with power monitoring capability.
- Can be set up in either kilowatts or horsepower.
- Displays voltage, current, and power measurements.
- Communication port for use with certain computerized systems.

**PumpSaver Features**

- Under power protection.
- High power protection.
- Overcurrent (overload).
- Current unbalance.
- High voltage.
- Low voltage.
- Voltage unbalance.
- Ground fault.
- Modbus communication.
- 3-digit display.

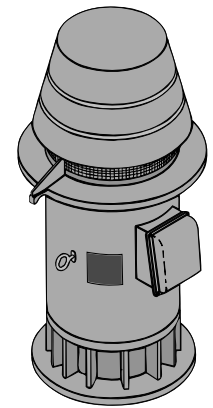
PumpSaver® Monitors	
NI Part #	Description
78515	Programmable, 3-Phase
78516	Prog., 3-Phase, Low Ampere Range
78517	Prog., 3-Phase, HV 600V Contacts

**Additional Monitors are available. Please call NI Sales Office for details.**

MOTORS & RELATED PRODUCTS

**Vertical Hollow Shaft Motors**

US Vertical Hollow Shaft Motors – 1800 RPM – 3 Phase									
NI Part #	HP	Model No.	Frame	Type*	Volts	Base Dia.**, Inches	C Plug Height	Eff.	Weight
790102	5	6968	184TP	TU	230 / 460	10"	17-9/16	82.5	120
790103	7-1/2	J145	213TP	TU	230 / 460	10"	17-9/16	84.0	190
790104	10	J146	215TP	TU	230 / 460	10"	17-9/16	85.5	190
790105	15	BF30	254TP	AU	230 / 460	10"	23-3/8	89.5	265
790105-1	15	BF31	254TPA	AU	230 / 460	16-1/2"	23-3/8	89.5	265
790106	20	BF33	256TPH	AU	230 / 460	12"	23-3/8	89.5	275
790106-1	20	BF34	256TPA	AU	230 / 460	16-1/2"	23-3/8	89.5	275
790107	25	BF37	284TPA	AU	230 / 460	12"	24-3/4	88.5	305
790107-1	25	BF38	284TPH	AU	230 / 460	16-1/2"	24-3/4	88.5	305
790108	30	BF41	286TPA	AU	230 / 460	12"	24-3/4	89.5	305
790108-1	30	BF42	286TPH	AU	230 / 460	16-1/2"	24-3/4	89.5	305
790109	40	BF47	324TPH	RU	230 / 460	12"	28-7/32	89.5	635
790109-1	40	BF48	324TP	RU	230 / 460	16-1/2"	28-7/32	89.5	635
790110	50	BF53	326TPH	RU	230 / 460	12"	28-7/32	89.5	635
790110-1	50	BF54	326TP	RU	230 / 460	16-1/2"	28-7/32	89.5	635
790111	60	BF59	364TP	RU	230 / 460	16-1/2"	31-5/32	91.0	730
79076	75	BF64	365TP	RU	230 / 460	16-1/2"	31-5/32	91.0	780
790100	100	BF68	404TP	RU	230 / 460	16-1/2"	36-15/16	93.0	1110
790112	125	BF73	405TP	RU	460 PWS	16-1/2"	36-15/16	93.0	1150
790113	150	BF82	H444TP	RU	460 PWS	16-1/2"	44-25/32	92.4	1350
790114	200	BF82	H445TP	RU	460 PWS	16-1/2"	44-25/32	93.6	1570



- Designed for deep well turbine pump applications.
- Carries thrust load of pump and head of water.
- Easily accessible top coupling permits vertical adjustment of pump impellers.

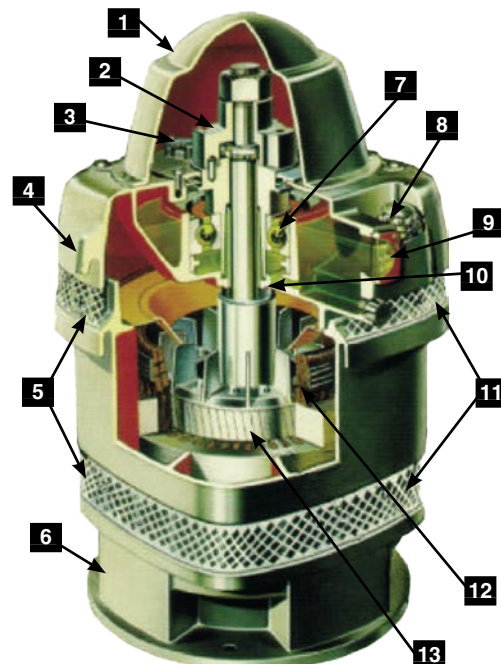
E

\* Type designations:  
 TU = TEFC Enclosure, Aluminum Housing, Grease Lube Upper Bearing  
 AU = WP1 Enclosure, Aluminum Housing, Grease Lube Upper Bearing  
 RU = WP1 Enclosure, Cast Iron Housing, Oil Bath Upper Bearing

\*\* The 16-1/2" base is the most common. Please measure the base diameter before ordering.

**Outstanding Features**

1. Lightweight Top Cover.
2. Coupling readily accessible.
3. Lockbar holds shaft during adjustments.
4. Lifting Lugs positioned for stability.
5. Protected Air Openings exceed NEMA WPI requirements.
6. Precision Machined Mounting Base, ample clearance for mounting bolt installation.
7. Rugged Bearing withstands heavy load thrusts.
8. Large Plug simplifies oil fills.
9. Sight Gauge Window for quick oil level reading.
10. Metered Oil Flow minimizes churning.
11. Dual Air Flow system for uniform cooling of motor top and bottom.
12. Windings protected by new, synthetic materials.
13. Solid Die Cast Rotor with integral fan blades.



**MOTORS & RELATED PRODUCTS**

**Right Angle Gear Drives**

By Johnson Gear and Omni Gear

**Benefits and Applications**

- Provides positive power transmission from horizontal prime movers to vertical pump shafts.
- Offers economy, efficiency, space-saving, and the ability to function well under varying climatic conditions.
- Applications include:
  - Irrigation
  - Municipal Water Supply and Sewage Disposal
  - Fire Protection
  - Flood Protection
  - Cooling Towers
  - Wind Towers
  - Marine Service



Right Angle Gear Drives (Gearheads)	
NI Part #	Size
610102-20	20 hp
610102-40	40 hp
610102-60	60 hp
610102-80	80 hp
610102-110	110 hp
610102-125	125 hp
610102-150	150 hp
610102-200	200 hp
610102-250	250 hp
610102-300	300 hp
610102-350	350 hp
610102-425	425 hp

A variety of models are available to meet specific requirements of high and low speed prime movers and pumps.

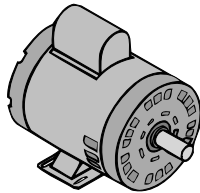


**Industrial & Agricultural Motors – Electric Motors**

Sub-fractional to 350 hp for all types of applications from industrial to farm

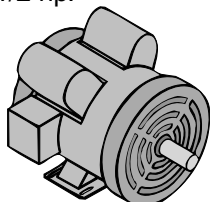
**Single Phase Motors**

- General purpose, capacitor start, rigid base; 1/6 to 10 hp.
- General purpose, capacitor start, C-face or C-face with base; 1/4 to 5 hp.



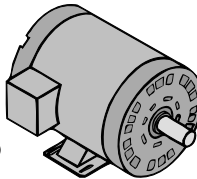
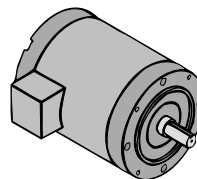
**Grain Stirring Motors**

- Single phase, rigid base, dust tight; 1-1/2 hp.
- Three phase, rigid base, dust tight; 1-1/2 hp.



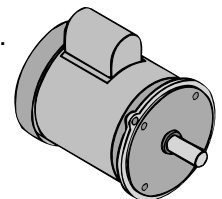
**Three Phase Motors**

- General purpose, rigid base; 1/6 to 10 hp.
- General purpose, C-face or C-face with base; 1/4 to 10 hp.
- Cast iron, general purpose, rigid base or C-face with base; 7-1/2 to 350 hp.



**Agricultural Feed Auger Drive Motors**

- Single phase, 60 or 50 Hz, dust tight, screwdriver slot in rear shaft.
- 1/3 to 1-1/2 hp.



More motors listed on the next page.

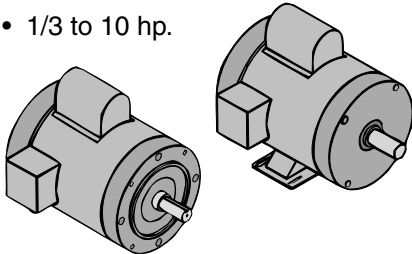
**When ordering, please specify the type of motor required, horsepower, phase, frame size, and any other pertinent information.**

MOTORS & RELATED PRODUCTS

**Industrial & Agricultural Motors – Electric Motors** *(continued)*

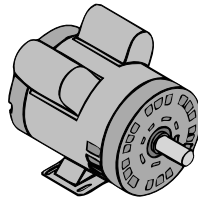
**Agricultural Motors, Farm Duty, General Purpose**

- Single phase, rigid base or C-face.
- 1/3 to 10 hp.



**Compressor Motors**

- Single phase, rigid base; 1 to 10 hp.
- Three phase, rigid base; 1 to 20 hp.



**Severe Environment Motors for Chemical Service**

- Three phase, C-face or rigid base.
- 1/2 to 5 hp.

**Agricultural Fan Motors (for fan mounted on motor shaft)**

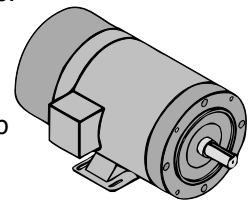
- Single phase, resilient base, dust tight.
- 1/4 to 1 hp.

**Pressure Washer Pump Motors**

- Single phase, rigid base or C-face with base.
- 1/3 to 3/4 hp.

**Brake Motors**

- Single phase, C-face with base; 1/3 to 1 hp.
- Three phase, C-face; 1/2 to 5 hp



**Fan & Blower Motors**

- Single phase and three phase.
- 1/4 to 3 hp.

- Three phase, rigid base, C-face or C-face with base; 1/3 to 7-1/2 hp.

**Agricultural Fan Motors (for shaft-mounted or belt-driven fans)**

- Single phase, rigid base, dust tight; 3/4 to 3 hp.
- Three phase, rigid base; 3/4 to 3 hp

**Woodworking Motors, Table Saw Motors**

- Single phase, C-face or rigid base.
- Available with double shaft, keyed, and flat.
- 3/4 to 4 hp.

**Instant Reversing Motors**

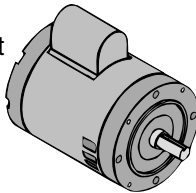
- Single phase, resilient base.
- 1/3 to 3/4 hp.

**Swimming Pool Motors**

- Commercial duty.
- Single phase, C-face, keyed or threaded shaft, cast iron or aluminum.
- 1/2 to 3 hp.

**Jet Pump Motors**

- Single phase, keyed shaft or threaded shaft; 1/2 to 3 hp.
- Three phase, with or without base, threaded shaft; 3/4 to 3 hp.



**Washdown Motors**

- For wet, high humidity environments where regular wash-downs are required.
- Single phase and three phase, C-face or C-face with base.
- 1/4 to 10 hp.

**AC Subfractional Horsepower Motors**

- Single phase, parallel shaft.
- 1/150 to 1/6 input hp.
- 6 to 900:1 ratios.

**JM Pump Motors**

- For close-coupled pumps using NEMA JM mounting.
- Single phase, rigid base; 1 to 5 hp.
- Three phase, rigid base; 1 to 10 hp.

**Explosion-Proof Motors**

- Single phase, C-face or rigid base.
- Three phase, C-face or rigid base.
- 1/3 to 15 hp.

**Also available:**

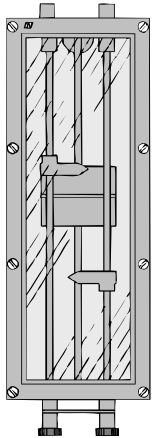
- DC motors and gearmotors in fractional and subfractional horsepowers.
- Motors for 50 Hz power service.

**When ordering, please specify the type of motor required, horsepower, phase, frame size, and any other pertinent information.**

**Contact us for a complete motor catalog.**

ENGINE CONTROLS

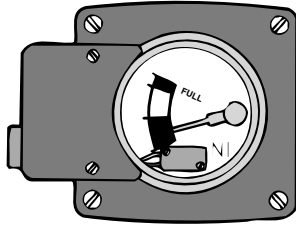
**Lube Level Switch Gauges**



- Sight gauge with adjustable high-low contacts.
- Large 6-3/4" sight glass.
- Can be wired into nerve center to protect engines and pumps.
- Recommended for engines with large crankcase capacity.

NI Part #	Description
59009	Gauge, Sight, high-low contact

**Lube Level Maintainers**

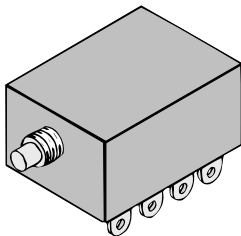


NI Part #	Description
59010	Gauge, Lube Level Maintainer

- Automatically maintain proper lube level.
- Use on small- to medium-size engines.
- SPDT snap switch for low level shutdown.

**Diesel/Battery Ignition**

**Magnetic Switches**



- 12-24 VDC: opens circuit to run device.
- Disconnects from power after trip.

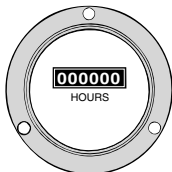
Part #	Description
93688	Switch, Relay, 12 to 24 VDC

**Nerve Centers**

- Specify 12 or 24 VDC.
- Designed for center pivot irrigation systems with N.C. alignment switches.

NI Part #	Description
93695	Switch, Nerve Center, 12 VDC
93627	Switch, Push-Button Stop

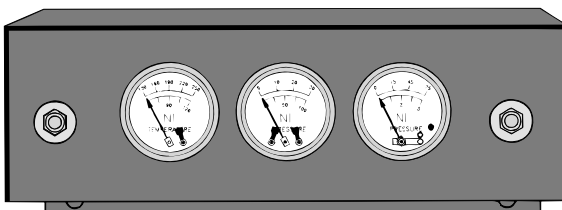
**Hour Meters**



- Registers to 9,999.9, then re-zeros.
- Rotating indicator shows when unit is running.

NI Part #	Description
78009	Meter, Hour, 4 - 40 VDC

**Safety Switch Panels**

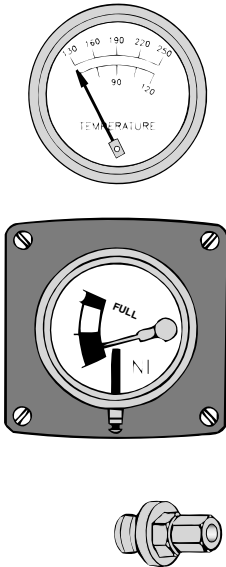


- Water temperature.
- Oil pressure.
- Pump pressure.
- Magnetic switch.
- Stop switch.

NI Part #	Description
84005	Panel, Switch Gauge, for gas engine
84006	Panel, Switch Gauge, for diesel engine

ENGINE CONTROLS

**Temperature Gauges**



- 2" (51 mm) dial.
- For coolant or oil temperature up to 440° F (220° C).

NI Part #	Description
93624	Switch Gauge, Cylinder Head Temperature, 320° F dial, 1.5"/38 mm bulb for air-cooled engines
936126	Switch Gauge, Water-Cooled Engines, 130 - 250° F / 60 - 120° C, with screw terminal connection
936125	Switch Gauge, Coolant Level

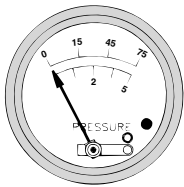
**Other options and ranges are available — Please call with your needs**

Blind hole radiator fitting for coolant level switch gauges.  
5/8" expandable fitting for thin wall radiators.

NI Part #	Description
53023	Fitting, Blind Hole, for 1/4" tubing

Call our sales office for other sizes and for diesel fuel or oil applications.

**Pressure Gauges**

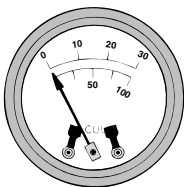


E

- 2" or 2-1/2" dials.
- Thru 400 psi (2.76 MPa).
- For oil, water, air, and fuel.

NI Part #	Description
93690	Switch Gauge, Pressure, 2-1/2" dial, 0-75 psi
93694	Switch Gauge, Pressure, 2" dial, 0-75 psi, with front, semi-automatic lockout
93689	Switch Gauge, Pressure, 2" dial, 0-100 psi, both high & low front contacts
936127	Switch Gauge, Oil Pressure, Gas Engine, 2" dial, 0-75 psi, with screw terminal connection
936128	Switch Gauge, Pump Pressure, 2" dial, 0-150 psi, high & low contacts

**Vacuum Gauges**

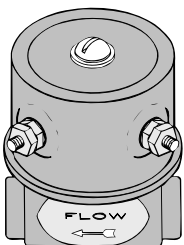


- 2 in (51 mm) dial.
- High and low limit contacts.

NI Part #	Description
93650	Switch Gauge, Vacuum, 0-20"Hg/0-70 kPa
93654	Switch Gauge, Vacuum, 0-30"Hg/0-100 kPa
936129	Switch, Toggle, for 93654 (above)

For other options and ranges — call our sales office

**Fuel Shutoff Valves for Diesel Engines**



- Normally closed valve operates on 12 volts DC.
- 1/4" NPTF inlet and outlet with 3/16" port opening.

NI Part #	Description
966107	Valve, Solenoid, Diesel Engine

Also available in 24VDC & 32VDC models and with special 1/4" port opening.

# SECTION F: SPRINKLERS

## For All Your Watering Needs



**F**

**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**

**With a full line of sprinklers and support items, Nebraska Irrigation can supply you with exactly what you need. Give us a call.**

SPRAYS

**Senninger Pivot-Master® Irrigation Products**

<b>Senninger Sprays Selection Chart</b>						
<b>Product</b>	<b>Nozzle Pressure Range <sup>1</sup></b>	<b>Pivot Pressure Range <sup>2</sup></b>	<b>Nozzle Height</b>	<b>Application Rate</b>	<b>Application Efficiency <sup>3</sup></b>	<b>Diameter of Coverage <sup>4</sup></b>
<b>i-Wob®</b>	10 - 20 psi (.69 - 1.38 bars)	20 - 30 psi (1.38 - 2.07 bars)	3 - 9 ft (.92 - 2.75 m)	Low - Medium	85 - 95%	40 - 57 ft (12.2 - 17.4 m)
<b>LDN®</b>	6 - 20 psi (.42 - 1.38 bars)	15 - 20 psi (1.04 - 1.38 bars)	1.5 - 14 ft (.46 - 4.27 m)	Medium - High	90 - 97%	30 - 40 ft (9.2 - 12.2 m)
<b>Super Spray®</b>	6 - 25 psi (.42 - 1.72 bars)	15 - 25 psi (1.04 - 1.73 bars)	1.5 - 14 ft (.46 - 4.27 m)	Medium - High	75 - 95%	25 - 40 ft (7.6 - 12.2 m)
<b>Quad-Spray®</b>	6 - 10 psi (.42 - .69 bars)	10 - 20 psi (.69 - 1.38 bars)	8 in - 1.5 ft (.20 - .46 m)	Very High	95 - 98%	1 - 2 ft (.3 - .6 m) (Bubble Mode)
<b>6° Impact</b>	25 - 70 psi (1.72 - 4.83 bars)	35 - 70 psi (2.42 - 4.83 bars)	10 - 14 ft (3.05 - 4.27 m)	Low	65 - 80%	70 - 100 ft (7.6 - 12.2 m)

**F**

<sup>1</sup> Lower end of pressure range on some products allows larger droplets which can cause compaction in some soil conditions.

<sup>2</sup> Pivot Pressure = pressure at top of mainline at the first outlet  
(range given is assuming 1300' of 6-5/8" galvanized pipe and < 800 gpm).

<sup>3</sup> Application efficiency = percent of water pumped that reaches the soil surface  
(may vary significantly depending on actual nozzle pressure and, where applicable, pad selection).

<sup>4</sup> SPACING - Senninger recommends a minimum of 150% overlap (nozzles spaced no farther apart than 2/3 of throw radius) for all sprinklers and spray nozzles.  
In windier conditions, a 200% overlap is preferable.  
(Exception: The Quad-Spray should be spaced to travel down every other furrow.)

**See the following pages for additional detailed information on these irrigation products.**

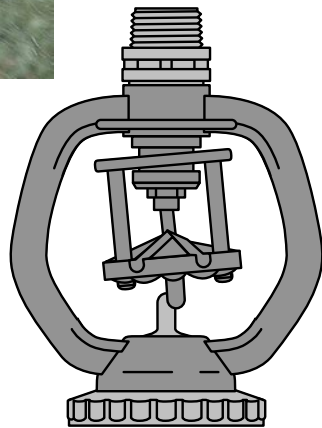
**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**



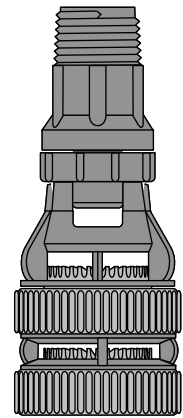
SPRAYS

**Senninger Pivot-Master® Irrigation Products**

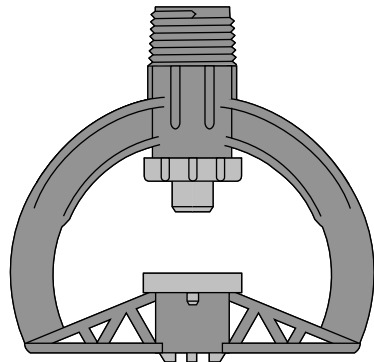
**i-Wob®**



**LDN® (Low Drift Nozzle)**



**Super Spray®**



**6° Impact**



**F**

SPRAYS

**Senninger i-Wob®**

**Complete i-Wobs**

*Includes Nozzle & Base; excludes weight.*



*i-Wob, Complete, w/ M NPT Base*



*i-Wob, Complete, w/ Barb Base*

NI Part Number		Description
w/ 3/4" M NPT Base	w/ 3/4" Barb Base	
928127	928127-B	i-Wob, Standard Angle, 9-Groove, Black Deflector, w/ Nozzle
928128	928128-B	i-Wob, Low Angle, 9-Groove, Blue Deflector, w/ Nozzle
928125	928125-B	i-Wob, Low Angle, 6-Groove, White Deflector, w/ Nozzle

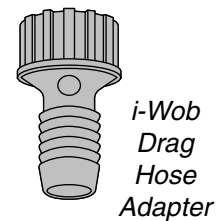
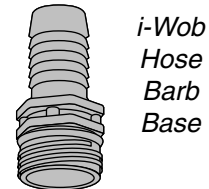
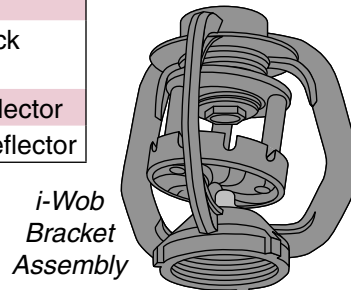
**Note:** i-Wob weight supplied separately, see weights listings below.

- Unique off-center rotary action provides outstanding uniformity.
- Gentle, rain-like application.
- Excellent distance of throw.
- Low pressure operation, between 10 and 20 psi, can mean big energy savings over the course of a year.

**i-Wob Components**

**Note:** Complete i-wob consists of Adapter, Nozzle, and Bracket Assembly.

NI Part #	Description
110132	Adapter, 3/4" M NPT Base
110133	Adapter, 3/4" Hose Barb Base
79600	Nozzle (all sizes)
928146	Bracket Assembly, Standard Angle, 9-Groove, Black Deflector
928147	Bracket Assembly, Low Angle, 9-Groove, Blue Deflector
928149	Bracket Assembly, Low Angle, 6-Groove, White Deflector



**i-Wob Weights**

NI Part #	Description
510100	1/2 lb. i-Wob Weight
510101	3/4 lb. i-Wob Weight
510102	1 lb. i-Wob Weight



**i-Wob Weight**  
*Below-the-nozzle mounting creates less stress on flexible drops.*

**i-Wob Options**

NI Part #	Description
79580	Nozzle Carrier (nozzle sold separately)
110134	Drag Hose Adapter

**Drag Hose Adapter**  
*Allows for easy conversion to direct furrow (LEPA style) application with drag hose.*

**Nozzle Carrier**  
*Simplifies renozzling for a second flow rate during the season.*

**Consult NI customer service when considering an i-Wob sprinkler package.**

**SPRAYS**

**Senninger i-Wob® Flow Chart**

Senninger i-Wob Performance Data												
Nozzle			Nozzle Pressure psi	Standard Angle			Low Angle 9			Low Angle 6		
#, Color, Size				10	15	20	10	15	20	10	15	20
#7	Lime	7/64"	Flow in gpm	1.12	1.34	1.56	1.12	1.34	1.56			
			Diameter (ft) at 3' ht.	36.9	40.1	42.5	32.0	36.4	39.6			
			Diameter (ft) at 6' ht.	39.6	43.2	44.4	36.4	40.4	41.7			
#8	Lavender	1/8"	Flow in gpm	1.45	1.73	2.01	1.45	1.73	2.01			
			Diameter (ft) at 3' ht.	38.0	41.3	43.8	33.2	37.6	40.8			
			Diameter (ft) at 6' ht.	40.6	44.2	45.8	37.6	41.6	42.9			
#9	Grey	9/64"	Flow in gpm	1.82	2.17	2.52	1.82	2.17	2.52			
			Diameter (ft) at 3' ht.	39.0	42.2	45.1	34.4	38.8	42.0			
			Diameter (ft) at 6' ht.	41.6	45.2	47.2	38.8	42.7	44.0			
#10	Turquoise	5/32"	Flow in gpm	2.25	2.69	3.12	2.25	2.69	3.12			
			Diameter (ft) at 3' ht.	40.0	43.0	46.0	35.6	40.0	43.2			
			Diameter (ft) at 6' ht.	42.6	46.2	48.4	40.0	43.8	45.1			
#11	Yellow	11/64"	Flow in gpm	2.65	3.21	3.76	2.65	3.21	3.76			
			Diameter (ft) at 3' ht.	40.9	43.8	46.8	36.8	41.2	44.2			
			Diameter (ft) at 6' ht.	43.6	47.2	49.6	41.2	44.9	46.2			
#12	Red	3/16"	Flow in gpm	3.16	3.81	4.45	3.16	3.81	4.45	3.16	3.81	4.45
			Diameter (ft) at 3' ht.	41.8	44.6	47.6	38.0	42.4	45.2	40.0	44.5	46.2
			Diameter (ft) at 6' ht.	44.6	48.0	50.8	42.4	46.0	47.3	43.6	46.7	50.4
#13	White	13/64"	Flow in gpm	3.77	4.50	5.23	3.77	4.50	5.23	3.77	4.50	5.23
			Diameter (ft) at 3' ht.	42.6	45.4	48.4	39.2	43.6	46.0	40.9	45.1	46.7
			Diameter (ft) at 6' ht.	45.6	48.8	51.8	43.6	47.0	48.3	44.8	47.7	51.4
#14	Blue	7/32"	Flow in gpm	4.39	5.24	6.09	4.39	5.24	6.09	4.39	5.24	6.09
			Diameter (ft) at 3' ht.	43.4	46.1	49.2	39.8	44.8	46.6	41.5	45.6	47.2
			Diameter (ft) at 6' ht.	46.6	49.4	52.8	44.6	47.8	49.1	45.6	48.3	51.8
#15	Dark Brown	15/64"	Flow in gpm	5.05	6.03	7.00	5.05	6.03	7.00	5.05	6.03	7.00
			Diameter (ft) at 3' ht.	44.2	46.8	49.9	40.2	45.6	47.0	42.0	46.0	47.6
			Diameter (ft) at 6' ht.	47.6	50.0	53.6	45.0	48.2	49.5	46.0	48.9	52.0
#16	Orange	1/4"	Flow in gpm	5.79	6.91	8.03	5.79	6.91	8.03	5.79	6.91	8.03
			Diameter (ft) at 3' ht.	44.8	47.4	50.6	40.6	45.8	47.2	42.4	46.4	48.0
			Diameter (ft) at 6' ht.	48.4	50.6	54.4	45.2	48.5	49.9	46.4	49.5	52.2
#17	Dark Green	17/64"	Flow in gpm	6.50	7.76	9.01	6.50	7.76	9.01	6.50	7.76	9.01
			Diameter (ft) at 3' ht.	45.2	48.0	51.3	40.8	46.0	47.3	42.8	46.8	48.4
			Diameter (ft) at 6' ht.	49.0	51.0	55.0	45.3	48.7	50.2	46.8	50.0	52.3
#18	Purple	9/32"	Flow in gpm	7.25	8.65	10.04	7.25	8.65	10.04	7.25	8.65	10.04
			Diameter (ft) at 3' ht.	45.4	48.4	52.0	41.0	46.2	47.4	43.2	47.2	48.6
			Diameter (ft) at 6' ht.	49.4	51.4	55.4	45.4	48.9	50.4	47.0	50.5	52.4
#19	Black	19/64"	Flow in gpm	7.99	9.54	11.08	7.99	9.54	11.08	7.99	9.54	11.08
			Diameter (ft) at 3' ht.	45.5	48.9	52.6	41.2	46.4	47.5	43.6	47.6	48.7
			Diameter (ft) at 6' ht.	49.8	51.8	55.8	45.5	49.1	50.6	47.1	50.9	52.5
#20	Dark Turquoise	5/16"	Flow in gpm	8.75	10.44	12.13	8.75	10.44	12.13	8.75	10.44	12.13
			Diameter (ft) at 3' ht.	45.6	49.3	53.2	41.4	46.6	47.6	43.8	47.9	48.8
			Diameter (ft) at 6' ht.	50.2	52.2	56.2	45.6	49.3	50.8	47.2	51.3	52.6
#21	Mustard	21/64"	Flow in gpm	9.52	11.36	13.20	9.52	11.36	13.20	9.52	11.36	13.20
			Diameter (ft) at 3' ht.	45.7	49.6	53.7	41.5	46.8	47.7	43.9	48.2	48.9
			Diameter (ft) at 6' ht.	50.6	52.6	56.6	45.7	49.5	51.0	47.3	51.6	52.7
#22	Maroon	11/32"	Flow in gpm	10.29	12.28	14.27	10.29	12.28	14.27	10.29	12.28	14.27
			Diameter (ft) at 3' ht.	45.8	49.9	54.1	41.6	47.0	47.8	44.0	48.4	49.0
			Diameter (ft) at 6' ht.	51.0	53.0	56.9	45.8	49.7	51.2	47.4	51.9	52.8
#23	Cream	23/64"	Flow in gpm	11.18	13.34	15.50	11.18	13.34	15.50	11.18	13.34	15.50
			Diameter (ft) at 3' ht.	45.9	50.1	54.3	41.7	47.2	47.9	44.1	48.6	49.1
			Diameter (ft) at 6' ht.	51.2	53.4	57.1	45.9	49.8	51.4	47.5	52.2	52.9
#24	Dark Blue	3/8"	Flow in gpm	12.06	14.40	16.73	12.06	14.40	16.73	12.06	14.40	16.73
			Diameter (ft) at 3' ht.	46.0	50.2	54.4	41.8	47.4	48.0	44.2	48.8	49.2
			Diameter (ft) at 6' ht.	51.4	53.6	57.2	46.0	49.9	51.6	47.6	52.5	53.0



**Half-size nozzles also available.**  
i-Wob Nozzle  
79600

Figures reflect actual test data obtained under ideal conditions.  
Consult factory for higher flow demands.

Three Models of i-Wobs		
Standard	Low-Angle - 6	Low-Angle - 9
• Black, 9-groove deflector.	• White, 6-groove deflector.	• Blue, 9-groove deflector.
• Largest area of coverage.	• Large droplets / fights wind.	• Gentler application / fights wind.

SPRAYS

**Senninger LDN®**



LDN Single Spray Head 92833



LDN Double Spray Head 92834



LDN Triple Spray Head 92835

**Complete LDNs**

Includes nozzle; specify desired size.

NI Part Number		Description
w/ 3/4" M NPT Base	w/ 3/4" Barb Base	
92833	92833-B	LDN Single, Complete
92834	92834-B	LDN Double, Complete
92835	92835-B	LDN Triple, Complete

**LDN Options**

NI Part #	Description
51055	3/4 lb. LDN Weight
51060	1 lb. LDN Weight
11086	LDN w/ Drag Hose Adapter
88089	Bubbler Pad, Beige, nozzles #5-24
88072	Corn Chem Pad, CM1, Red, nozzles #5-9
88078	Corn Chem Pad, CM2, Maroon, nozzles #10-24
880103	Cotton Chem Pad, CT-L, White, nozzles #5-24

**Features and Benefits of LDN – Low-Drift Nozzle**

- Extremely efficient water application with minimized losses to wind drift, evaporation, and runoff.
- Unique multiple deflector pad design allows it to produce uniform sized droplets through the wide range of nozzle flows found on center pivots.
- Rugged design for traveling through tall crops.
- Low pressure operation — 6 to 15 psi.
- **Chemigation Pads** produce an upward spray under the crop canopy, for washing or applying pesticide. Corn chem pad: 58° upward throw; cotton chem pad: 15° - 30° multi-level upward throw.
- **Bubbler Pad** applies water in a gentle, aerated pattern ideal for direct-to-furrow (LEPA style) irrigation.
- **Hose Barb Adapter** along with a drag hose allows water application directly into the furrow. The adapter snaps right onto the LDN.



Bubbler Pad

(Must be used in conjunction with LDN weight.)



LDN Weight

**LDN Components**

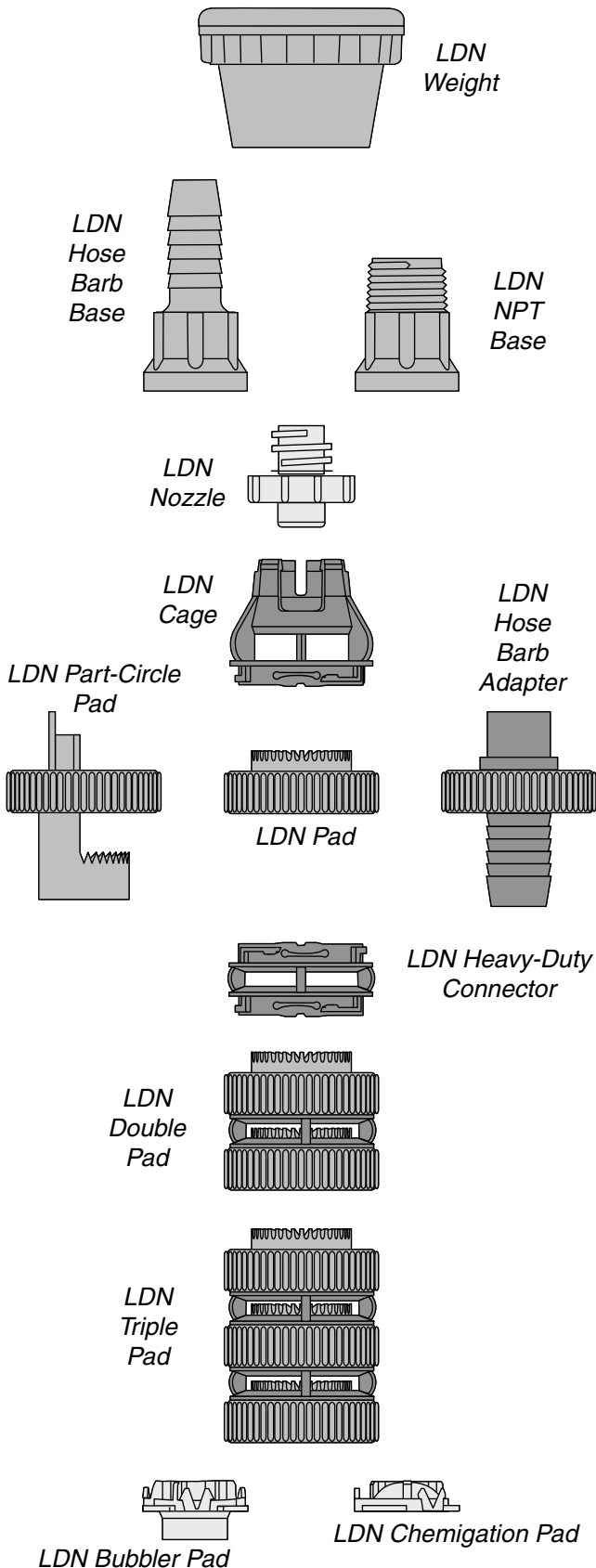
NI Part #	Description
16006	Adapter, 3/4" M NPT
16006-B	Adapter, Hose Barb
795146	Nozzle
145191	Body
88071	Single Spray Plate
88074	Double Spray Plate
88090	Triple Spray Plate

A large selection of spray plates are available for a variety of applications. Specify desired spray when ordering.

SPRAYS

**LDN Components and Options**

**Senninger LDN® Flow Chart**



Senninger LDN Flow Data – in gallons per minute						
Nozzle #, Color, Size			Nozzle Pressure – psi			
			6*	10	15	20*
#5	Beige	5/64"	.43	.55	.66	.76
#6	Gold	3/32"	.64	.82	.98	1.14
#7	Lime	7/64"	.87	1.12	1.34	1.56
#8	Lavender	1/8"	1.12	1.45	1.73	2.01
#9	Grey	9/64"	1.41	1.82	2.17	2.52
#10	Torquoise	5/32"	1.74	2.25	2.69	3.12
#11	Yellow	11/64"	2.05	2.65	3.21	3.76
#12	Red	3/16"	2.45	3.16	3.81	4.45
#13	White	13/64"	2.92	3.77	4.50	5.23
#14	Blue	7/32"	3.40	4.39	5.24	6.09
#15	Dark Brown	15/64"	3.91	5.05	6.03	7.00
#16	Orange	1/4"	4.48	5.79	6.91	8.03
#17	Dark Green	17/64"	5.03	6.50	7.76	9.01
#18	Purple	9/32"	5.62	7.25	8.65	10.04
#19	Black	19/64"	6.19	7.99	9.54	11.08
#20	Dark Turquoise	5/16"	6.78	8.75	10.44	12.13
#21	Mustard	21/64"	7.37	9.52	11.36	13.20
#22	Maroon	11/32"	7.97	10.29	12.28	14.27
#23	Cream	23/64"	8.86	11.18	13.34	15.50
#24	Dark Blue	3/8"	9.34	12.06	14.40	16.73

\* For optimum performance, Senninger recommends operating the LDN at 10 to 15 psi.

**Half-size nozzles also available.**

Figures reflect actual test data obtained under ideal conditions.

Consult factory for higher flow demands.



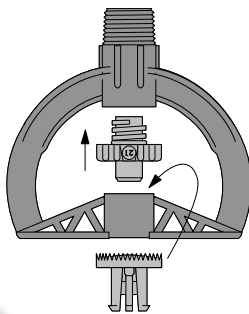
SPRAYS

**Senninger Super Spray®**

Super Spray,  
Complete  
92825



- Wide variety of color-coded deflector pads to customize distribution pattern.
- Full 360° spray pattern.
- Low-pressure operation: 6-25 psi.
- Chemigation pads available:  
Corn with 58° upward throw and  
Cotton with 15° - 30° multi-level upward  
throw.
- Hose barb adapter available for direct furrow  
water application.



Super Spray Bracket  
92896



Nozzle  
795146



Spray Plate  
88000

**Complete Super Sprays**

Includes nozzle; specify desired size.

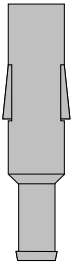
NI Part #	Description
92825	Complete Super Spray w/ Plate* and Nozzle

\* There are over 20 spray plates available for the super spray that suit a variety of applications.

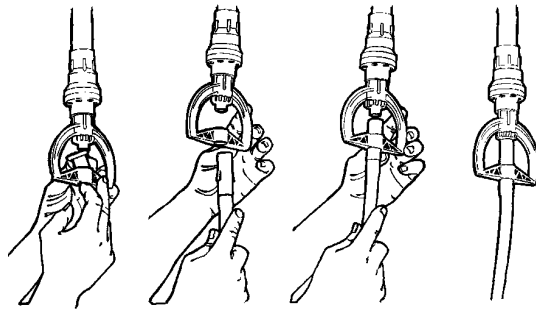
**Super Spray Options**

Hose drag adapters are also available as follows:

NI Part #	Description
110141	1/2" Drag Hose Adapter
11087	3/4" Drag Hose Adapter



The drag hose adapter and a drag sock allows water application directly into the furrow. The adapter snaps right into the Super Spray, replacing the deflector pad.



**Super Spray Components**

NI Part #	Description
92896	Bracket w/ White Vain
795146	Nozzle
88000	Spray Plate*

\* There are over 20 spray plates available for the Super Spray that suit a variety of applications.

F

SPRAYS

**Additional Senninger Pivot-Master® Products**

**Quad-Spray® (LEPA)**

*Includes nozzle; specify desired size.*

NI Part #	Description
928223	Complete Quad Spray w/ 6 PSI Regulator
928224	Complete Quad Spray w/ 10 PSI Regulator
92821	Complete Quad Spray less PSI Regulator

**Features and Benefits**

- Developed specifically for Low Energy Precision Application (LEPA).
- Less energy is needed; operating at very low pressures of 6-10 psi at the nozzle and low water requirements of 95-98% applications efficiency.
- Two bubble modes eliminate misting and reduce soil redistribution.
- Spray irrigate mode to wet entire soil surface when needed.
- Chemigate pads available:  
Corn with 58° upward throw and  
Cotton with 15° - 30° multi-level upward throw.
- Standard model includes internal Pressure-Master Regulator.
- Color coded nozzles for easy size identification.



Quad-Sprays are available in complete packages only.  
Quad-Sprays typically are mounted on hose drops for direct furrow irrigation.



*Quad-Spray® in spray irrigate mode.*



*Quad-Spray®*

**F**

**Fan Spray™**

**Features and Benefits**

- Mounted on either side of a tower, the Fan Spray's directional spray helps keep water away from wheel tracks.
- Color coded nozzles for easy size identification.

*Includes nozzle; specify desired size.*

NI Part #	Description
92831	Complete 180° Fan Spray



*Fan Spray*

**Fan spray must be mounted on a rigid drop or on top of pipe. Do not mount on hose drops.**

SPRAYS

**Nelson 3000 Series Pivot Products**

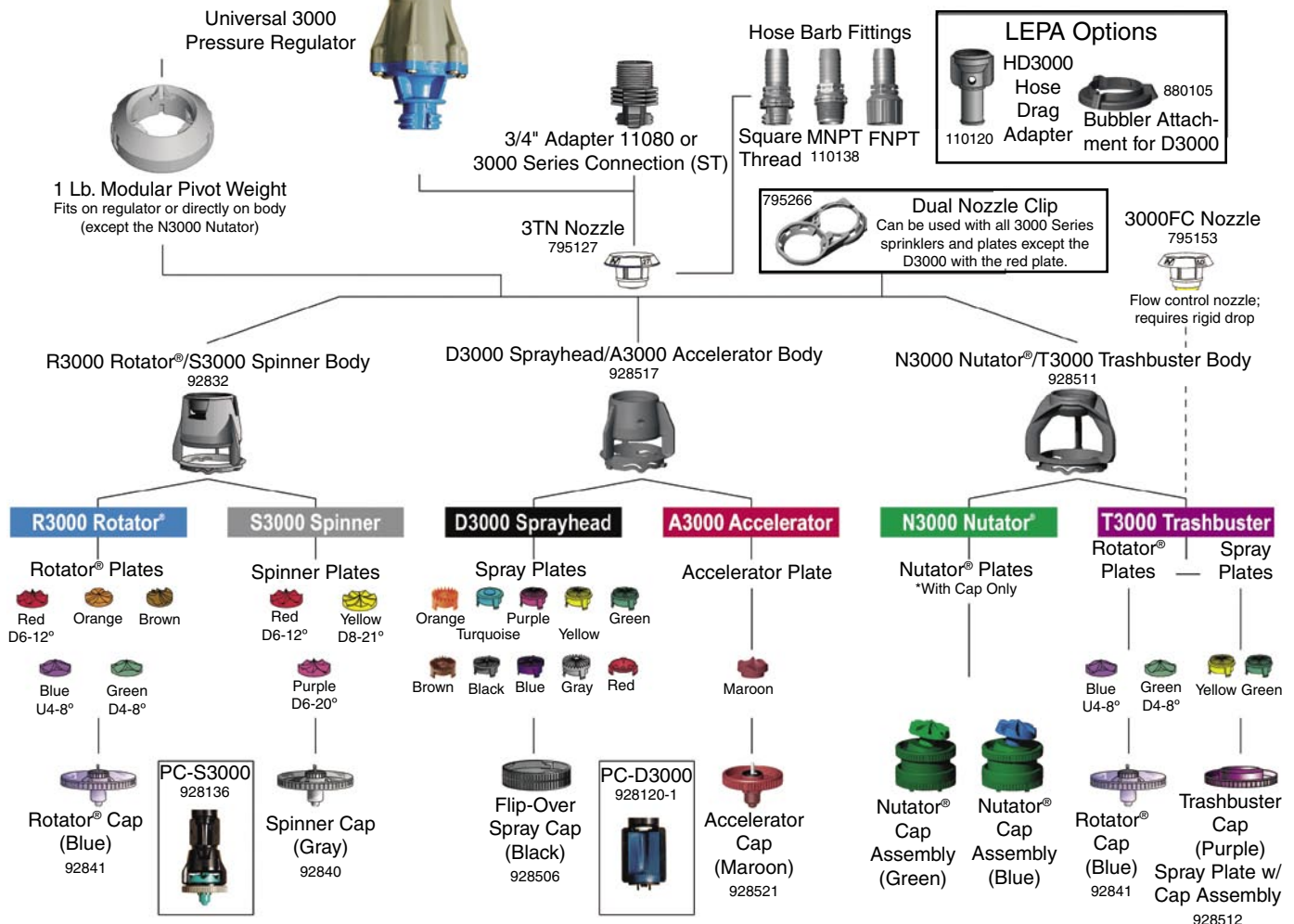
Nelson Sprays Selection Chart					
Product *	Nozzle Type	Operating Range	Application Rate	Mounting	Relative Throw Distance **
Rotator R3000	3TN	15-50 psi (1-3.4 bar)	Low	Up Top or On Drops	50'-70' (15.2-21.3m)
Spinner S3000	3TN	10-20 psi (.7-1.4 bar)	Low-Medium	On Drops	42'-54' (12.8-16.5m)
Nutator N3000	3TN	10-15 psi (.7-1 bar)	Low-Medium	On Drops* (flex hose)	44'-52' (13.4-14.6M)
Spray Head D3000	3TN	6-40 psi (.41-2.8 bar)	High	Up Top or On Drops	16'-40' (4.9-12.2m)
Accelerator A3000	3TN	10-15 psi (.7-1 bar)	Medium	On Drops	30'-46' (9.1-14.6m)
Trash-Buster T3000	3TN or 3000 FC	Depends on sprinkler selection	Low-High	Up Top or On Drops	Depends on sprinkler selection

\* Careful selection of pressure and sprinkler configuration must be taken into account to optimize droplet size and other performance characteristics.

\*\* Throw Distance varies with pressure, nozzle size, mounting height, and hydraulic conditions.

**See the following pages for additional detailed information on these pivot products.**

**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**





SPRAYS

## Nelson R3000 Rotator® Pivot Sprinklers



**\* Specify desired plate when ordering:**

- Blue – BLU
- Green – GRN
- Red – R
- Orange – OR
- Brown – BRN

- Greater throw radius. The wide water pattern from rotating streams equates to lower average application rates, longer soak time, and reduced runoff.
- High uniformity. Increased overlap from adjacent sprinklers improves uniformity.
- Reduced wind drift and evaporative loss.

### Complete R3000 Pivot Rotators®

*Includes nozzle; specify desired size.*

NI Part #	Description
92894	Complete R3000 w/ Nozzle, Plate*, and 3/4" M NPT Adapter

### R3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT
795127	3TN Nozzle
92832	R3000/S3000 Body
88023	Rotor Plates*
92841	R3000 Cap/Motor



## Nelson S3000 Spinner Pivot Sprinklers



**\* Specify desired plate when ordering:**

- Red – R
- Purple – P
- Yellow – Y

- Gentle rain at low pressure.
- Utilizes a free-spinning action to produce a gentle, rain-like water pattern.
- Designed for more sensitive crops and soils.
- Superior uniformity with better overlap and lower application rates.
- Crop-guarded body for low energy, down in the crop application.

### Complete S3000 Pivot Spinners

*Includes nozzle; specify desired size.*

NI Part #	Description
92897	Complete S3000 w/ Nozzle, Plate*, 3/4" M NPT Adapter
928116	Complete Part Circle PC-S3000 Includes: Motor, Plate*, Cap, Body Assembly, 3/4" M NPT Adapter, and Nozzle.
928136	Part Circle PC-S3000, less adapter & nozzle Includes: Motor, Plate*, Cap, Body Assembly. (Does not include the 3/4" M NPT adapter or nozzle.)

### S3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT
795127	3TN Nozzle
92832	S3000/R3000 Body
92844	Rotor Plates*
92840	S3000 Cap/Motor



**F**

SPRAYS

## Nelson A3000 Accelerator Pivot Sprinklers



- Designed for in-canopy water application.
- Utilizes both Rotator and Spinner technology.
- Increases rotation speed as the nozzle size increases.
- Maximizes throw distance and minimizes evaporative losses at low flow rates.
- At the end of the system, it transforms into a Spinner to lower instantaneous application rates while treating the soil correctly.

### Complete A3000 Pivot Accelerators

*Includes nozzle; specify desired size.*

NI Part #	Description
928148	Complete A3000 w/ Nozzle, Plate, 3/4" M NPT Adapter

### A3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT
795127	3TN Nozzle
928517	A3000/D3000 Body
928520	Rotor Plates
928521	A3000 Cap/Motor



## Nelson T3000 Trashbuster Pivot Sprinklers

F



**\* Specify desired plate when ordering:**

- Green – GRN
- Yellow – Y
- Black – BLK
- Blue – BLU

- Developed for the land application of wastewater.
- Features an open-architecture body design to pass debris more easily.
- Flow control nozzle – The 3000FC nozzle not only eliminates the need for pressure regulators, but also passes debris more easily. (It is not to be used on flexible drop hose assemblies.)

### Complete T3000 Trashbusters

*Includes nozzle; specify desired size.*

NI Part #	Description
928523	Complete T3000 Trashbuster Spray with 3TN Nozzle & Cap/Spray Plate*
928524	Complete T3000 Trashbuster Spray with 3000FC Nozzle & Cap/Spray Plate*
	For Trashbuster with R3000 Rotator Cap/Motor/Plate, specify from R3000 section.

### T3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT
795127	3TN Nozzle
795153	3000FC Flow Control Nozzle
928511	T3000 Body
928512	T3000 Cap/Spray Plate Assembly*



SPRAYS

## Nelson D3000 Sprayhead Pivot Sprinklers



**\* Specify desired plate when ordering:**

- Turquoise – T
- Green – GRN
- Yellow – Y
- Purple – P
- Blue – BLU
- Black – BLK
- Gray – GRY
- Orange – OR
- Brown – BRN
- Red – R

- A fixed-spray sprinkler which produces a variety of patterns dependent upon the specific spray plate.
- Flip-over dual spray cap allow easy conversion of the spray pattern.
- Choose spray plate options to germinate, irrigate, chemigate.
- Optional hose drag adapter for Low Energy Precision Application – LEPA.

### Complete D3000 Pivot Spray Heads

NI Part #	Description
92898	Complete D3000 w/ 3/4" M NPT Adapter w/ Nozzle and one Spray Plate*
92898-B	Complete D3000 w/ Barb Adapter w/ Nozzle and one Spray Plate*
928120-1	Part Circle PC-D3000 w/ Spray Plate* and Body Assembly Only (Does not include the nozzle, adapter, or hose barb.)

### D3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT (or)
110138	3000 Adapter Hose Barb
795127	3TN Nozzle
928517	D3000/A3000 Body
928506	D3000 Cap
92844	Spray Plates *



## LEPA Accessories

### LEPA Bubbler Clip

NI Part #	Description
880105	LEPA Bubbler Clip for D3000



LEPA Bubbler Clip



### HD3000 Hose Drag Adapter

#### Complete HD3000 Adapter

NI Part #	Description
928118	Complete HD3000 Hose Drag Adapter



### HD3000 Components

NI Part #	Description
11080	3000 Adapter 3/4" M NPT
795127	3TN Nozzle
110120	HD3000 Adapter



- For LEPA – low energy precision application.
- Utilize on the 3000 Series to apply a hose drag or a drag sock.
- Pressure regulators are generally a necessity for good LEPA uniformity of nozzle discharge.

SPRAYS

**Nelson 3000 Series Pivot Products** (continued)

**Accessories**

NI Part #	Description
510333	1 lb. Weight
795266	Dual Nozzle Clip



1 lb. Weight



Dual Nozzle Clip

**Dual Nozzle Clip**

**F**

- Allows precise matching of crop water requirements through the season.
- Change system flow quickly and accurately.
- No more fumbling with or dropping nozzles.

**Nelson 3TN Nozzle System Flow Chart**

Nelson 3TN Nozzle System Flow Data – in gallons per minute										
Nozzle #, Color, Stripe			Nozzle Pressure – psi							
			6	10	15	20	25	30	40	50
#9	Light Blue	Beige	0.34	0.44	0.53	0.62	0.69	0.76	0.87	0.97
#10	Beige		0.42	0.54	0.66	0.76	0.85	0.93	1.07	1.20
#11	Beige	Gold	0.50	0.65	0.79	0.92	1.02	1.12	1.29	1.45
#12	Gold		0.61	0.79	0.96	1.11	1.24	1.36	1.57	1.76
#13	Gold	Lime	0.71	0.92	1.13	1.30	1.46	1.59	1.84	2.06
#14	Lime		0.82	1.06	1.29	1.49	1.67	1.83	2.11	2.36
#15	Lime	Lavender	0.95	1.23	1.51	1.74	1.95	2.14	2.47	2.76
#16	Lavender		1.08	1.40	1.71	1.98	2.21	2.42	2.80	3.13
#17	Lavender	Gray	1.22	1.58	1.93	2.23	2.50	2.74	3.16	3.53
#18	Gray		1.36	1.75	2.14	2.48	2.77	3.03	3.50	3.91
#19	Gray	Turquoise	1.53	1.97	2.41	2.79	3.12	3.41	3.94	4.41
#20	Turquoise		1.70	2.19	2.69	3.10	3.47	3.80	4.39	4.90
#21	Turquoise	Yellow	1.84	2.38	2.91	3.36	3.76	4.12	4.76	5.32
#22	Yellow		2.04	2.64	3.23	3.73	4.17	4.56	5.27	5.89
#23	Yellow	Red	2.22	2.86	3.50	4.05	4.52	4.96	5.72	6.40
#24	Red		2.44	3.16	3.86	4.46	4.99	5.47	6.31	7.06
#25	Red	White	2.64	3.41	4.17	4.82	5.38	5.90	6.81	7.61
#26	White		2.87	3.70	4.53	5.23	5.85	6.41	7.40	8.28
#27	White	Blue	3.07	3.97	4.86	5.61	6.27	6.87	7.94	8.87
#28	Blue		3.35	4.32	5.29	6.11	6.83	7.48	8.64	9.66
#29	Blue	Dark Brown	3.58	4.62	5.66	6.53	7.30	8.00	9.24	10.33
#30	Dark Brown		3.83	4.94	6.06	6.99	7.82	8.56	9.89	11.06
#31	Dark Brown	Orange	4.06	5.24	6.41	7.40	8.28	9.07	10.47	11.71
#32	Orange		4.36	5.63	6.89	7.96	8.90	9.75	11.26	12.59
#33	Orange	Dark Green	4.65	6.00	7.35	8.49	9.49	10.39	12.00	13.42
#34	Dark Green		4.94	6.37	7.81	9.01	10.08	11.04	12.75	14.25
#35	Dark Green	Purple	5.20	6.72	8.23	9.50	10.62	11.64	13.44	15.02
#36	Purple		5.47	7.06	8.65	9.98	11.16	12.23	14.12	15.79
#37	Purple	Black	5.84	7.54	9.24	10.67	11.92	13.06	15.08	16.86
#38	Black		6.18	7.97	9.77	11.28	12.61	13.81	15.95	17.83
#40	Dark Turquoise		6.85	8.85	10.84	12.51	13.99	15.33	17.70	19.79
#42	Mustard		7.60	9.81	12.01	13.87	15.51	16.99	19.61	21.93
#44	Maroon		8.33	10.75	13.17	15.20	17.00	18.62	21.50	24.04
#46	Cream		9.12	11.77	14.41	16.64	18.61	20.38	23.54	26.31
#48	Dark Blue		9.96	12.86	15.75	18.19	20.33	22.28	25.72	28.76
#50	Copper		10.77	13.91	17.03	19.67	21.99	24.09	27.82	31.10



**Color Stripe**

Odd numbered nozzles have a color stripe of the next size.

**Nozzle Size**

In 128th inch increments.  
Example: 35/128th inch orifice size.



This flow data was obtained under ideal test conditions and may be adversely affected by poor hydraulic entrance conditions, turbulence, or other factors.

PRESSURE REGULATORS

**Nelson Pressure Regulators**

**Features and Benefits**

- Maintains a set outlet pressure regardless of inlet pressure changes due to hydraulic conditions, elevation changes, pumping scenarios, etc.
- Wide Flow Range to 12 gpm at 15 psi and above.
- Plug-Resistant Design -- an open seat design prevents hair-pinning, debris hang-up, and plugging.
- Patented Dampening System -- handles severe pressure surges to withstand water hammer.
- Chemically Resistant Materials.
- Extended Performance & Precision Accuracy -- Precision components coupled with an internally lubricated o-ring minimize frictional drag and hysteresis.
- Integral adapter connects directly into all Nelson 3000 Series Sprinklers.

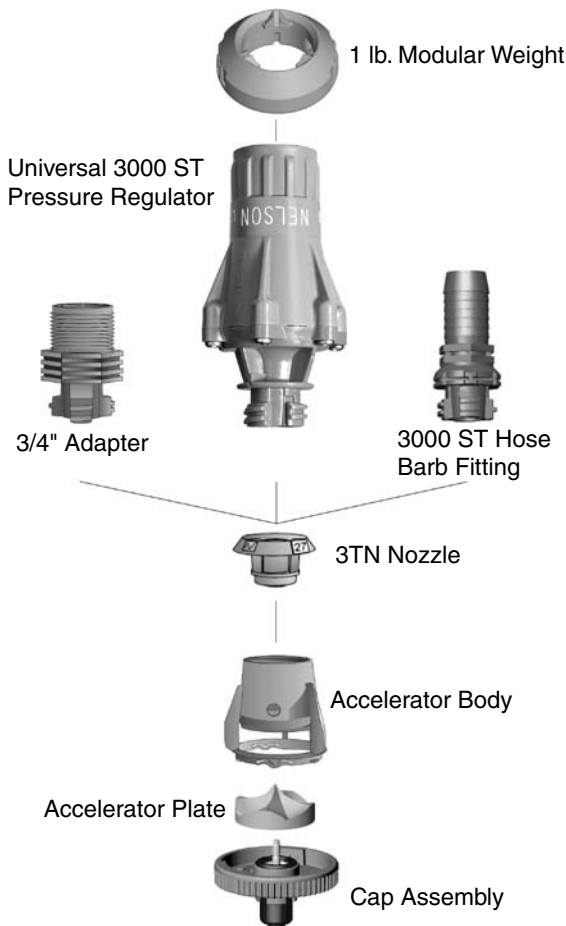
**Blue-Top Pressure Regulator**

Flow Range: .5 to 20 gpm.

Inlet x Outlet: 3/4" Female NPT x 3/4" Female NPT



NI Part #	PSI	Flow in gpm
90127-L	6	Low .5 – 8
90105-L	10	Low .5 – 10
90118-L	15	Low .5 – 10
90119-L	20	Low .5 – 10
90120-L	25	Low .5 – 10
90121-L	30	Low .5 – 10
90128	6	High 4 – 16
90105	10	High 4 – 16
90118	15	High 2 – 20
90119	20	High 2 – 20
90120	25	High 2 – 20
90121	30	High 2 – 20
90122	40	High 2 – 20
90150	50	High 2 – 20



**Blue-Top Pressure Regulator-ST Square Thread Series**

Flow Range: .5 to 20 gpm.

Inlet x Outlet: 3/4" Female NPT x 3/4" Male Square Thread



NI Part #	PSI	Flow in gpm
90127ST-L	6	Low .5 – 8
90105ST-L	10	Low .5 – 10
90118ST-L	15	Low .5 – 10
90119ST-L	20	Low .5 – 10
90120ST-L	25	Low .5 – 10
90121ST-L	30	Low .5 – 10
90128ST	6	High 4 – 16
90105ST	10	High 4 – 16
90118ST	15	High 2 – 20
90119ST	20	High 2 – 20
90120ST	25	High 2 – 20
90121ST	30	High 2 – 20



PRESSURE REGULATORS

**Senninger Pressure Regulators**

- Maintain a constant preset outlet pressure while handling inlet pressures up to 150 psi.
- Withstand severe water hammer.
- 100% water tested for accuracy; no adjustments ever needed.
- Strong, durable construction.
- Very low hysteresis and friction losses.
- 3/4" NPT female x 3/4" NPT female thread.
- Two-year warranty on materials, workmanship, and performance.

**Pivot Special Regulator (PSR)<sup>™</sup>  
Multi-Range Pressure Regulator**

Flow Range: 0.5 to 15 gpm.  
Inlet x Outlet: 3/4" Female NPT x 3/4" Female NPT



NI Part#	PSI	Flow in gpm
90139	6	.5 – 15
90135	10	.5 – 15
90142	12	.5 – 15
90133	15	.5 – 15
90132	20	.5 – 15
90136	25	.5 – 15
90134	30	.5 – 15
90137	35	.5 – 15
90140	40	.5 – 15
90117	50	.5 – 15
90151	60	.5 – 15

**Pressure-Master Regulators<sup>®</sup>**

**PMR<sup>®</sup> – Low-Flow Models**

Flow Range: 0.1 to 8 gpm.  
Inlet x Outlet: 3/4" Female NPT x 3/4" Female NPT

NI Part #	PSI	Flow In gpm
90124	6	.5 – 5
90107	10	.5 – 5
90143	12	.1 – 8
90108	15	.1 – 8
90103	20	.1 – 8
90130	25	.1 – 8
90106	30	.1 – 8
90144	35	.1 – 8
90145	40	.1 – 8



**PMR<sup>®</sup> – Medium-Flow Models**

Flow Range: 4 to 16 gpm.  
Inlet x Outlet: 3/4" Female NPT x 3/4" Female NPT



NI Part #	PSI	Flow In gpm
90125	6	4 – 16
90104	10	4 – 16
90146	12	2 – 20
90109	15	2 – 20
90110	20	2 – 20
90111	25	2 – 20
90112	30	2 – 20
90113	35	2 – 20
90114	40	2 – 20
90115	50	2 – 20
90147	60	2 – 20

**PMR<sup>®</sup> – High-Flow Models**

Flow Range: 10 to 32 gpm.  
Inlet x Outlet: 1-1/4" Female NPT x 1" Female NPT

NI Part #	PSI	Flow In gpm
90131	10	10 – 32
90148	15	10 – 32
90123	20	10 – 32
90149	25	10 – 32
90126	30	10 – 32
90116	40	10 – 32
90138	50	10 – 32

DROPS

**Low Pressure Drop Systems for Center Pivots**

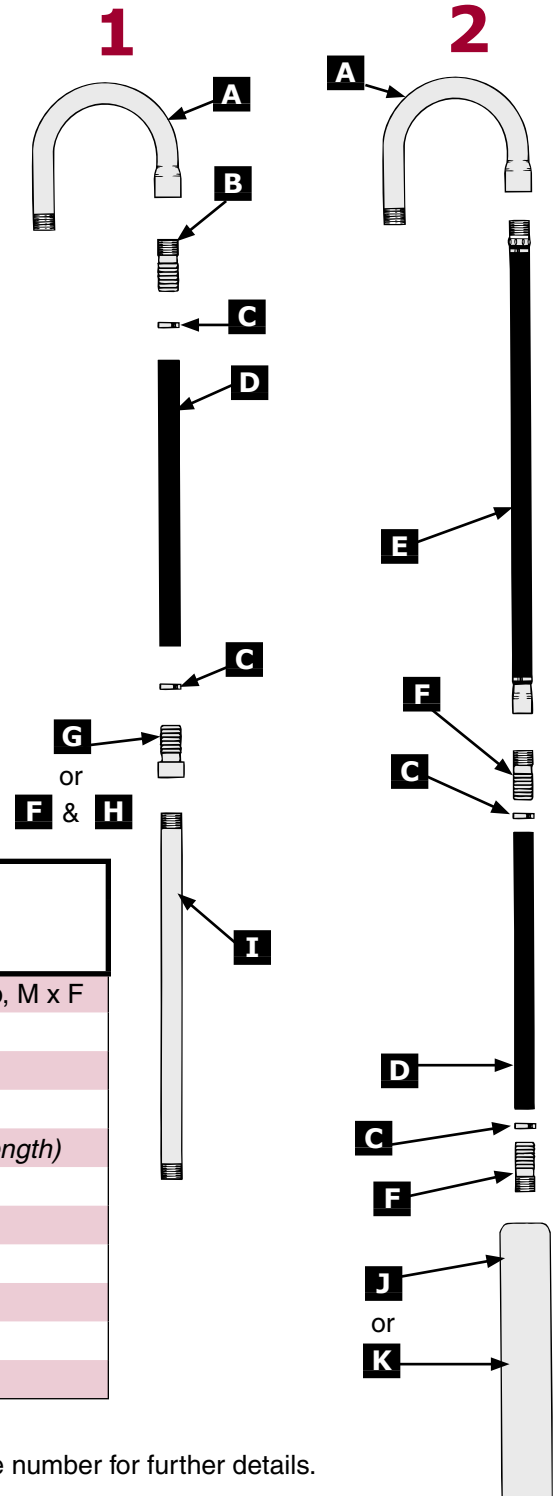
**S**ave on pumping costs and keep more water where it's needed with drop tubes made by Nebraska Irrigation, Inc.

Placement of sprinklers below the truss avoids evaporation loss, wind drift, and distortion of water pattern. Many low pressure drop configurations are available.

Please ask our sales department for suggestions concerning placement and available options for different soil, crop, and climate conditions.



**Two of the Many Available Drop Configurations**



Item	NI Part Number		* Page Ref.	Description
	Drop Assy 1	Drop Assy 2		
A	76501-1	76501-1	p. 97	Gooseneck, Galvanized Loop, M x F
B	11031	N/A	p. 100	Steel Male Adapter
C	330107	330107	p. 100	Clamp
D	66022	66022	p. 100	Flex Hose, 3/4", 250' rolls
E	510XX	N/A	p. 98	Flex Drop, M x FM ( <i>specify length</i> )
F	11093	11093	p. 100	Plastic Male Adapter
G	11025	N/A	p. 100	Plastic Female Adapter
H	42505	N/A	p. 100	Plastic Coupler
I	51074	N/A	--	Metal Weight, approx. 30"
J	N/A	51054-XX	p. 100	Plastic Slip Weight
K	N/A	51092-XX	p. 100	Plastic Threaded Weight

\* Additional information is available on the page number listed.

"X" indicates a variety of part numbers are available. See listed page number for further details.

**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**

DROPS

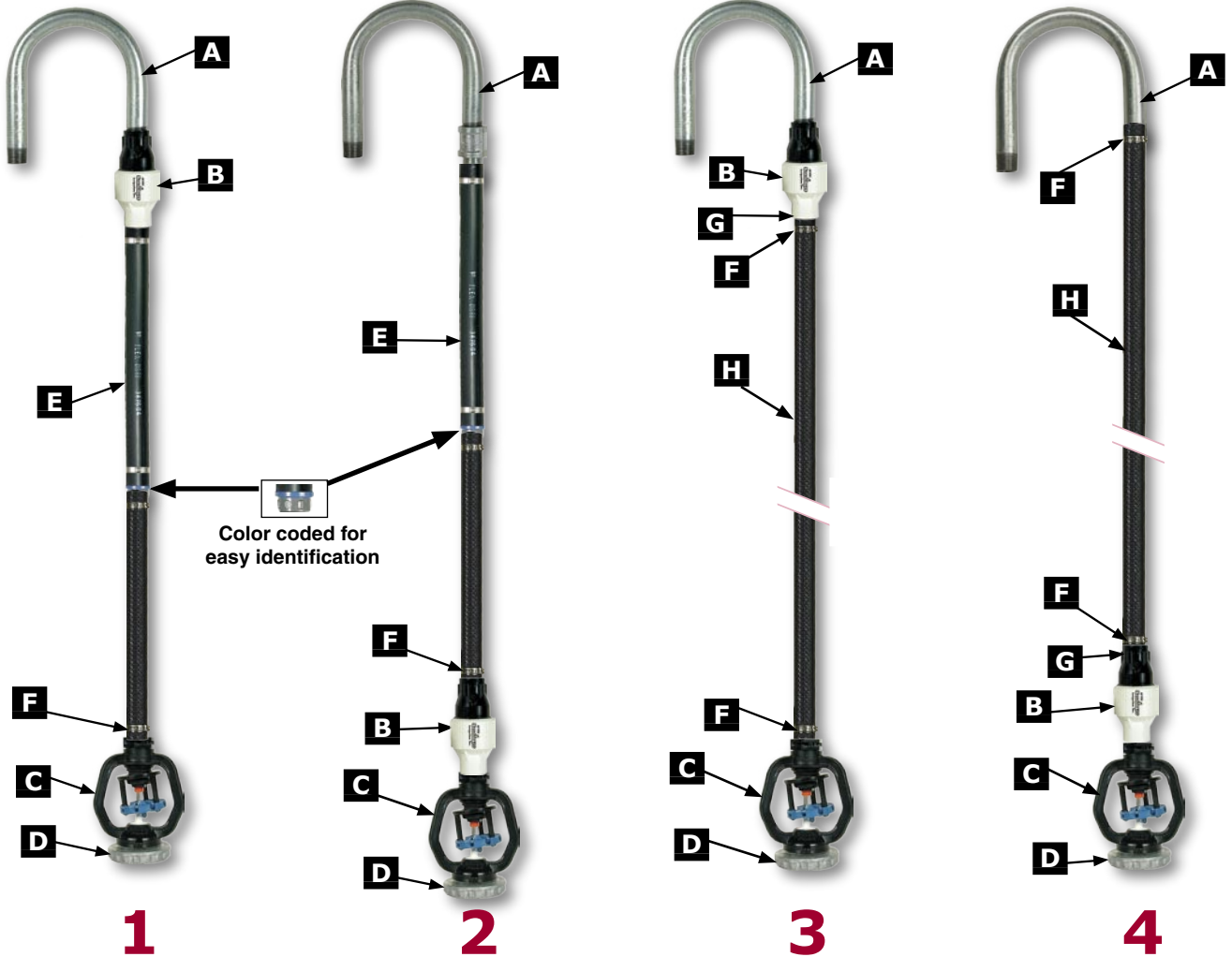
**Senninger i-Wob® Drop Configurations**

Polyethylene x Hose  
w/ Regulator on Top

Polyethylene x Hose  
w/ Regulator on Bottom

Hose  
w/ Regulator on Top

Hose  
w/ Regulator on Bottom



**F**

Item	NI Part Number				* Page Ref.	Description
	Drop Assy 1	Drop Assy 2	Drop Assy 3	Drop Assy 4		
A	76502	76501-1	76502	76501-B	p. 97	Galvanized Loop
B	9013X	9013X	9013X	9013X	p. 92	PSR Regulator
C	92812X-B	92812X	92812X-B	92812X	p. 80	i-Wob w/ Nozzle
D	51010X	51010X	51010X	51010X	p. 80	i-Wob Weight
E	510XXPH	510XXPH	N/A	N/A	p. 98	Drop, Polyethylene x 24" Hose
F	330107	330107	330107	330107	p. 100	Crimp Clamp
G	N/A	N/A	11093	11093	p. 100	Male Hose Barb
H	N/A	N/A	66022	66022	p. 100	Hose, 3/4" x 250'

\* Additional information is available on the page number listed.

"X" indicates a variety of part numbers are available. See listed page number for further details.

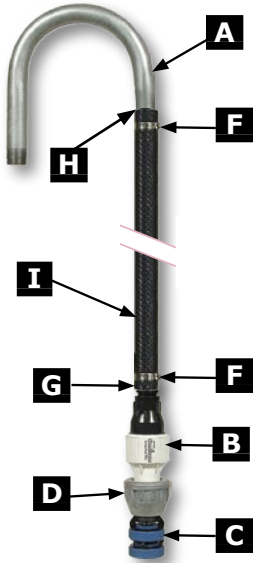
**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**



DROPS

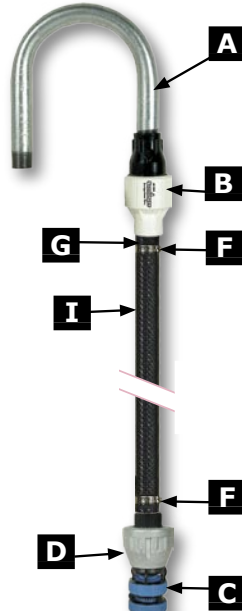
**Senninger LDN® Drop Configurations**

**Hose  
w/ Regulator on Bottom**



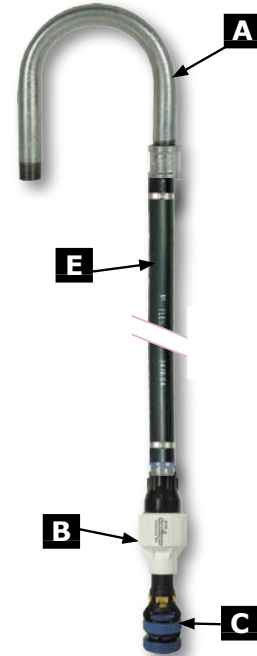
**1**

**Hose  
w/ Regulator on Top**



**2**

**Polyethylene  
w/ Regulator on Bottom**



**3**

Item	NI Part Number			* Page Ref.	Description
	Drop Assy 1	Drop Assy 2	Drop Assy 3		
A	76502	76502	76501-1	p. 97	Galvanized Loop
B	9013X	9013X	9013X	p. 92	PSR Regulator
C	9283X		9283X	p. 82	LDN w/ Nozzle
C		9283XB		p. 82	LDN w/ Barb
D	510XX	510XX	N/A	p. 82	LDN Weight
E	N/A	N/A	510XX	p. 98	Polyethylene Drop
F	330107	330107	N/A	p. 100	Crimp Clamp
G	11093	11093	N/A	p. 100	Male Adapter
H	11025	N/A	N/A	p. 100	Female Adapter
I	66022	66022	N/A	p. 100	Hose, 3/4" x 250'

\* Additional information is available on the page number listed.

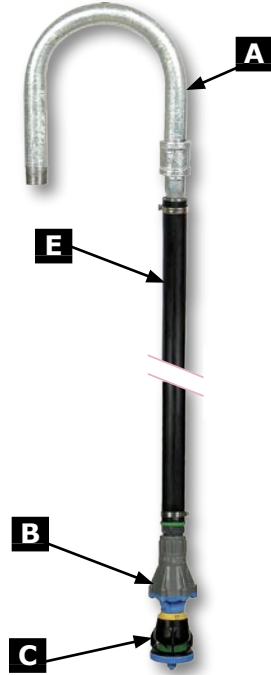
"X" indicates a variety of part numbers are available. See listed page number for further details.

**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**

DROPS

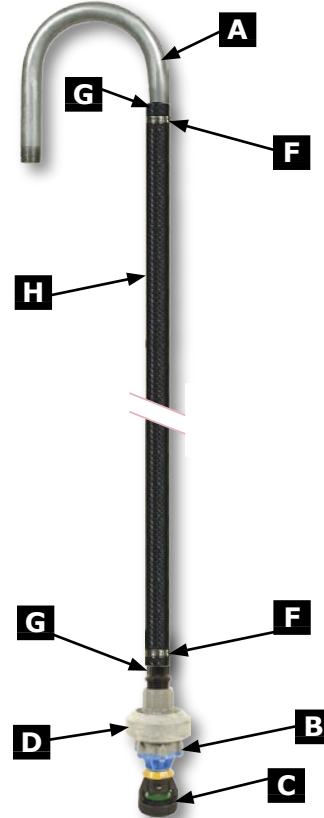
**Nelson Series 3000 Drop Configurations**

Hose  
w/ Regulator on Bottom



**1**

Polyethylene  
w/ Regulator on Bottom



**2**

**F**

Note: ST Pressure Regulators can be assembled to Series 3000 sprinklers for ease of installation.

Item	NI Part Number		* Page Ref.	Description
	Drop Assy 1	Drop Assy 2		
A	76501-1	76501-B	p. 97	Galvanized Loop
B	901XX	901XX	p. 91	ST Pressure Regulator
C	Any Series 3000 Sprinkler	92898	p. 87- 89	Series 3000 Sprinkler
D	N/A	510333	p. 90	1 Lb. Weight
E	510XX	N/A	p. 98	Polyethylene Drop
F	N/A	330107	p. 100	Crimp Clamp
G	N/A	11093	p. 100	Male Adapter
H	N/A	66022	p. 100	Hose, 3/4" x 250'

\* Additional information is available on the page number listed.

"X" indicates a variety of part numbers are available. See listed page number for further details.

**For your convenience when ordering sprinkler packages, use the handy Sprinkler Chart Data Form on page 112 at the end of this section.**

DROPS

**Drop Components**

**Galvanized Loops**

– Schedule 40 –

NI Part #	Description
76502	3/4" M x 3/4" M Galvanized Loop
76501-1	3/4" M x 3/4" FM Galvanized Loop
76501-B	3/4" M x Hose Barb Galvanized Loop
76505	3/4" M x Hose Barb 12" Furrow Arm Galvanized Loop
76510	3/4" M x Hose Barb 20" Furrow Arm Galvanized Loop
42530	3/4" Coupler, Galvanized

- Constructed of Schedule 40 galvanized pipe for added strength and corrosion resistance.
- May be fitted with either 3/4" male NPT x 3/4" female NPT or 3/4" male NPT on both ends.



**PVC Loops**

– Schedule 80 –

NI Part #	Description
76504M	3/4" M x 3/4" M PVC Loop
76504	3/4" M x 3/4" FM PVC Loop
76504B	3/4" M x Hose Barb PVC Loop

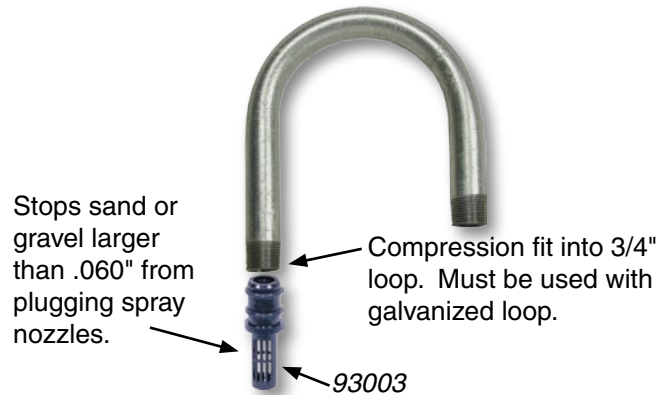


**Strainers / Filters**

NI Part#	Description
93003	Strainer, Lateral Line
52024	Filter, Aqua Drop, M x F
52024-2	Filter, Aqua Drop, F x M

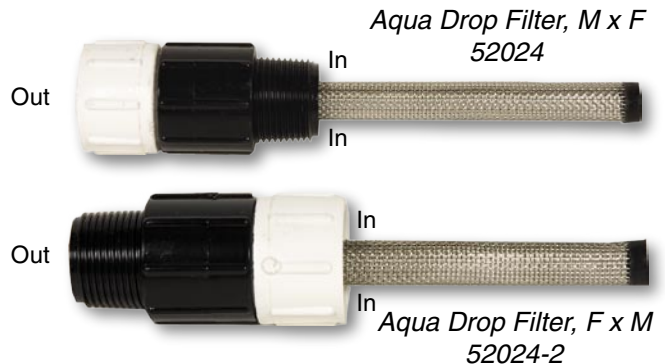
**Plastic Strainers**

Prevents plugging while allowing fine sand and silt to pass through drop system.



**Aqua Drop Filters**

- Stops the plugging of small nozzle sizes.
- 15 mesh screen – 1/64th inch smaller than smallest nozzle available.
- 5-inch screen increases surface area to reduce cleaning frequency.
- Stainless steel screen for long life and rugged use.
- Comes in three connection configurations: M x F, F x M, F x F
- Easy to clean – Just unscrew and flush.
- Positive seal – gasket is molded into screen and sealed between fittings.



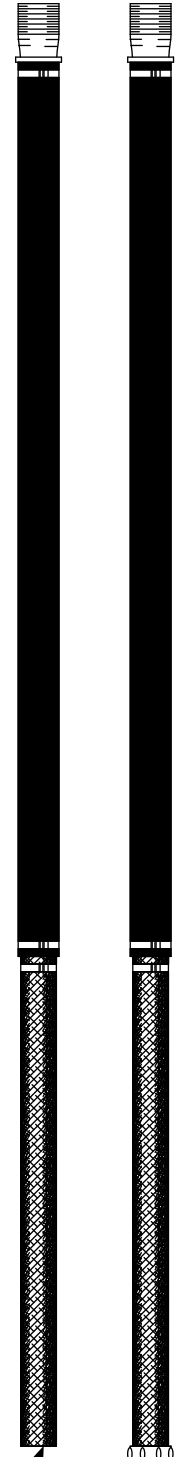
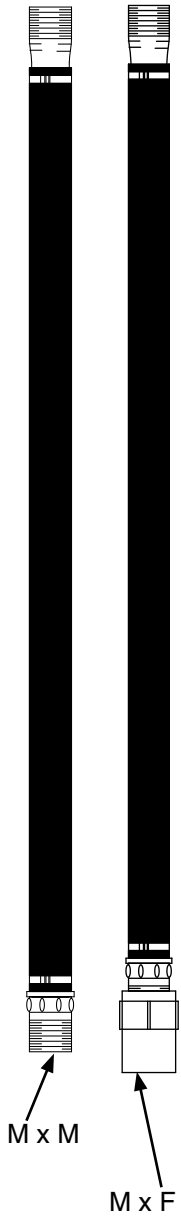
**F**

DROPS

**Drop Components** *(continued)*  
**NI Flex Drops**

**Features and Benefits**

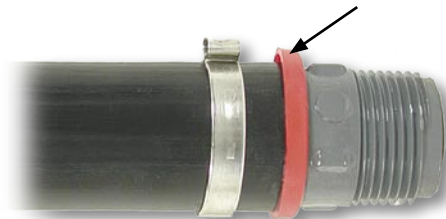
- Built of heavy-walled polyethylene so they are flexible, yet strong to fight the wind.
- Sunlight-resistant.
- Built from straight stock to avoid curling.
- Color code ring allows easy length identification.
- May be fitted with plastic or plated steel 3/4" NPT fittings.
- Standard configuration is ideal for rotators and spray heads.
- Configuration with 24" premium drop hose extension is ideal for i-wob and spray packages.



**NI Flex Drops**

Size	Color Code	NI Part Number			
		Standard		w/ 24" Hose Extension	
		M x M NPT	M x F NPT	M x Hose	M x M
30"	Yellow	51048	51047	51048PH	51048PHM
36"	Green	51019	51006	51019PH	51019PHM
42"	Clear	51027	51022	51027PH	51027PHM
48"	Blue	51002	51034	51002PH	51002PHM
54"	Orange	51012	51013	51012PH	51012PHM
60"	Red	51025	51017	51025PH	51025PHM
66"	White	51014	51010	51014PH	51014PHM
72"	Yellow	51041	51004	51041PH	51041PHM
78"	Green	51032	51033	51032PH	51032PHM
84"	Black	51008	51038	51008PH	51008PHM
90"	Clear	51018	51030	51018PH	51018PHM
96"	Red	51043	51036	51043PH	51043PHM
102"	White	51052	51046	51052PH	51052PHM

Color Code Ring



M x Hose

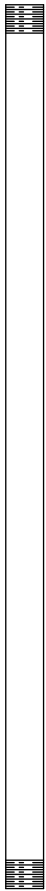
M x M

DROPS

**Drop Components** (continued)

**NI PVC Drops**

**PVC Drops**, rigid Schedule 80, are fitted with either:  
 a 3/4" male NPT on both ends, M x M  
 or  
 a 3/4" male NPT on one end and a 3/4" female NPT on the other, M x F.



NI PVC Drops		
Size	NI Part Number	
	3/4" M x M NPT	3/4" M x F NPT
24"	510201	510301
30"	510202	510302
36"	510203	510303
42"	510204	510304
48"	510205	510305
54"	510206	510306
60"	510207	510307
66"	510208	510308
72"	510209	510309
78"	510210	510310
84"	510211	510311
90"	510212	510312
96"	510213	510313
102"	510214	510314
108"	510215	510315
114"	510216	510316
120"	510217	510317

**NI Steel Drops**

**Steel Drops** are constructed of Schedule 40 galvanized steel and resist flaking to prevent clogged sprinklers. They are fitted with a 3/4" male NPT on both ends, M x M.



NI Steel Drops	
Size	NI Part Number
	M x M NPT
30"	51074
36"	51023
42"	51044
48"	51005
54"	51016
60"	51035
66"	51024
72"	51029
78"	51009
84"	51007
90"	51015
96"	51026
102"	51073

**F**

DROPS

**Drop Components** (continued)

**Hose, Clamps, & Tools**

NI Part #	Description
66022	3/4" Drop Hose x 250 Ft. Roll
660103	1/2" Drag Hose x 500 Ft. Roll
330107	3/4" Crimp Hose Clamp
33090	#10 Worm Clamp
95407	Hose Cutter Tool
95408	Crimping Tool for Hose Clamps



Drop Hose  
66022



Crimp Clamp  
330107



Worm Clamp  
33090



Hose Cutter  
95407



Crimp Tool  
95408

**F**

**Drop Weights – HDPE\***

NI Part #	Description
51054-20	20" Slip Weight, HDPE, 1.3 lb.
51054-24	24" Slip Weight, HDPE, 1.5 lb.
51054-30	30" Slip Weight, HDPE, 2 lb.
51092-25	25" Threaded Weight, HDPE, 2 lb., 3/4" FNPT
51092-20	20" Threaded Weight, HDPE, 1.5 lb., 3/4" FNPT



HDPE Weight

\* HDPE = High Density Polyethylene

Senninger & Nelson cast weights are also available. See pages 80, 82, and 90.

**Hose Barb Fittings**

NI Part #	Description
11093	3/4" Male NPT x 3/4" Hose Barb
11025	3/4" Female NPT x 3/4" Hose Barb
110110	3/4" Hose Barb x Hose Barb
110139	3/4" Male NPT x 1/2" Hose Barb
110140	3/4" Female NPT x 1/2" Hose Barb



Female Hose Barb Adapter  
11025



Male Hose Barb Adapter  
11093

**Steel and PVC Fittings**

NI Part #	Description
420147	Coupler, 3/4", Weld-On, Black
420148	Coupler, 1", Weld-On, Black
42530	Coupler, 3/4", Galvanized
42505	Coupler, 3/4", PVC
89013	Plug, 3/4", Galvanized Steel
89026	Plug, 1", Galvanized Steel
24026	Reducer Bushing, 1" x 3/4"
79314	Close Nipple, 3/4", Galvanized Steel
11031	Barb, 3/4", Galvanized Steel

Weld-On Coupler  
420147



Galvanized Coupler  
42530



Galvanized Steel Plug, 1"  
89026



Galvanized Steel Plug, 3/4"  
89013



Close Nipple  
79314



Reducer Bushing  
24026

PVC Coupler  
42505



Galvanized Steel Barb  
11031

DROPS

**Ball Valves**



Ball Valve w/  
Long Handle  
96664



Ball Valve w/  
Standard Handle  
96669



Brass Ball Valve  
3/4"

Flanges are also available.

**NI sells various sizes, types, and models of valves. Not all can be listed in this catalog.**

**Call us for more information.**

**Plastic Ball Valves**

NI Part #	Description
96664	Valve, Ball, Plastic, 3/4" NPT, M x F, Long Handle
96669	Valve, Ball, Plastic, 3/4" NPT, M x F, Standard Handle
96674	Valve, Ball, Plastic, 3/4" Garden Hose Thread, M x F, Long Handle
966416	Valve, Ball, Plastic, 3/4" NPT, F x F

**Brass Ball Valves**

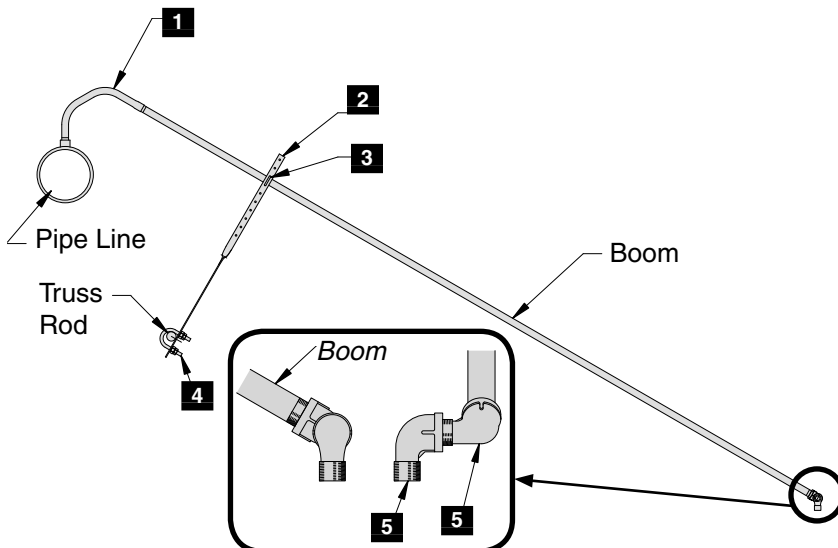
NI Part #	Description
966103	Valve, Ball, Brass, 3/4" NPT, F x F
96652	Valve, Ball, Brass, 1" NPT, F x F
96654	Valve, Ball, Brass, 1-1/4" NPT, F x F
96653	Valve, Ball, Brass, 1-1/2" NPT, F x F
966123	Valve, Ball, Brass, 2" NPT, F x F
96656	Valve, Ball, Brass, 3" NPT, F x F
65008	Handle for 2" Ball Valve

**Motorized Brass Ball Valves**

NI Part #	Description
966122	Valve, Ball, Motorized, 2"
79056	Motor Only, Actuator, 2"
67037	Body Only, Motorized Ball Valve, 2"
75008	Linkage Only, Motorized Ball Valve, 2"

**F**

**Boom Backs**



NI Part #	Description
51045W	Boom Back Hardware Kit
510334	Pipe 3/4" x 126" M x M Galv. Schedule 40

Boom Back Kit Components			
Item	NI Part #	Qty	Description
1	76511	1	Loop, Boom Back, 120°
2	228107	1	Bracket
3	200136	1	U-Bolt, 1/4" x 1-1/8"
	82046	2	Nut, Spacer, 5/16"
	82047	2	Locknut, 1/4"
4	200136	1	U-Bolt, 1/4" x 1-1/8"
	82046	2	Nut, Spacer, 5/16"
	82047	2	Locknut, 1/4"
5	51517	2	Elbow, Street, 3/4"

DROPS

**Senninger Goosenecks & Truss Rod Hose Slings**

– Typically used with i-Wob or LDN –

**125° Goosenecks**

Use only in conjunction with Truss Rod Hose Slings.

- 125° arch to direct hose toward truss rod.
- Drop installation places sprinkler closer to the crop to help fight wind drift and save water.
- Easy drop alignment for precision irrigation applications.
- Lowers the instantaneous application rate by widening the area of application which reduces soil compaction, soil sealing, and runoff.
- Non-corrosive, UV-resistant thermoplastic construction for long life and reduced plugging.
- 3/4" F NPT inlet x 3/4" hose barb outlet(s) or 3/4" F NPT inlet x 3/4" M NPT outlet(s).
- Attaches to mainline using stainless steel or galvanized nipple (*PVC not recommended*).
- Maximum recommended pressure 120 psi.
- Maximum recommended water temperature 110° F (43° C). Ambient temperatures to 150° F (65° C) will not damage Goosenecks.

125° Goosenecks w/ 3/4" F NPT Inlets		
NI Part #		Description
Double	Single	
76516-B	76513-B	w/ 3/4" Hose Barb Outlet(s)
76516	76513	w/ 3/4" M NPT Outlet(s)

Truss Rod Hose Slings	
NI Part #	Description
110142	For 3/4" rod (black)
110143	For 5/8" rod (rust)
110144	For 7/8" rod (blue)

**Double 125° Goosenecks**

- Maximum recommended flow 30 gpm (15 gpm per side).
- Converts wide spacing machines to closer drop spacings.
- Reduces or eliminates the need for welding extra outlets.



76516-B

**Single 125° Goosenecks**

- Maximum recommended flow 20 gpm.
- Used with truss rod hose sling creates a system that provides easy positioning of drops along a center pivot.



76513-B

**Truss Rod Hose Slings**

- Supports flexible hose to prevent kinking and abrasive wear.
- Easy to install.
- Securely fastens 3/4" flexible hose to truss rod.
- Maintains the drop / applicator position and allows for easy adjustments.
- Non-corrosive, UV-resistant thermoplastic construction for long life.



110142



Double Barb Gooseneck

The **Double Gooseneck** makes installation of additional outlets easier.



Truss Rod Hose Sling

The **Truss Rod Hose Sling** holds drops in the desired position along the truss rod.

F



GAUGES

**Pressure Gauges**

**Pressure Gauges**

With Durable Stainless Steel Enclosure



**2 1/2" Glycerine-Filled Pressure Gauge**

NI Part #	Description
59023s	Gauge, Pressure, 2-1/2", 0 – 30 psi
59018s	Gauge, Pressure, 2-1/2", 0 – 60 psi
59017s	Gauge, Pressure, 2-1/2", 0 – 100 psi
59016s	Gauge, Pressure, 2-1/2", 0 – 160 psi
59004s	Gauge, Pressure, 2-1/2", 0 – 200 psi
59003s	Gauge, Pressure, 2-1/2", 0 – 300 psi
59019s	Gauge, Pressure, 2-1/2", 0 – 3,000 psi



**4" Glycerine-Filled Pressure Gauge**

NI Part #	Description
59006s	Gauge, Pressure, 4", 0 – 30 psi
59007s	Gauge, Pressure, 4", 0 – 60 psi
59008s	Gauge, Pressure, 4", 0 – 100 psi
59013s	Gauge, Pressure, 4", 0 – 160 psi

**Drop In-Line Pressure Gauges**

- Pressure gauge mounts in line with drop hose.
- Includes 2.5" glycerine-filled gauge.
- Allows fast and easy measure of pressure at the drop. Especially helpful for measuring pressure at end of system.
- 3/4" F NPT inlet x 3/4" F NPT outlet.

NI Part #	Description
59023	Gauge, Pressure Drop, 0-30 psi
59024	Gauge, Pressure Drop, 0-60 psi
59025	Gauge, Pressure Drop, Freeze-Proof, 0-30 psi
59026	Gauge, Pressure Drop, Freeze-Proof, 0-60 psi



**F**

SPRINKLERS

**Senninger Pivot-Master® Impacts**

**Features and Benefits**

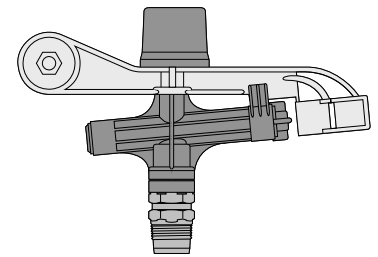
- Six-degree trajectory fights wind drift and evaporation.
- Enclosed splasharm spring and bearing for protection from the elements.
- Operating pressure – 25 to 70 psi.
- Color coded nozzles for easy size identification.
- 3/4" brass swivel for use in galvanized steel fittings.
- Double nozzle models available for good low-pressure performance; better distribution and increased flow.



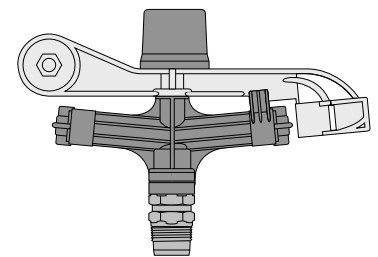
**Pivot-Master® Impact Sprinklers**

*Includes nozzle; specify desired nozzle size.*

NI Part #	Description	Nozzles* in 1/64"	Flow in gpm	Diameter** in ft.
92838	Sprinkler, Impact, 6°, Single Nozzle, with 3/4" M NPT Brass Swivel, 3006-1PM	#7 - 9	1.7 - 4.8	64 - 98
92839	Sprinkler, Impact, 6°, Single Nozzle, with 3/4" M NPT Brass Swivel, 4006-1PM	#10 - 12	3.5 - 8.6	71 - 106
92813	Sprinkler, Impact, 6°, Single Nozzle, with 3/4" M NPT Brass Swivel, 5006-1PM	#13 - 18	6.0 - 18.8	73 - 122
92807	Sprinkler, Impact, 6°, Double Nozzle, with 3/4" M NPT Brass Swivel, Brass Stem, 5006H-2PM	#13 - 18 range #7 - 18 spreader	6.8 - 25.6	82 - 112



*Impact Sprinkler,  
Single Nozzle  
92838, 92839, or 92813*



*Impact Sprinkler,  
Double Nozzle  
92807*

\* These are the recommended nozzle sizes for maximum product life and maintaining a consistent rotation speed. Incorrect nozzle placement may cause excessive wear and / or incorrect rotation speed.

\*\* Diameter at 12 ft. height.

**Typical Installations**

(cross section view of pivot mainline)

Top of pipe



Top of pipe  
w/ regulator

Note: Brass swivel is recommended for use in galvanized steel fittings.



**Pivot-Master® Impacts Components**

NI Part #	Description
795145	Nozzle ( <i>specify size</i> )
928152	Nozzle Holder
928124	Vane

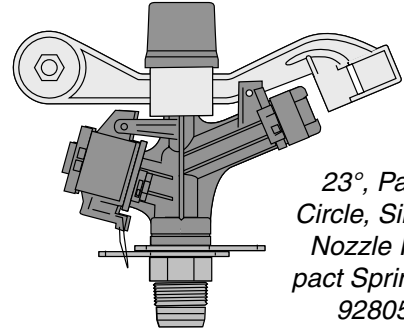
SPRINKLERS

**Senninger Impact Sprinklers**

**23°, Part Circle, Single Nozzle Impact Sprinklers**

*Includes nozzle; specify desired nozzle size.*

NI Part #	Description	Nozzles in 1/64"	Flow in gpm
92805	Sprinkler, Impact, 23°, Part Circle, Single Nozzle, with 3/4" M NPT Plastic Swivel, 3123PC-1	#8 - 9	2.4 - 4.3
92847	Sprinkler, Impact, 23°, Part Circle, Single Nozzle, with 3/4" M NPT Plastic Swivel, 4123PC-1	#10 - 12	3.8 - 7.8

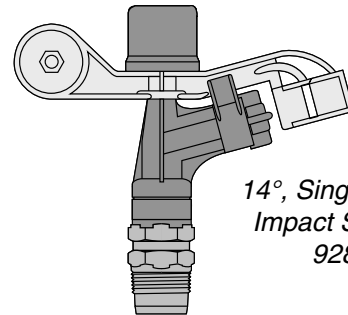


23°, Part Circle, Single Nozzle Impact Sprinkler 92805

**14°, Single Nozzle Impact Sprinklers**

*Includes nozzle; specify desired nozzle size.*

NI Part #	Description	Nozzles in 1/64"	Flow in gpm
92852	Sprinkler, Impact, 14°, Single Nozzle, with 1/2" M NPT Plastic Swivel, with 1/2" x 3/4" coupling, 3/4" x 2" galv nipple, 2014HD-1	#6 - 9	1.22 - 3.98

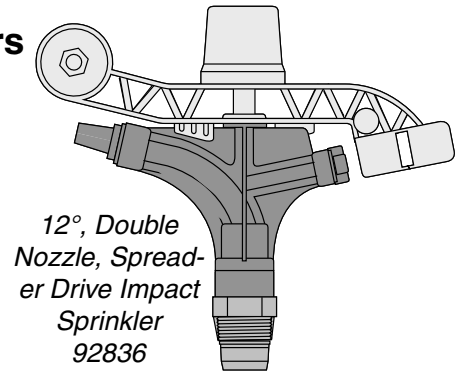


14°, Single Nozzle Impact Sprinkler 92852

**12°, Double Nozzle, Spreader Drive Impact Sprinklers**

*Includes nozzle; specify desired nozzle size.*

NI Part #	Description	Nozzles in 1/64"	Flow in gpm
92836	Sprinkler, Impact, 12°, Double Nozzle, Spreader Drive, with 1" M NPT Plastic Swivel, with 1" coupling, 7012SD-2	#13 - 14 spreader #14 - 26 range	13.4 - 47.6

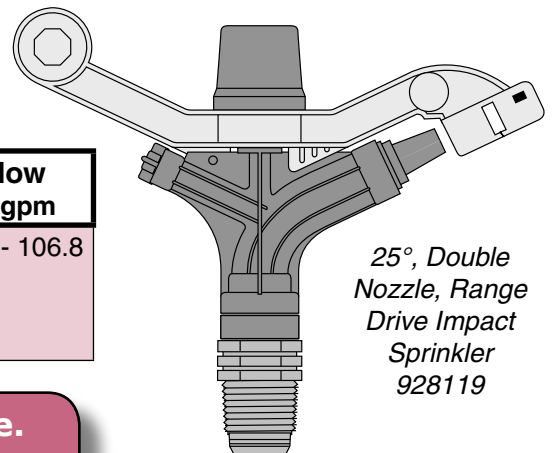


12°, Double Nozzle, Spreader Drive Impact Sprinkler 92836

**25°, Double Nozzle, Range Drive Impact Sprinklers**

*Includes nozzle; specify desired nozzle size.*

NI Part #	Description	Nozzles in 1/64"	Flow in gpm
928119	Sprinkler, Impact, 25°, Double Nozzle, Range Drive, with 1-1/4" M NPT Plastic Swivel, with 1-1/4" x 1" coupling, 8025HR-2	#24 - 40 range #14 - 16 spreader	28.9 - 106.8



25°, Double Nozzle, Range Drive Impact Sprinkler 928119

**Other trajectories and models are available. Contact us for details.**

**SPRINKLERS**

**Brass Impact Sprinklers**

NI Part #	Model Number	Description	Operating Range in psi	Flow Rate in gpm	Radius in ft.	Common Spacings Range
92889	20JH	Sprinkler, Impact, Brass, Rain Bird, 23°, Full Circle, with 1/2" M NPT	35 - 60	2.05 - 5.47	38 - 41	20 x 35 ft. to 40 x 50 ft.
92891	14070H	Sprinkler, Impact, Brass, Rain Bird, 27°, Full Circle, with 3/4" M NPT	25 - 80	4.2 - 23	44 - 71	40 x 60 ft. to 60 x 80 ft.
928110	30H	Sprinkler, Impact, Brass, Rain Bird, 27°, Full Circle, with 3/4" M NPT	25 - 80	2.9 - 13.1	40 - 56	30 x 50 ft. to 60 x 60 ft.
928103	RB30F	Sprinkler, Impact, Brass, Aqua-Burst, 23°, Full Circle, with 3/4" M NPT	25 - 80	2.1 - 11.4	38.5 - 52.5	----
928153	RB30ED2	Sprinkler, Impact, Brass, Aqua-Burst, 23°, Full Circle or Part Circle, Adjustable, with 3/4" M NPT	30 - 60	3.83 - 10.36	41 - 49	----
92809	L3030H	Sprinkler, Impact, Brass, Rain Bird, 10°, Full Circle, with 3/4" M NPT	25 - 60	2.9 - 15.9	34 - 48	----
92828	70CSPH	Sprinkler, Impact, Brass, Rain Bird, 21°, Full Circle, with 1" F NPT	40 - 80	8.8 - 41.8	57 - 82	60 x 80 ft. to 90 x 120 ft.
928135	65PJ-ADJ-TNT	Sprinkler, Impact, Brass, Rain Bird, 27°, Part Circle, with 1" F NPT	40 - 80	11.5 - 16.5	54 - 65	----
928509	80E	Sprinkler, Impact, Brass, Rain Bird, 27°, Full / Part Circle, with 1-1/4" M NPT	25 - 100	17.1 - 127.7	61 - 116	80 x 80 ft. to 140 x 140 ft.
64006	85EHD-LA Tough Bird	Sprinkler, Impact, Brass, Rain Bird, 17°, Part Circle, with 1-1/4" M NPT, with stainless steel spoon	20 - 100	17.1 - 127.7	48 - 108	80 x 80 ft. to 140 x 140 ft.

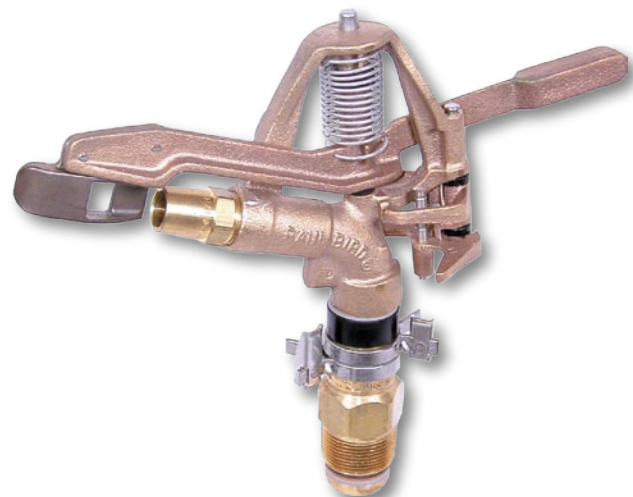
**F**

*Above part numbers do not include nozzle; order nozzle separately.*

**Nozzles and Plugs**

*Specify desired nozzle size.*

NI Part #	Description
795119	Nozzle, Brass, 3RN Impact
795157	Nozzle, Brass, 70 Impact
795110	Nozzle, Brass, 85 Impact
795118	Plug, Brass, 2RN Impact
89008	Plug, Brass, 3RN Impact



*17° Part Circle, Brass Impact Sprinkler, Model 85EHD-LA 64006*

**Other trajectories and models are available. Contact us for details.**

## SPRINKLERS

### Brass Impact Sprinklers (continued)

#### Rain Bird® Key Replacement Parts

NI Part #	Used in Model Numbers:	Description	Reference Number
17000	85 E Series	Bearing Assembly, New H Style, for 1-1/4" part circle impact sprinklers	104640 117376
170141	85 E Series	Bearing Assembly for 1-1/4" part circle impact sprinklers	111136
170135	65D-TNT 65PJ-TNT 65PJADJ-TNT	Bearing Assembly, NPT Assembly, for 1" part circle impact sprinklers	106297
170142	35 Series 35A Series*	Bearing Assembly, New TNT Style, for 3/4" part circle impact sprinklers	110581
170143	25 Series 25B Series**	Bearing Assembly for 1/2" part circle impact sprinklers	106181
17036	25A Series 25BPJ-FP ADJ-DA-TNT	Bearing Assembly for 1/2" part circle impact sprinklers	110950
17000	80 EH 80EW H 80EH-LA 80EWH-LA	Bearing Assembly, H Style, for 1-1/4" full circle impact sprinklers	104640
17000	80 E TNT 80EW TNT	Bearing Assembly, Old TNT Style, for 1-1/4" full circle impact sprinklers	104640
17013	70EH 70 E TNT 70EWH 70EW TNT 70ESPH	Bearing Assembly for 1" full circle impact sprinklers: Female H Style, NPT Assy	104041
17094	70ESP TNT 70CWH 70CW TNT 70CSPH 70CSP TNT	Male H Style, NPT Assy	108726
17018	40B TNT 40B STD 14070 TNT 14070 STD	Bearing Conversion Kit for 3/4" full circle impact sprinklers	110048
17018	40FC TNT	Bearing Conversion Kit for 3/4" full circle impact sprinklers	110048
17078	L36BH	Bearing Assembly for 3/4" full circle impact sprinklers	104152
170144	L36H	Bearing Assembly for 3/4" full circle impact sprinklers	105833-01
17078	L30H L3030H	Bearing Assembly for 3/4" full circle impact sprinklers	104152
170145	30B TNT 30BW TNT 30BH 30BEH 30BWH 30BEWH	Bearing Assembly, H Style, for 3/4" full circle impact sprinklers	104761

\* Except Model 35A-PJ-TNT Special.

\*\* Except 25BPJ Special.

NI Part #	Used in Model Numbers:	Description	Reference Number
17078	30H 30EH 30WH 30WSH 30EWH 30EWSH 30PSH 30EPSH 30WPSH 30EWPSH 30 TNT 30E TNT 30W TNT 30EW TNT 30WS TNT 30EWS TNT 30PS TNT 30EPS TNT	Bearing Assembly, New H Style, for 3/4" full circle sprinklers	104152
170145	30PWSH 30EPWSH 30PWS TNT 30EPWS TNT	Bearing Assembly, New H Style, for 3/4" full circle sprinklers	104761
11078	30 TNT Series	Bearing Adapter for 3/4" full circle sprinklers	110030
170146	29JH 1/2" 29B TNT 1/2" 29JH LA 1/2" 29B TNT LA 1/2"	Bearing Assembly for 1/2" full circle impact sprinklers	104919
170147	20AH 20A TNT ALUM	Bearing Assembly, H Style, for 1/2" full circle impact sprinklers	104189
170148	20AH PM ALUM	Bearing Assembly, H Style, for 1/2" full circle impact sprinklers	104792
170149	L20H M20H	Bearing Assembly for 1/2" full circle impact sprinklers	104695
170148	L20H-PM M20H-PM	Bearing Assembly for 1/2" full circle impact sprinklers	104792
170147	L20VH M20VH	Bearing Assembly for 1/2" full circle impact sprinklers	104189
170150	L20VH-PM M20VH-PM	Bearing Assembly for 1/2" full circle impact sprinklers	104885
170148	14DH 14D TNT 20-14H-PM	Bearing Assembly for 1/2" full circle impact sprinklers	104792
170149	14JH 20-14 H 20C TNT 20ECTNT 20 JH 20 EJH	Bearing Assembly for 1/2" full circle impact sprinklers	104695
170151	20 ADJ-B 20ADJ 20 L (A)	Bearing Assembly for 1/2" full circle impact sprinklers	109220
170147	14VH 14V TNT 14V LA TNT	Bearing Assembly, New H Style, for 1/2" full circle impact sprinklers	104189

**F**

END GUNS

End Guns for Pivots



Wing  
640100



Sime Pivot End Guns				
NI Part #	Description	PSI	Flow Rate in gpm	Dia. ft.
640100	Wing End Gun, 18°, w/ Nozzle	29 - 100	34 - 252	144 - 341
640150	Reflex End Gun, 24°, w/ Nozzle	44 - 100	193 - 505	274 - 434
640200	Explorer End Gun, 24°, w/ Nozzle	44 - 115	257 - 745	314 - 510
64075	Skipper End Gun, w/ Nozzle	29 - 70	42 - 163	144 - 268

Sime Wing				
Nozzle		Performance Data		
Size	Inch	PSI	Dia. Ft.	GPM
12	0.47	29	144	33.5
		44	167.2	40.9
		56	190	47.3
		70	210	53.3
		85	226	58.4
14	0.55	29	157.4	45.9
		44	190	56
		56	210	64.7
		70	232	72.4
		85	246	79.2
16	0.63	29	164	59.7
		44	200	72.9
		56	226	84.5
		70	246	94
		85	262	103.3
18	0.71	29	174	75.5
		44	210	92.4
		56	239.4	106.7
		70	262	119.4
		85	282	130.7
20	0.78	44	216	114.1
		56	246	132.3
		70	269	147.9
		85	292	161.9
		100	301.8	174.6
22	0.86	44	222	137.9
		56	259.2	159.5
		70	285.4	178.6
		85	311.6	195.7
		100	328	211
24	0.95	44	229.6	164.6
		56	265.6	190.2
		70	298	212.9
		85	324	233
		100	341.2	251.5

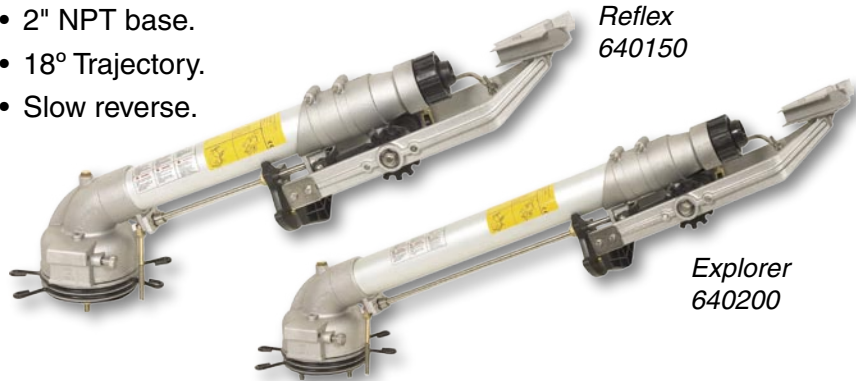
Sime Wing

Outstanding Features and Benefits

- Bottom bearing assembly is supported by bronze bearings with stainless steel balls providing excellent life.
- Drive arm stroke can be easily adjusted.
- Directional spoons are smooth to eliminate possible blockage.
- Adjustable stops - no tools required.
- Low pressure applications.
- Excellent uniformity.
- Full or part circle applications.
- 2" NPT base.
- 18° Trajectory.
- Slow reverse.



Cutaway of bottom bearing assembly

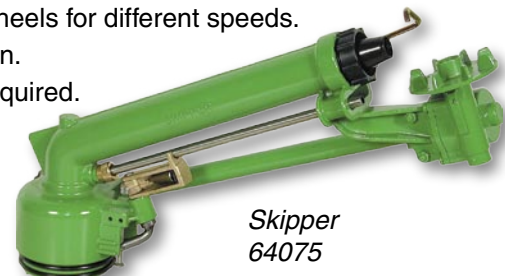


Reflex  
640150

Explorer  
640200

Skipper Features

- Adjustable jet breaker, provides a uniform water pattern throughout.
- Changeable spinner drive wheels for different speeds.
- 1-1/2" NPT mount connection.
- Adjustable stops, no tools required.
- Full or part circle.
- Slow reverse.
- Low pressure applications.
- Low flow applications.



Skipper  
64075

END GUNS

**End Guns for Pivots** (continued)



Nelson SR100 End Gun  
less nozzle  
64001



Nelson SR75 End Gun,  
less nozzle  
64027

Nelson End Guns		
NI Part #	Model Number	Description
64027	SR75	Part Circle, Slow Reverse *
64001	SR100	Part Circle, Slow Reverse, 18°
64009	SR100	Part Circle, Slow Reverse, 21°
64003	SR150	Part Circle, Slow Reverse *
64004	SR200	Part Circle, Slow Reverse *
64012	SRNV100	Part Circle, Slow Reverse * w/ Nozzle Valve
64011	F150	Full Circle *
64020	F200	Full Circle *

\* Specify desired trajectory: 18°, 21°, 24°. Nozzle not included; specify desired size.

- NI offers complete parts supply for all Nelson and Rain Bird end guns and sprinklers.
- Parts breakdowns are available for various makes and models of guns and sprinklers.



Ring Nozzles  
795114



Taper Bore Nozzles

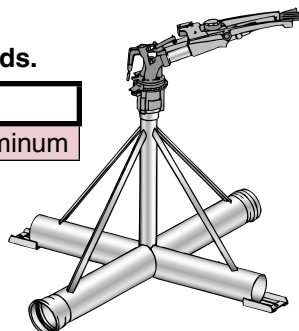
For more information, please contact our sales office.

For Rain Bird P85 End Gun, see page 106.

**Other guns, nozzles, and trajectories available. Contact us for details.**

**We also supply gun stands.**

NI Part #	Description
93303	Stand, Gun, Aluminum



Nelson End Gun Nozzles				
NI Part Number				Description
75 Series	100 Series	150 Series	200 Series	
<b>Ring Nozzles</b>				
	795114	79592	795116	7-Ring, high pressure
			795120	7-Ring, rings only
	795115			4-Ring, low pressure
<b>Taper Bore Nozzles</b>				
795162-40				.40"
795162-45				.45"
795162-50	79501			.50"
795162-55				.55"
795162-60	79502			.60"
795162-65	79503			.65"
795162-70	79504	795103		.70"
795162-75	79505			.75"
795162-80	79506	795104		.80"
	79507			.85"
	79508	795105		.90"
	79509	795106		1.00"
			79513	1.05"
		795107	79545	1.10"
		795108	79597	1.20"
		795109	79512	1.30"
			79598	1.40"
			79581	1.50"
			795100	1.60"
			795101	1.75"
			795102	1.90"

For parts breakdowns of the Nelson SR100 End Guns, see Section I: Parts Breakdowns, pages 195 to 198.

BOOSTER PUMPS

**RainTEC®** Booster Pump Kits / Accessories



**2 HP, 130 GPM and 5 HP, 200 GPM Booster Pump Kits**

NI Part Number		Description
2 HP, 130 GPM	5 HP, 200 GPM	
89512-2s	89512-5s	Booster Pump Kit - 16 Ft. Overhang
89513-2s	89513-5s	Booster Pump Kit - 26 Ft. Overhang
89514-2s	89514-5s	Booster Pump Kit - 42 Ft. Overhang
89571-2s	89571-5s	Booster Pump Kit - 65 Ft. Overhang
89511-2s	89511-5s	Booster Pump Kit - 84 Ft. Overhang

Kit includes pump and motor, booster pump control box, end gun valve, tubing brackets, fittings, bolt package, electrical wire, and hangers.

End gun not included, see End Guns on previous pages.

7.5 HP Kits also available. Call for details.

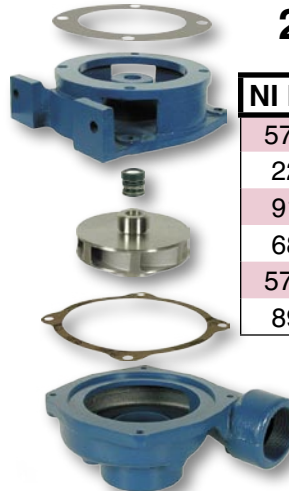
**Booster Pumps**



Part #	Description
89561	2 HP - 130 GPM End Gun Booster
89515	5 HP - 130 GPM End Gun Booster, High Head
89507	5 HP - 200 GPM End Gun Booster
89516	7.5 HP - 200 GPM End Gun Booster, High Head

Parts available for above pumps. Call for details.

**Booster Pump Components - 2 HP**



NI Part #	Description
570343	Motor Bracket Gasket
22817	Motor Bracket
91164	Mechanical Seal
68529	Impeller, Cast Iron
570187	Volute Gasket
89509	Volute Case

Parts interchangeable with Berkeley Type 2 HP pump.

**Booster Pump Motors - TEFC 460V - 3 Phase**



NI Part #	Description
79011	Franklin 2 HP, Stainless Steel w/ Single Threaded Shaft
79011-1	Franklin 2 HP, Stainless Steel w/ Double Threaded Shaft
79022	Leeson 2 HP Motor - Single Thread
79018	Marathon 5 HP Motor
790750	Marathon 7.5 HP Motor

**Booster Pump Control Boxes**

See Control Boxes on page 48 in Section D: Controls.



**BOOSTER PUMP AND CENTER PIVOT VALVES, ETC.**

**Diaphragm Valves**



*Aquamatic Valve  
96618*

Part #	Description
96618	Valve, Diaphragm, 2" w/ 120V Solenoid C.I.
966118	Valve, Diaphragm, 2½" w/ 120V Solenoid C.I.
966119	Valve, Diaphragm, ¾", w/o solenoid C.I.
966111	Valve, Diaphragm, 1", w/o solenoid C.I.
966108	Valve, Diaphragm, 1¼", w/o solenoid C.I.
96619	Valve, Diaphragm, 2", w/o solenoid C.I.
96651	Valve, Diaphragm, 2½", w/o solenoid C.I.
966120	Valve, Diaphragm, 4", w/o solenoid C.I.

**Diaphragm Valve Parts**

**Diaphragm & Seal Kits**

Part #	Description
46045	For ¾" & 1" Aqua Valve, 421
46023	For 1¼" & 1½" Aqua Valve, 424
46001	For 2" Aqua Valve, 425
46021	For 2" & 2½" Aqua Valve, 426
46039	For 3" Aqua Valve, 427
46042	For 4" Aqua Valve, 428



*Diaphragm*

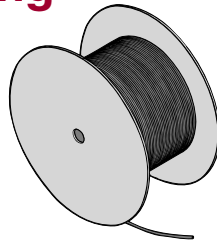
Part #	Description
93001	Filter Assembly, Valve
52003	Filter only



*Brass Filter  
93001*

**Nylon Tubing**

- Sunlight-resistant black.
- Light weight.
- Excellent abrasion resistance.
- Dimensional stability.
- Low moisture absorption.
- Long life.
- Stands up to temperatures from -60° F to +200° F.



NI Part #	Description
66021	Hose, Nylon, Black, ¼" O.D. x 1,000'
66038	Hose, Nylon, Black, ¼" O.D. x 100'
66039	Hose, Nylon, Black, ¼" O.D. x 10'
66086	Hose, Nylon, Black, ¼" O.D. per ft.

**Solenoid Valves**



*Solenoid Valve  
96657*

Part #	Description
966101	Solenoid Valve, 120VAC, N.O., potted, high-temp
96689	Solenoid Valve, 120VAC, N.C., potted, high-temp
96657	Solenoid Valve, 120VAC, potted, std.

**Solenoid Coils**



*Coil  
36008*



*Coil, potted  
in enclosure  
36009*

Part #	Description
36018	Coil only, 12VDC
36021	Coil only, 24VDC
36008	Coil only, 120VAC
36009	Coil, 120VAC, potted in enclosure

**BOOSTER PUMP FITTINGS**

**Brass Push Fittings**

**F**

NI Part #	Description
39036	Connector, ¼" Push x ⅛" M NPT
39042	Connector, Union, ¼" Push x Push
51509	Elbow, 90°, ¼" Push x ⅛" M NPT
51585	Elbow, 90°, ¼" Push x ¼" M NPT
51586	Elbow, Street, ¼" F NPT x ⅛" M NPT
93904	Tee, ¼", Push x Push x Push
92207	Splice, ¼" Tube, Push x Push
51588	Elbow, ¼", Push x ¼" M NPT
39050	Connector, ¼", Push x ¼" M NPT
51599	Elbow, ¼", F NPT x Push



*Brass 90°  
Elbow  
51588*



*Brass Street Elbow,  
F x M  
51586*



*Brass Push  
Connector  
39042*

*Various sizes and styles of valves, fittings, and tubing are available. Please contact our sales office for assistance.*

*SPRINKLER PACKAGES*

**Sprinkler Chart Data Form**

Nebraska Irrigation can design a sprinkler package to meet your specific requirements. The first step is gathering the information outlined in this form.

**Accuracy and completeness** are extremely important when providing information for the Sprinkler Chart Data Form. Each system is unique, so this data is the critical link to a properly functioning package.

Contact the NI Sales Department for any assistance you may need in filling out this form.

Date: \_\_\_\_\_

Dealer Name: \_\_\_\_\_

Customer Name: \_\_\_\_\_

Field Name: \_\_\_\_\_

<b>Pivot Mfg.</b>	
<b>Model No.</b>	
<b>GPM</b>	
<b>PSI @ Pivot</b>	

<b>Total System Length</b>	
<b>Total No. of Outlets</b>	
<b>Outlet Size</b>	
<b>End Gun Model No.</b>	
<b>Booster Pump HP</b>	

Span	Length	Pipe O.D.	Outlet Spacing	Outlets Per Span
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
<b>Overhang</b>				

Elevation Change	
<b>Above Pivot</b>	<b>Max.</b>
<b>Below Pivot</b>	<b>Max.</b>

Precipitation Chart Info.	
<b>Tower Motor HP</b>	
<b>Center Gear Ratio</b>	
<b>Wheel Gear Ratio</b>	
<b>Tire Size</b>	

**Special Notes:**

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# SECTION G: WATER DISTRIBUTION COMPONENTS

## Replacement Parts for All Types of Machines



### ***Water Distribution Components***

Nebraska Irrigation offers the most extensive selection of water distribution components.

If you see a product that interests you, but it does not quite fit your requirements, call and we'll try to help you find what you need.

**For a full line of components and conversion packages or just one item, Nebraska Irrigation can supply you with exactly what you need. Give us a call.**

**G**

PUMPS

**Berkeley Pump Summary**



Pump Description	Capacity	Head Pressure	Horsepower
Type C Close-Coupled Electric Drive	Up to 175 gpm	Up to 150 ft.	Maximum: 3
Type B Close-Coupled Electric Drive	Up to 5,000 gpm	Up to 500 ft.	3 to 200
Frame Mount End-Suction Centrifugal	Up to 5,400 gpm	Up to 485 ft.	Up to 235
Self-Priming Centrifugal	Up to 760 gpm	Up to 170 ft.	Maximum: 15
Air-Cooled Engine Drive	20 to 700 gpm	25 to 320 ft.	3 to 30
SAE Engine-Mount	50 to 5,500 gpm	Up to 550 ft.	Recommended: 15 to 235
PTO Drive Centrifugal	Up to 3,250 gpm	Up to 450 ft.	Up to 85
Series 6A Submersible	Up to 130 gpm	Up to 1,740 ft.	1.5 to 30
Series 6TP Submersible	Up to 375 gpm	Up to 1,300 ft.	5 to 60
Series T Submersible	Up to 2,200 gpm	Up to 1,350 ft.	5 to 200
Vertical Multi-Stage	1.2 to 115 gpm	Suction Dis-charge Size: 1¼" to 2"	.5 to 25

G

**Call our sales office for more information on these and other types of pumps.**

PUMPS

**Berkeley P.T.O. Driven Centrifugal Pumps**  
Trailer Mounted

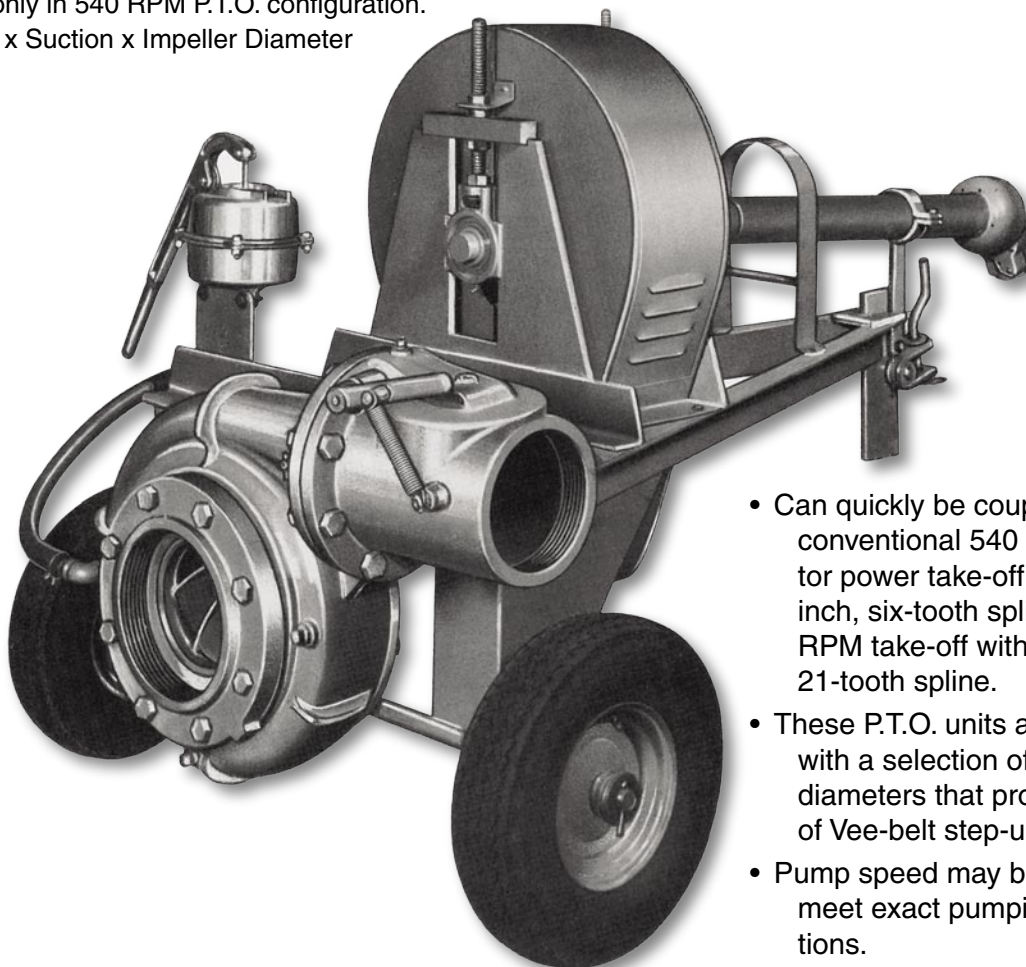
Model	Size ***	Capacity gpm	Inlet Outlet	PSI	Volute Connection
T1-B2ERHH	2 x 3 x 10 HH	100 - 400	3" x 2"	112 - 78	NPT
T1-B3ZRM	3 x 4 x 9 M	300 - 700	4" x 3"	86 - 26	NPT
T1-B6ZRM	6 x 8 x 9 M	800 - 2200	6" x 6"	26 - 6	Flange Kit Needed
T2-B3ERBL*	3 x 4 x 10 BL	300 - 600	4" x 3"	130 - 50	NPT
T2-B3JRMBM	3 x 4 x 13 BM	300 - 700	4" x 3"	108 - 70	NPT
T2-B4JRMBH	4 x 5 x 13 BH	600 - 1200	5" x 4"	97 - 35	Flanged
T2-B6JRMBM	6 x 8 x 13 BM	1100 - 1600	8" x 6"	63 - 22	Flanged
T2-B8GRMBM	8 x 10 x 12 BM	1500 - 3000	10" x 8"	29 - 15	Flanged
T2A-B3ERBL*	3 x 4 x 10 BL	300 - 600	4" x 3"	195 - 123	NPT
T2A-B4ERBM*	4 x 5 x 10 BL	600 - 1100	5" x 4"	123 - 67	Flanged
T2A-B4JRMBH	4 x 5 x 13 BH	600 - 1300	5" x 4"	104 - 84	Flanged
T2A-B4EYRMBM**	4 x 5 x 18 BM	400 - 800	5" x 4"	158 - 117	Flanged
T2A-B6JRMBM	6 x 8 x 13 BM	1200 - 1800	8" x 6"	82 - 52	Flanged
T2A-B8GRMBM	8 x 10 x 12 BM	1500 - 3250	10" x 8"	48 - 26	Flanged

*Handy primer, priming check valve, and flanges sold separately.  
See pages 118 and 128.*

\* Available only in 1000 RPM P.T.O. configuration.

\*\* Available only in 540 RPM P.T.O. configuration.

\*\*\* Discharge x Suction x Impeller Diameter



- Can quickly be coupled to any conventional 540 RPM tractor power take-off with a 1 3/8 inch, six-tooth spline, or 1000 RPM take-off with a 1 3/8 inch, 21-tooth spline.
- These P.T.O. units are available with a selection of sheave diameters that provide a range of Vee-belt step-up drive ratios.
- Pump speed may be varied to meet exact pumping conditions.

**G**

PUMPS

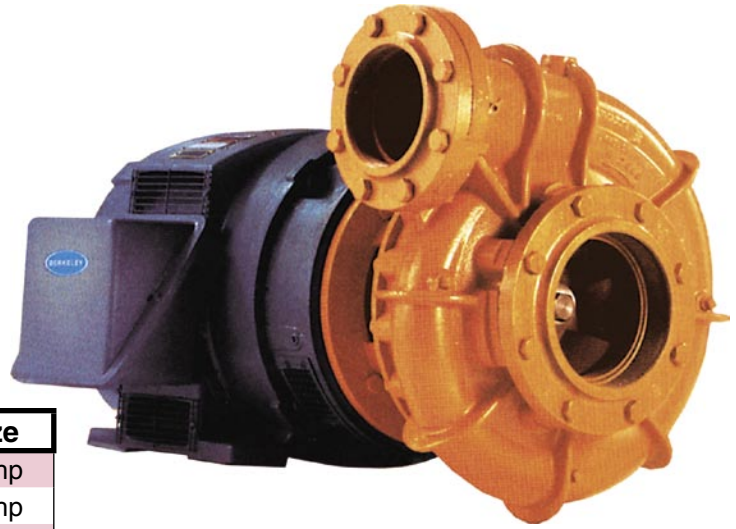
**Close-Coupled, Electric Drive Centrifugal Pumps**

Close-Coupled, End-Suction Centrifugal Pumps are ideal for most applications requiring high performance, easy maintenance, and moderate initial cost.

Cast iron construction with unique back pull-out design permits access to the impeller without disturbing the piping.

**Model B4JPBH Close-Coupled Pump**

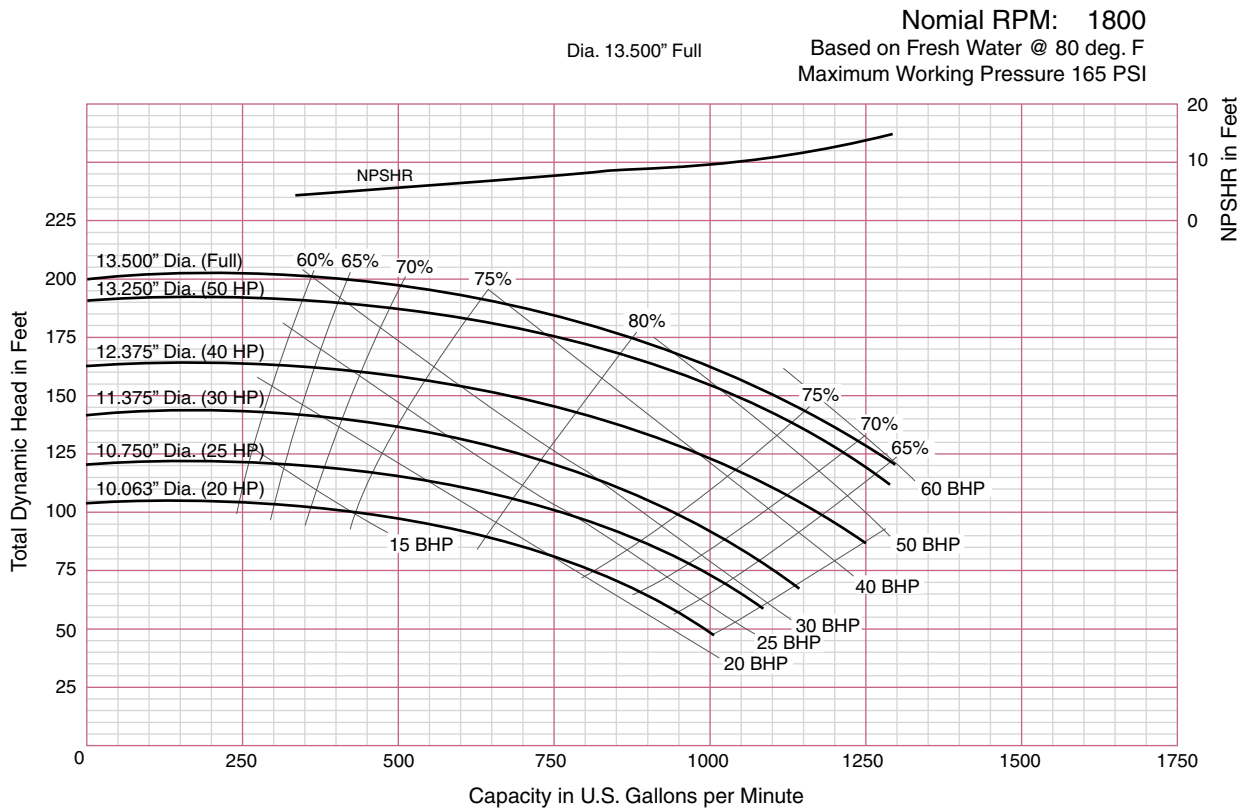
- TEFC Motor, Totally-Enclosed, Fan-Cooled
- 4" Discharge
- 5" Suction
- 13" Nominal Impeller Size
- 1800 RPM
- Flanged Volute Connection



*Flanges sold separately.  
See page 128.*

NI Part #	Size
89530-20	20 hp
895106	25 hp
89530-30	30 hp
89530-40	40 hp
89530	50 hp

**Pump Performance Curve for Model B4JPBH**



**Many more pumps are available, each with a host of configurations.  
Call us with your specific requirements.**

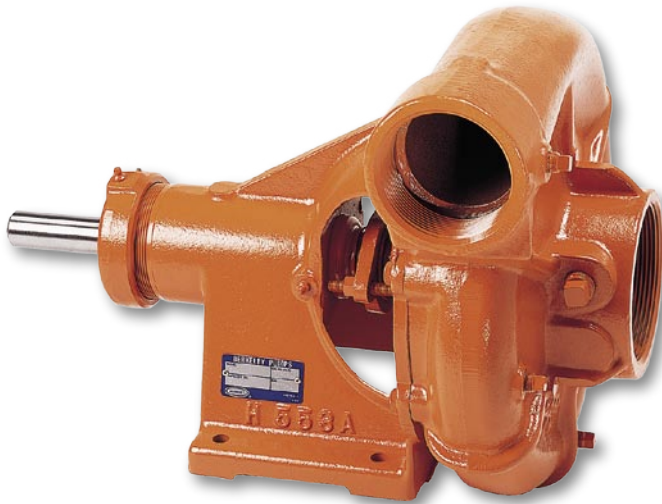
PUMPS

## Frame-Mounted Centrifugal Pumps

Frame-Mounted Centrifugal Pumps are designed for the user who has a separate power source suitable for driving through couplings or with belts.

Ideal for all general purpose applications requiring high performance, moderate initial cost, and easy maintenance.

Cast iron construction with unique back pull-out design permits access to the impeller without disturbing the piping.



## Submersible Pumps

- 4" through 10" submersible turbine pumps.
- 1/2 to 200 hp.
- Flow capacities to 2,200 gpm.
- Heads to 1700 feet.
- Strainer screens.
- 50 cycle versions available.

**G**

**Many more pumps are available, each with a host of configurations.  
Call us with your specific requirements.**

PUMPS ACCESSORIES

**Primers**

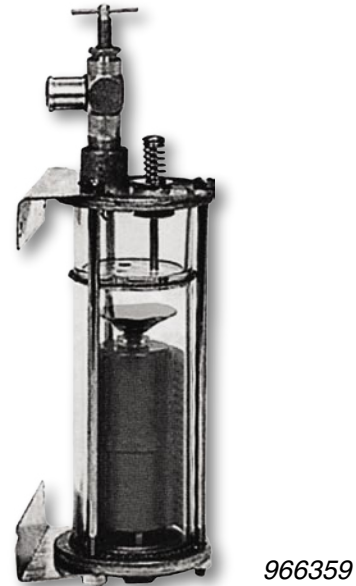
**Hand Primers**

NI Part #	Description
46009-1	#9A Hand Primer (Berkeley)
46009	#9 Hand Primer (Protek)
46031	#7 Hand Primer (Protek)
46030	#5 Hand Primer (Protek)
46029	#1000 Primer



**Intake Manifold Primers**

NI Part #	Model	Description
966359	MP1000	Intake Manifold Primer

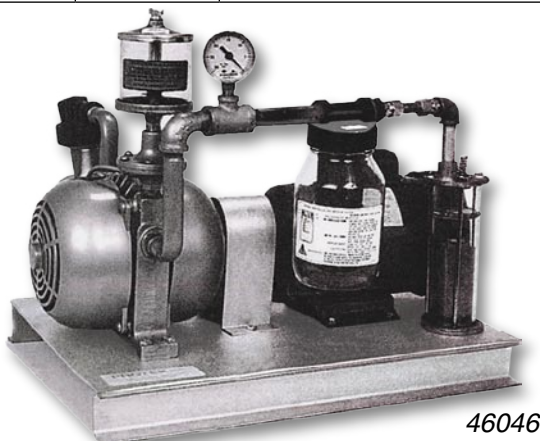


**Diaphragms for Primers**

NI Part #	Description
46025	#9A Diaphragm only (for Han-Dee Primer)
46026	#9 Diaphragm only (for Protek primer)
46027	#7 Diaphragm only (for Protek primer)
46028	#5 Diaphragm only (for Protek primer)

**Power Primers**

NI Part #	Model	Description
46046	PP35AC	1/2 HP, 120 v AC
46048	PP35DC	12 v DC



**Discharge Priming Valves**

Part #	Description
966421	1½" x 2"
966420	2" x 2½"
966422	2½" x 3"
966304	3" x 4"
966309	4" x 4"
966323	5" x 5"
966358	6" x 6"



For Pump Flange Gaskets, see page 127.

**Parts for Discharge Priming Valves**

NI Part #	Description
32534	3" x 4" Clacker
32544	4" x 4" Clacker
32555	5" x 5" Clacker
32566	6" x 6" Clacker

**Call us about other types and styles of primers and priming valves.**

G



PUMP ACCESSORIES

**Screens**

**Sure-Flo Self-Cleaning Screen**

NI Part Number		Size
Single Drive	Dual Drive	
90907	90901	6"
90902	90903	8"
90908	90909	10"

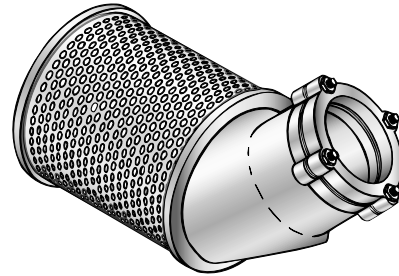
*Other sizes and styles available.*



- Operates in any position.
- Constantly cleans while pumping.
- Debris blown off the screen is carried away in a strong current of water.

**Foot Valve & Screen**

NI Part #	Size
966264	4"
966265	5"
966266	6"
966267	8"
966268	10"



**Filter Screen, Suction**

NI Part #	Size
52020	4"
52021	5"
52022	6"
52018	8"
52023	10"



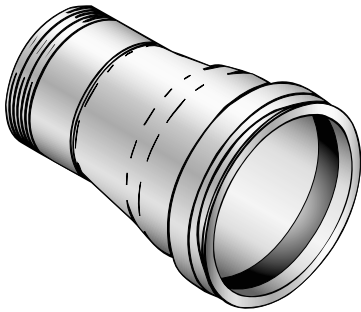
**G**

**Various types of foot valves and screens are available.  
Call our sales office for details.**

PUMP ACCESSORIES

**Pump Fittings**

**Pump Discharge Adapters, Ring Lock**

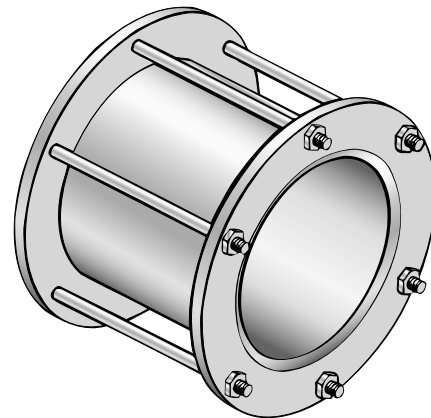


NI Part #	Size
11046	5" x 5"
11047	6" x 4"
11048	6" x 5"
11049	6" x 6"
11050	8" x 5"
11051	8" x 6"
11052	10" x 6"

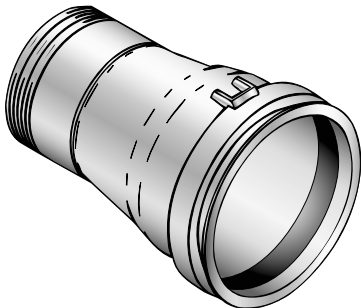
**Compression Coupler (10" body length)**

NI Part Number			Size
Nominal Size	IPS Size	PIP Size	
420255	420259	420265	4"
420256	420260		5"
420257	420261	420266	6"
420165	420262	420267	8"
420164	420263	420268	10"
420258	420264	420269	12"

Also available in 6" & 18" body lengths and as weld-on units.



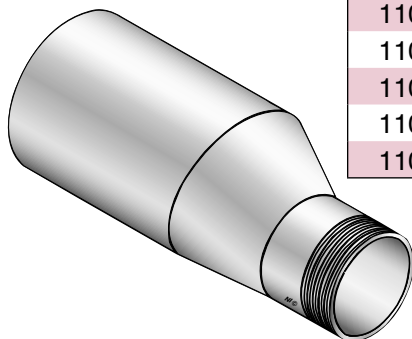
**Pump Discharge Adapters, Band & Hook**



NI Part #	Size
11041	6" x 4"
11042	6" x 6"
11043	8" x 4"
11044	8" x 8"
11045	10" x 6"

**Adapters, Eccentric, Suction**

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NI Part #	Size
11053	4" x 4"
11054	5" x 4"
11055	5" x 5"
11056	6" x 3"
11057	6" x 4"
11058	6" x 5"
11059	6" x 6"
11060	8" x 4"
11011	8" x 5"
11061	8" x 6"
11062	8" x 8"

**Compression Gaskets**

NI Part #	Size
570219	6" O.D.
570252	6-5/8" O.D.
570213	8" O.D.
570253	8-5/8" O.D.
570254	10" O.D.
570255	10-3/4" O.D.

**Pump Flanges and Pump Flange Gaskets**

See page 128 for the listing of pump flanges and page 127 for pump flange gaskets.

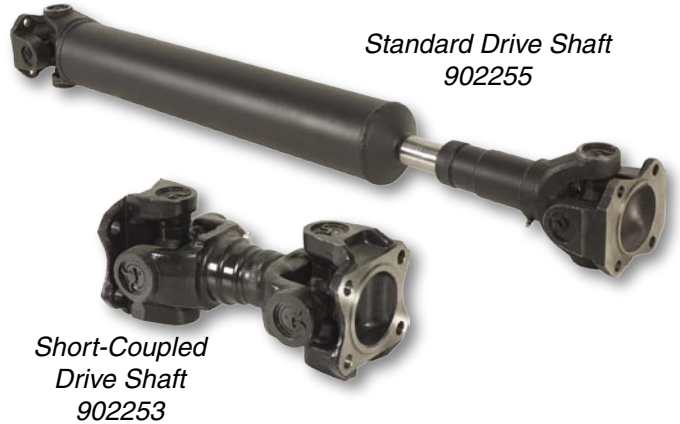
**DRIVE SHAFTS**

**Irrigation Universal Joint Drive Shafts**

- Specially designed and built for irrigation pumping applications up to 800 hp at 3000 rpm.
- All shafts are dynamically balanced.
- Special bore and keyway combinations can be custom manufactured.

**Standard Drive Shaft**

- Two joints, tubing, splined slip joint for length compensation.
- In stock lengths of 24", 36", and 48".



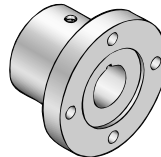
Irrigation Universal Joint Drive Shafts, Standard, SL			
NI Part Number			Description
24"	36"	48"	
902251	902252	902249	W37 Series
902254	902255	902256	W41 Series
902258	902259	902260	W48 Series
902265	902266	902267	W55 Series

**Short-Coupled Drive Shaft**

- Two joints, tubing, splined slip joint for length compensation, no tubing.
- Available in lengths from 9" to 14-1/8".

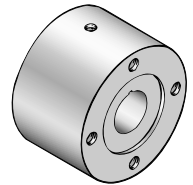
Irrigation Universal Joint Drive Shafts, Short-Coupled, SC	
NI Part #	Description
902250	9-7/8", W37 Series
902253	9-7/8", W41 Series
902257	9", W48 Series
902268	10-1/4", W55 Series

**Mounting Flanges**



Standard Mounting Flange

- Bore sizes from 1" to 4".
- Keyway sizes from 1/4" x 1/8" to 1" x 1/2".



Large Mounting Flange

**Mounting Flanges**

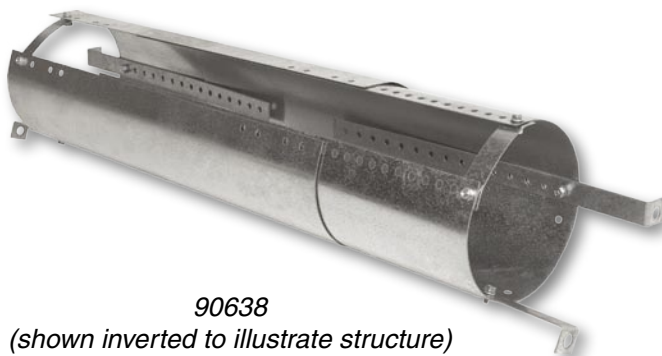
NI Part #	Description
68006	Standard Flange, SF, 37/41 Series
68008	Standard Flange, SF, 48/55 Series
68035	Special Large Flange, SLF, 37/41 Series
68036	Special Large Flange, SLF, 48/55 Series

**Other sizes are available.**

**When ordering:** specify horsepower, rpm ratings, mounting flange configuration, bore or shaft size, keyway size, bolt circle, and length of drive shaft.



**Shaft Guards for Irrigation Drive Lines**



90638

(shown inverted to illustrate structure)

**Irrigation Drive Line Shaft Guards**

Part #	Description	Lengths Available
90638	Shield, PTO Drive Line Shaft Guard	10" to 18"
90639	Shield, PTO Drive Line Shaft Guard	24" to 42"
90641	Shield, PTO Drive Line Shaft Guard	35" to 70"

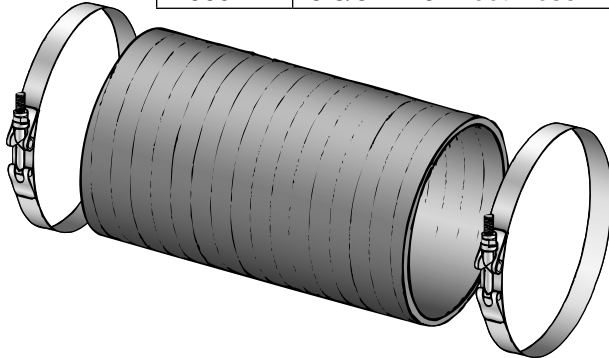
**Do not operate equipment without safety shields installed on all drive shafts.**

***CENTER PIVOT SPAN CONNECTION COMPONENTS***

**Boot Hose Kits**

Each kit includes 4-ply hose and two stainless steel T-bolt clamps.

NI Part #	Description
66012	6-5/8" x 12" Boot Hose Kit
66026	6-5/8" x 14" Boot Hose Kit
66013	6-5/8" x 16" Boot Hose Kit
66014	6-5/8" x 18" Boot Hose Kit



Choose from these pre-packaged kits or build your own using the components below.

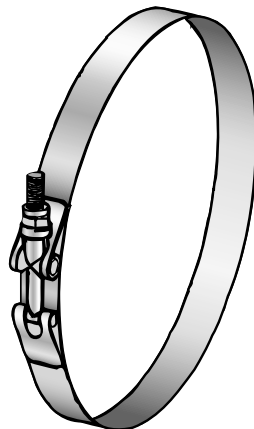
**Customized Boot Hose Kits**

NI will cut bulk boot hose to length by inch. Simply select the hose below and state the length required.

Also, specify clamps required.

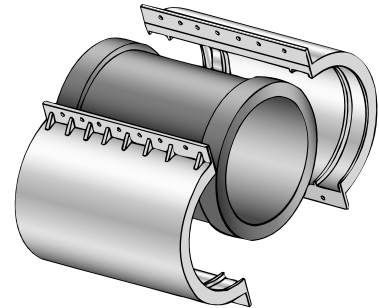
**Bulk Boot Hose and Stainless Steel T-Bolt Clamps**

NI Part Numbers			Size
Bulk Boot Hose		T-Bolt Clamps	
2-Ply	4-Ply		
66020-2	66020	33029-1	4"
----	66024	33023	4-1/2"
66001-2	66001	33012-1	5"
66002-2	66002	33013	5-9/16"
66016-2	66016	33017-1	6"
66037-2	66037	33011-1	6-5/8"
----	66081	330111	7"
----	66018	33002-1	8"
----	660104	330150	8-5/8"
----	66058	33078	10"

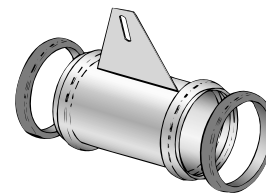


**Split Couplers and Gaskets**

NI Part #	Description
420194	Coupler, Split, Half, 5-9/16" x 6" long
570135	Gasket, Boot, 5-9/16" x 5-5/8"
420149	Coupler, Split, Half, 6-5/8" x 10-1/2"
570134	Gasket, Boot, 6-5/8" x 10-1/8"
42000	Coupler, Split, Half, 6-5/8" x 7-1/2"
57034	Gasket, Boot, 6-5/8" x 7-1/8"
420193	Coupler, Split, Half, 8" x 8-3/4"
570136	Gasket, Boot, 8" x 8-3/8"



**Gaskets for Can Couplers**



Gaskets for Can Couplers	
NI Part #	Size
57082	5"
57084	6"
570150	6-5/8"
57046	8"

NOTE: In many instances can couplers are replaced with boot hose.

**Ball Couplers and Springs**

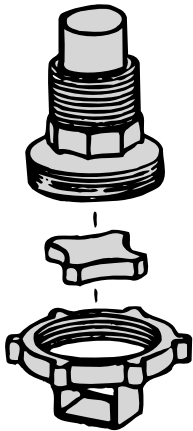
NI Part #	Description
570160	Olson Ball Coupler, 7"
92605	Olson Spring, 7"
570132	Olson Ball Coupler, 5"
92687	Olson Spring, 5"

**Swing Span Connection Hose**

NI Part #	Description
66024-120	4-1/2" x 120", Hose only, swing span
66001-139	5" x 139", Hose only, swing span

CENTER PIVOT SPAN CONNECTION COMPONENTS

**Drains**



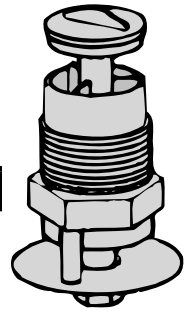
**Valley Type Three-Piece Drains**

For Valley Type as well as Many Other Brands of Systems

NI Part #	Description
49003	Upper Drain Body
49009	Drain Seal
49001	Lower Drain Body
49029	Complete 3-Piece Drain

**Spring-Loaded Drains**

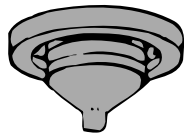
Aluminum Construction



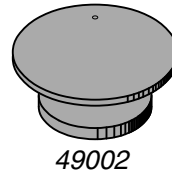
NI Part #	Description
49008	Spring-Loaded Drain

**Lindsay Type Drains**

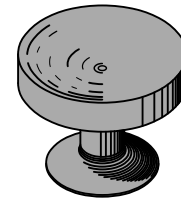
NI Part #	Description
49005	Drain, Multi-Pressure, 20-75 psi
49031	Drain, Low Pressure, 5-30 psi



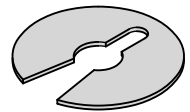
**Mushroom Drains**



49002



49002S

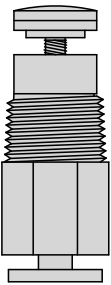


49007

NI Part #	Description
49002	Double Mushroom Drain
49002S	Double Mushroom Drain, LP Slow
49007	Mushroom Drain w/ Washer (both pieces included)

**Poppet Drains**

Fits many center pivots and wheel roll sprinkler systems.

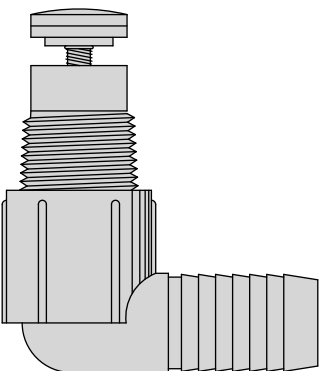


NI Part #	Description
49004	Poppet Drain

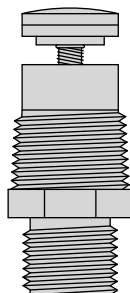
CHEMIGATION

**Chemigation Drains**

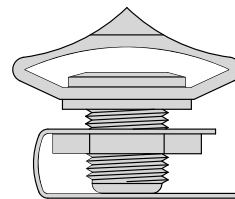
Install on supply side of check valves to drain leakage. Hose attaches to barbed "L" for waste disposal.



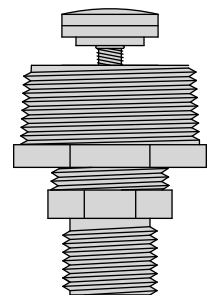
Chem Valve Drain, 90° x Barb  
49011



Chem Valve Drain  
w/ hose thread  
49034



Chem Valve Bridge Drain  
49037



Chem Valve Drain  
w/ hose thread  
49035

NI Part #	Description
49011	Drain, Chem Valve, 90°, 1" M NPT x Barb
49034	Drain, Chem Valve, w/ Hose Thread
49035	Drain, Chem Valve, 1-1/2" M NPT x Male 3/4" Hose Thread
49037	Drain, Chem Valve Bridge, Pierce



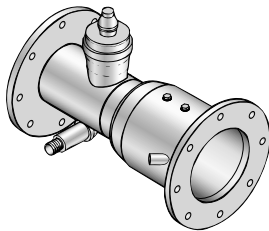
CHEMIGATION

**Chemigation / Check Valves**

- Non-slam, immediate sealing prior to flow reversal.
- Large 5" diameter inspection port.
- 3/4" FIPT injection port.
- Fresh water port.
- 5/8" steel dam allows for collection of liquid to low pressure drain.
- Plastic or aluminum air vent, depending on state requirements.
- Low pressure drain.
- Drain plug for easy winterization.
- Pressure rated to 150 psi.
- Chemical injection check valves sold separately.

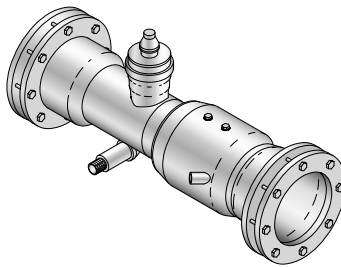
**Flange x Flange Chemigation Valve**

NI Part #	Size
966240	4"
966243	6"
966245	8"
96632	10"
966248	12"



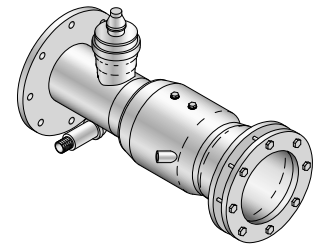
**Compression x Compression Chemigation Valve**

NI Part #	Size
966341	6"
966342	6-5/8"
966292	8"
966343	8-5/8"
966344	10"
966347	10-3/4"



**Flange x Compression Chemigation Valve**

NI Part #	Size
966432	6"
966433	6-5/8"
966434	8"
966435	8-5/8"
966436	10"
966437	10-3/4"



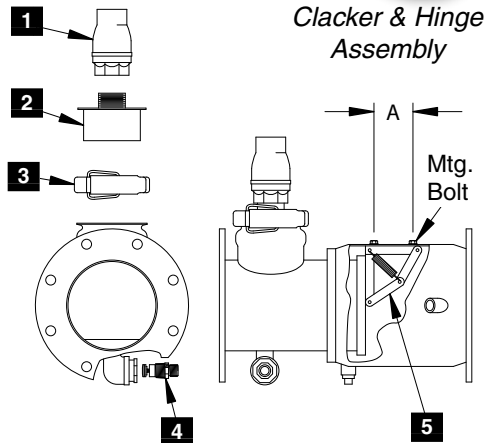
**Chemigation Valve Components List**

Included w/ these Chemigation Valves:			
Item	NI Part #	*Page Ref.	Description
1	97001	133	2" Air Relief Vent
2	96636	--	Plug, End, 5", with 2" M NPT
3	33074	--	Clamp, 5"
4	49035	123	Chemigation Drain

G

Items Not Included and Sold Separately:	
*Page Ref.	Description
128	Pump Flanges
127	Pump Flange Gaskets
125	Bolt Packages
125	Chemical Injection Check Valves

\* Additional information is available on the page number listed.

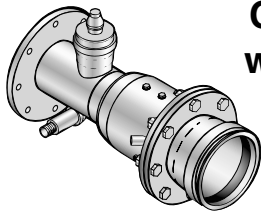


**Chemigation Valve Replacement Parts**

Clacker & Hinge Assembly		
NI Part #	Valve Size	Mounting Bolt Spacing*
32504P	4"	2"
32506P	6"	2-1/2"
32506	6"	3-1/2"
32508	8"	3-1/2"
32508P	8"	3-1/2"
32510	10"	3-1/2"
32510P	10"	4-1/2"
32512	12"	3-1/2"
32512P	12"	4-1/4"

\* Measure bolt spacing "A" to determine correct clacker and hinge assembly (Item 5) for the valve size.

CHEMIGATION



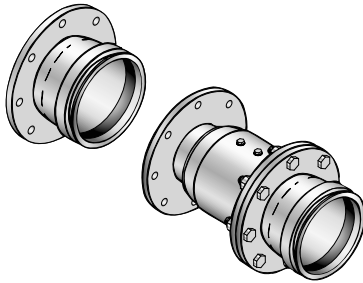
**Chemigation Valve w/ Flanged Adapter**

See below for listing of flanged adapters.

Call for more information.

**Flanged Adapters – Steel**

NI Part #	Size
11034	6" x 4"
11035	6" x 6"
11036	6" x 8"
11037	8" x 6"
11038	8" x 8"
11039	10" x 8"
11040	10" x 10"

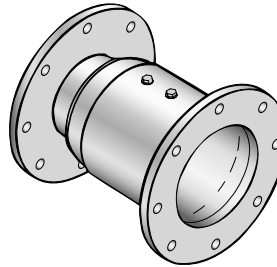


Check valve with flanged ends and flanged adapter

**Check Valves**

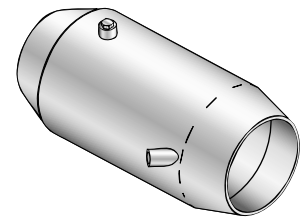
**Check Valves w/ Flanged Ends**

NI Part #	Size
966255	4"
966257	6"
966259	8"
966261	10"
966263	12"



**Check Valves w/ Plain Ends**

NI Part #		Size
Black	Galvanized	
966250	96661	4"
966251	96662	6"
966252	96660	8"
966253	96663	10"

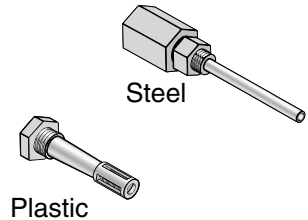


**Bolt Packages for Chemigation Valves**

NI Part #	Quantity		Description
	6"-8"	10"-12"	
200131	8	12	3/4" x 2-1/4" Bolt, Gr. 5
82070	8	12	3/4" Std. Nut
972119	8	12	3/4" Lock Washer

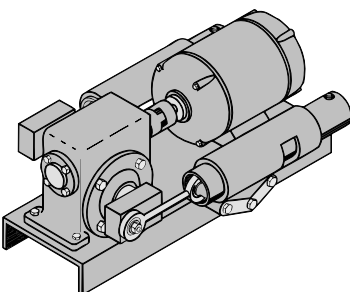
**Chemical Injection Check Valves**

NI Part #	Description
96645	Plastic, 3/4"
96645s	Steel, 3/4"



**Chemigation Pumps**

- Save fertilizer, time, labor, fuel and machinery.
- Designed for agricultural use.
- Stainless steel wettable parts resist corrosion.
- Accurate metering assures you best results.



Chemigation Pump Selection Chart					
NI Part Number		Flow GPH	Pistons		
Single Phase 110/220V 1/3 HP	Three Phase 220/440V 1/3 HP		#	Size	
895114*	895115*	3 – 30	1	1 1/4	
895116	895117	3 – 30	1	7/8	
895118	895119	3 – 60	2	7/8	
895120	895121	5.7 – 57	1	1 1/4	
895122	895123	5.7 – 114	2	1 1/4	

\* Includes hose kit #1.

Also available are pumps with power sources of: Belt Drive, Honda Engine, 12V DC, 90V DC, and Hydraulic.

Hose Kits for Chemigation Pumps	
NI Part #	Description
660106	Complete Hose Kit #1
660107	Complete Hose Kit #2

**Hose Kit #1** includes all polypropylene fittings, clamps, inline strainer with ball valve, suction and discharge tubing EVA, and waterline check valve for stainless steel pumps, poly injection line check valve on poly pumps.

**Hose Kit #2** includes the same items as #1 except substitute MAX-94 injection line check valve all stainless steel body and bushing. Available for certain models. This option not recommended for acid applications.



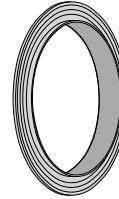
**Other sizes and models are available. Please call NI sales office for more information.**

GASKETS

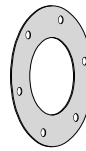
**Pivot Flange Gaskets and Seals**

NI Part #	Size	Type	Description
570189	5"	NI Universal	Gasket, Flange
570148	6"	NI Universal	Gasket, Flange
570145-1	6-5/8"	NI Universal	Gasket, Flange
570146-1	8"	NI Universal	Gasket, Flange
570198	10"	NI Universal	Gasket, Flange
570205	4"	Lindsay Type	Gasket, Flange (corner arm)
570143	5-9/16"	Lindsay Type	Gasket, Flange
570144	6-5/8"	Lindsay Type	Gasket, Flange
570185	8"	Lindsay Type	Gasket, Flange
570148-1	6"	Valley Type	Gasket, Flange
57048	6"	Valley Type	Gasket, Flat, Rubber
570128	6-5/8"	Valley Type	Gasket, Flange
570231	6-5/8"	Valley Type	Gasket, Flat
570149	8"	Valley Type	Gasket, Flange
570405	8"	Valley Type	Gasket, Flange, Rubber
570216	10"	Valley Type	Gasket, Flange, Rubber
898167	4-5/8"	Reinke Type	Seal, O-Ring
898111696	6"	Reinke Type	Seal, V-Ring
89842	6-5/8"	Reinke Type	Seal, V-Ring
89843	6-5/8"	Reinke Type	Seal, O-Ring
911111	8"	Reinke Type	Seal, V-Ring
898153	8"	Reinke Type	Seal, O-Ring
570241	4"	Olson Type	Gasket, Flange, Rubber
570210	5"	Olson Type	Gasket, Flange
570201	6"	Olson Type	Gasket, Flange
570147	7"	Olson Type	Gasket, Flange
570308	10"	Olson Type	Gasket, Flange

**NOTE:** NI Universal Flange Gaskets can be used on any system.



*NI Universal Flange Gasket, 6-5/8" 570145-1  
Other sizes are similar.*



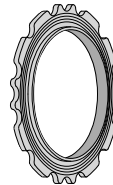
*Lindsay Type Flange Gasket, Corner Arm, 4" 570205*



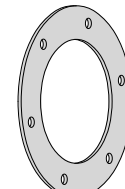
*Lindsay Type Flange Gasket, 5-9/16" 570143*



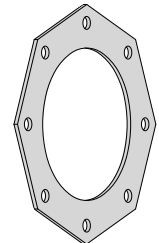
*Lindsay Type Flange Gasket, 6-5/8" 570144*



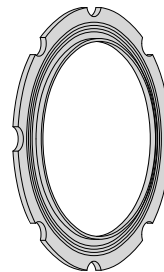
*Valley Type Flange Gasket, 6" 570148-1*



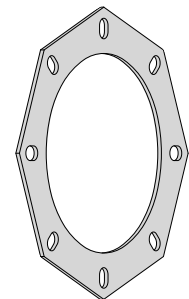
*Valley Type Flat Rubber Gasket, 6" 57048*



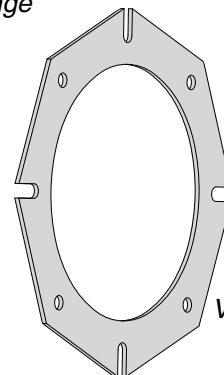
*Valley Type Flat Gasket, 6-5/8" 570231*



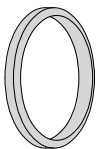
*Valley Type Flange Gasket, 8" 570149*



*Valley Type Rubber Flange Gasket, 8" 570405*

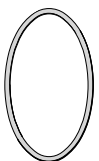
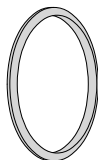


*Valley Type Rubber Gasket, 10" 570216*

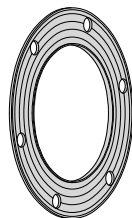


*Reinke Type V-Ring Seal, 6" 898111696*

*Reinke Type V-Ring Seal, 6-5/8" 89842*



*Reinke Type O-Ring Seal, 6-5/8" 89843*



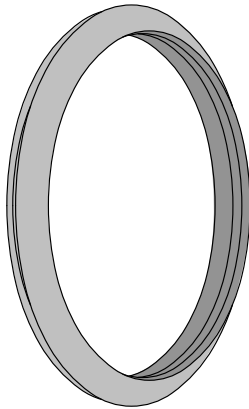
*Olson Type Flange Gasket, 7" 570147*

G



GASKETS

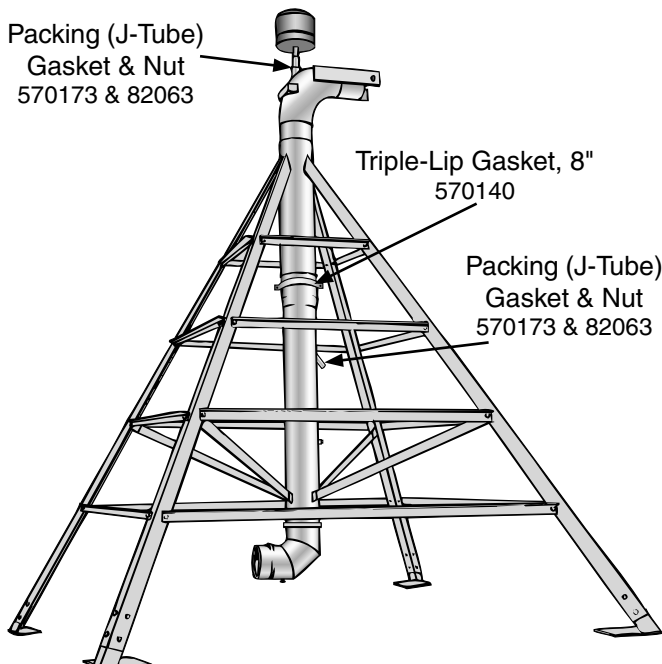
**Pivot Riser Gaskets, Seals**



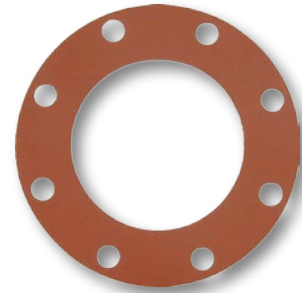
*Triple-Lip, Round-Back Gasket  
570140*

NI Part #	Size	Description
570140	8"	Gasket, Triple Lip, Rd. Back

NI Part #	Description
911102	Seal, Pivot Packing, 3/8" Sq. Braided
911152	Seal, Packing Graphite, 3/16"
911100	Seal, Packing Graphite, Bulk Roll, 1/2" x 1/2"
570173	Gasket, Packing, 1.315" I.D.
82063	Nut, 1" Gal., Packing IPS
420150	Packing Coupler, 45°, 1" O.D. Pipe; Kit includes gasket, riser, and nut



**Pump Flange Gaskets**



NI Part Number		Description
Full Face (red)	Drop-In	
570326	570345	2-1/2" Pump Flange Gasket
570225	570346	3" Pump Flange Gasket
570184	570237	4" Pump Flange Gasket
570238	570347	5" Pump Flange Gasket
570172	570202	6" Pump Flange Gasket
57011	570232	8" Pump Flange Gasket
57000	570233	10" Pump Flange Gasket
570234	570256	12" Pump Flange Gasket

**Pump Flanges**

*See page 128 for the listing of pump flanges.*



**Please call for other sizes of pump flange gaskets and pump flanges.**

FLANGES

**Pump Flanges**



**Steel Pump Flanges**

NI Part Number		Description
O.D.	IPS	
54031	----	2-1/2" Steel Pump Flange
54029	----	3" Steel Pump Flange
54020	54020s	4" Steel Pump Flange
54030	54030s	5" Steel Pump Flange
54011	54011s	6" Steel Pump Flange
54010	54010s	8" Steel Pump Flange
54012	54012s	10" Steel Pump Flange
54033	54033s	12" Steel Pump Flange



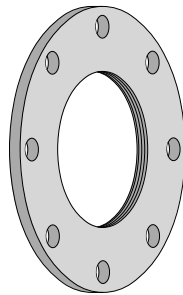
**Aluminum Pump Flanges**

NI Part #	Description
54031A	2-1/2" Aluminum Pump Flange
54029A	3" Aluminum Pump Flange
54020A	4" Aluminum Pump Flange
54030A	5" Aluminum Pump Flange
54011A	6" Aluminum Pump Flange
54010A	8" Aluminum Pump Flange
54012A	10" Aluminum Pump Flange
54033A	12" Aluminum Pump Flange

**Threaded Flanges**

**G**

Threaded Flanges IPS Sizes; ID Thread		
NI Part #	Pipe Size	Outside Diameter
54071	2"	6"
54072	2-1/2"	7"
54073	3"	7-1/2"
54074	4"	9"
54066	5"	10"
54076	6"	11"
54077	8"	13-1/2"
54078	10"	12-1/4"



**Pump Flange Gaskets**

See page 127 for the listing of pump flange gaskets.

**Please call for other sizes of pump flanges and pump flange gaskets.**

VALVES

**Butterfly Valves**

- Cast Iron, Nickel-Plated Disc.
- Specifically designed to regulate irrigation waterflow.
- Positive shutoff.
- Working pressures to 150 psi.
- Adaptable to underground service.
- Choice of:
  - Hand lever operated or
  - Geared operated.



966314

**Butterfly Valves, Gear Operated**

NI Part #	Description
966388	2" Gear Operated
966389	2-1/2" Gear Operated
966390	3" Gear Operated
966350	4" Gear Operated
966313	6" Gear Operated
966314	8" Gear Operated
966274	10" Gear Operated
966337	12" Gear Operated

**Butterfly Valves, Lever Operated**

NI Part #	Description
966385	2" Lever Operated
966386	2-1/2" Lever Operated
966349	3" Lever Operated
966279	4" Lever Operated
96613	6" Lever Operated
966102	8" Lever Operated
96611	10" Lever Operated
966327	12" Lever Operated



966102

**Bolt Packages for Butterfly Valves**

NI Part #	Quantity			Description
	4"	6"-8"	10"-12"	
200130	8	--	--	5/8" x 4" Bolt, Gr. 5
82073	8	--	--	5/8" Std. Nut
972118	8	--	--	5/8" Lock Washer
200132	--	8	--	3/4" x 5" Bolt, Gr.5
82070	--	8	--	3/4" Std. Nut
972119	--	8	--	3/4" Lock Washer
200133	--	--	8	7/8" x 6" Bolt, Gr. 5
82082	--	--	8	7/8" Std. Nut
972120	--	--	8	7/8" Lock Washer

**Shaft Extensions**



966397

NI Part Number					Description
24"	36"	48"	60"	72"	
966393	966394	966354	966356	966395	2" - 3" Valve Extension
966393	966394	966440	966441	966442	4" - 6" Valve Extension
966396	966397	966355	966357	966398	8" Valve Extension
966363	966400	966355-10	966401	966399	10" Valve Extension
966402	966403	966404	966406	966407	12" Valve Extension

**Inline Wafer Valves**

**Electric On/Off Valve**

**With Solenoid and 3-Way Selector**

Includes Filter, 3-Way Selector, Solenoid, and Bolt Package.

Solenoid available in 12V DC, 12V AC, 24V AC, 24V DC, or 120V AC.

Other valve options and models available.

*Flanges sold separately.*

NI Part #	Description
966372	4" Electric On/Off Valve
966296	6" Electric On/Off Valve
966353	8" Electric On/Off Valve



VALVES

**Combination Line / Check Valves**

**Steel, Ring Lock**

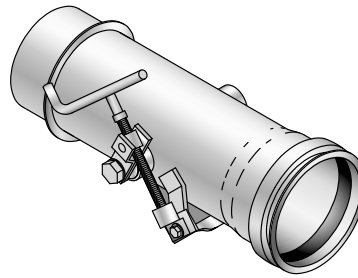
NI Part #	Size
966225	4"
966226	5"
966227	6"
966228	8"
966229	10"
966230	12"



**Butterfly Line Valves**

**Steel, Ring Lock**

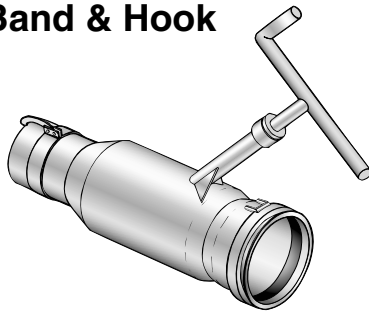
NI Part #	Size
966381	6"
966297	8"
966366	10"
966374	12" *



\* NOTE: 12" utilizes a 10" body.

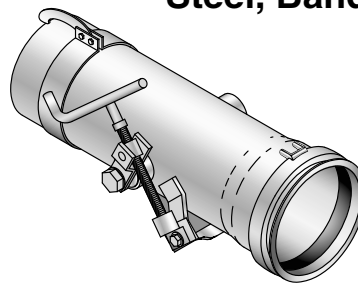
**Steel, Band & Hook**

NI Part #	Size
966231	3"
966232	4"
966233	5"
966234	6"
96690	8"
966236	10"



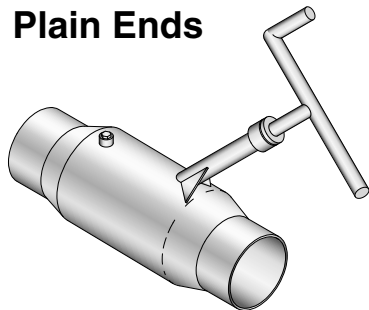
**Steel, Band & Hook**

NI Part #	Size
966124	4"
966338	6"
966321	8"
966365	10"



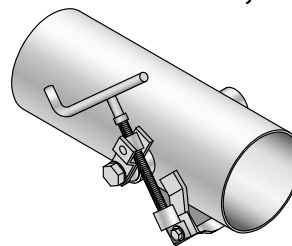
**Steel, Plain Ends**

NI Part #	Size
966227-PLA	6"
966228-PLA	8"
966229-PLA	10"



**Steel, Plain Ends**

NI Part #	Size
966379	4"
96692	6"
96693	8"
966346	10"



**Replacement Parts**

**For Line/Check Combo Valves**

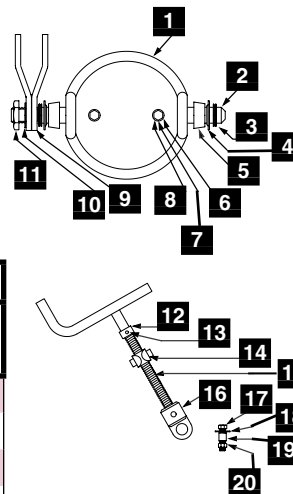
NI Part #	Description
65016	Handle – <i>specify size</i>
570348	Packing
325103	Clacker, 3"
325104	Clacker, 4"
325105	Clacker, 5"
325106	Clacker, 6"
325108	Clacker, 8"
325110	Clacker, 10"
325112	Clacker, 12"

**Replacement Parts**

**For Butterfly Line Valves**

Disc Only, Item 1	
NI Part #	Description
47013	Disc, 4" Butterfly
47012	Disc, 6" Butterfly
47000	Disc, 8" Butterfly
47020	Disc, 10" Butterfly

Repair Kits, Items 1–20	
NI Part #	Description
72541	Kit, 4" Butterfly Repair
72542	Kit, 5" Butterfly Repair
72543	Kit, 6" Butterfly Repair
72539	Kit, 8" Butterfly Repair
72540	Kit, 10" Butterfly Repair



Item	Description
1	Disc
2	Shaft
3	Retainer Ring
4	Reducing Washer
5	Chevron Gasket
6	Stainless Bolt
7	Concave Washer
8	Brass Nut
9	Linkage Arm
10	Star Washer
11	Jam Nut
12	Thrust Bearing
13	Roll Pin
14	Thrust Nut
15	Stem
16	Yoke
17	Bolt
18	Washer
19	Ferrule
20	Nut

G

FLOW METERS

**McCrometer Saddle Flow Meters**

**Applications**

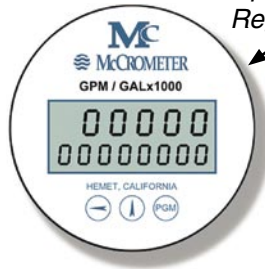
- Center pivot systems.
- Sprinkler irrigations systems.
- Drip irrigations systems.
- Golf course and park water management.
- Gravity turnouts from underground pipe-lines.
- Commercial nurseries.
- Water and wastewater management.

**Features and Benefits**

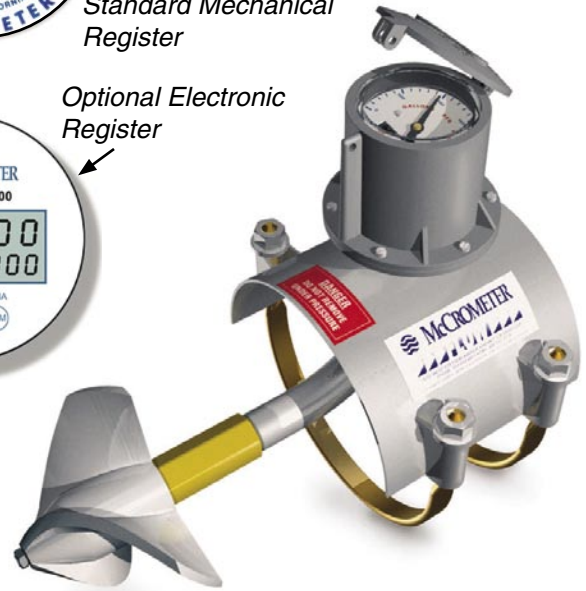
- Fabricated stainless steel saddle.
- Impellers manufactured of high-impact plastic.
  - Capable of retaining their shape and accuracy over the life of the meter.
- Reliable impeller shaft.
  - Supported by factory lubricated, stainless steel bearings.
  - Shielded bearing design limits the entry of materials and fluids into the bearing chamber providing maximum bearing protection.
- Instantaneous flowrate indicator and six-digit straight-reading totalizer are standard.
  - Available in gallons per minute, cubic feet per second, liters per second, and other units.
  - Housing includes a domed acrylic lens and hinged lens cover with locking hasp.



Standard Mechanical Register



Optional Electronic Register



**Saddle Flow Meters**

NI Part #	Description
78052	Flow Meter w/ 4" Saddle
78053	Flow Meter w/ 5" Saddle
78040	Flow Meter w/ 6" Saddle
78038	Flow Meter w/ 8" Saddle
78047	Flow Meter w/ 10" Saddle
78051	Flow Meter w/ 12" Saddle
170137	Over-Run Bearing Option (for higher than normal flowrates)

**Note:** Please specify pipe I.D. and O.D. when ordering to ensure correct calibration.

**The over-run bearing assembly option** increases the high flowrate range of the meter by 50%.

Stainless steel repair clamps are ideal when you want to move a saddle meter from one location to another. See page 145 for the listings of pipe repair clamps.

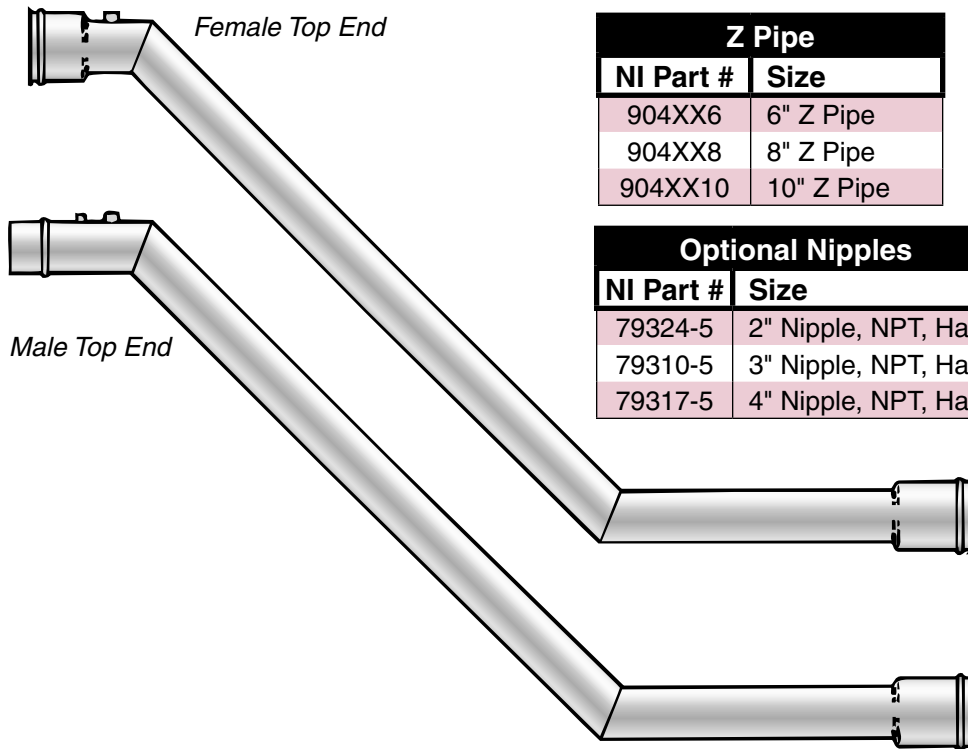
Specification	4"	6"	8"	10"	12"	14"	16"
Meter and Nominal Pipe Size	4"	6"	8"	10"	12"	14"	16"
Maximum Flow (U.S. gpm)	600	1,200	1,500	1,800	2,500	3,000	4,000
Minimum Flow (U.S. gpm)	50	90	100	125	150	250	275
Approx. Head Loss in Inches at Max. Flow	23.00	17.00	6.75	3.75	2.75	2.00	1.75
Approx. Shipping Weight (lbs.)	18	22	26	30	34	38	44
Over-Run Maximum Flow (U.S. gpm)	900	1,800	2,250	2,700	3,750	4,500	6,000

**Other sizes and styles of flow meters are available. Contact us for details.**

UNDERGROUND PIPE

**NI Underground Pipe Fittings**

- Epoxy powder coating greatly prolongs the life of steel fittings.
- Coating will not crack from extreme temperature changes.
- Tough epoxy finish resists corrosion.
- Almost impossible to chip.



Z Pipe	
NI Part #	Size
904XX6	6" Z Pipe
904XX8	8" Z Pipe
904XX10	10" Z Pipe

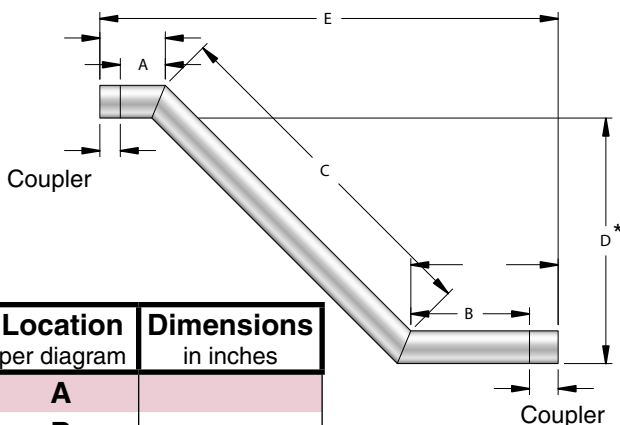
Optional Nipples	
NI Part #	Size
79324-5	2" Nipple, NPT, Half
79310-5	3" Nipple, NPT, Half
79317-5	4" Nipple, NPT, Half

**"Z" Pipe**

- Made with 12 Ga. Steel.
- Male or Female Top End.
- Sizes: 6", 8", or 10" — IPS or PIP
- Nipples and Couplings added as requested.
- Standard Depths: 42", 48", and 60".
- Other depths can be custom made.

**Please call our sales office with your specifications.**

**Ordering Details**



Location per diagram	Dimensions in inches
A	
B	
C	
D*	
E	

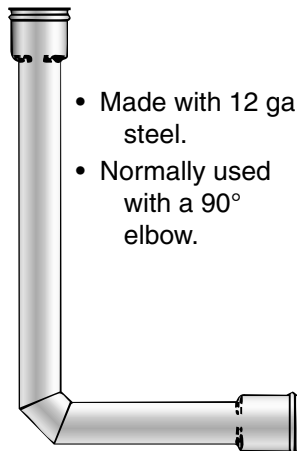
Fill in the dimensions for the Z Pipe needed according to the above diagram.

\* Trench Depth

**Other styles and combinations are available. Please specify size and type of couplers needed.**

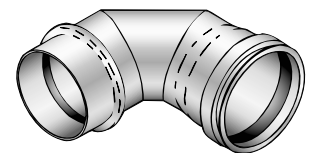
**"L" Risers**

NI Part #		Size
IPS	PIP	
90403	90404	6"
90405	90406	8"
90401	90402	10"



- Made with 12 ga. steel.
- Normally used with a 90° elbow.

**Elbow, 90°, Steel, Ring Lock**



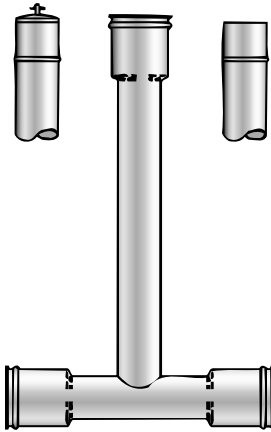
NI Part #	Size
51538	6"
51539	8"
51540	10"

See page 137 for more listings of 90° steel elbows with ring lock.  
See page 138 for ring lock clamps.

UNDERGROUND PIPE

- Powder coated or galvanized for maximum resistance to abrasion, corrosion, impact, and extreme temperature changes
- Designed for underground installation.
- Resists frost and corrosion.
- Gasket included.

**“T” Double Coupler**

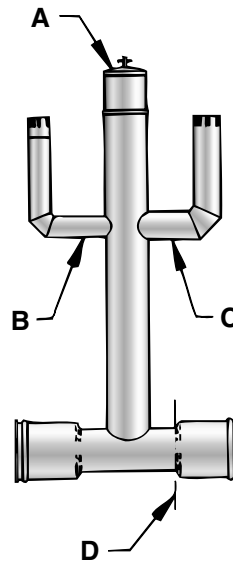


“T” may be ordered with a choice of three different ends:  
 — valve stub  
 — female top  
 — male ring lock

24" double female bottom

Standard Options						
“T” Double Coupler with 24" Double Female Bottom						
Size	Bottom Dia.	Riser Dia.	Riser Height	Riser Options		
PIP IPS	4" x 4"	4"	30" 36" 42" 60" 60"	female top	valve stub top	male ring lock top
	6" x 6"	4"				
		6"				
	8" x 8"	4"				
		6"				
	10" x 10"	4"				
		6"				

**“Cactus Jack” Double Coupler with Options**



**Options:**  
 A: riser valve  
 B: air relief valve  
 C: pressure relief valve  
 D: capped for end plug

Standard Sizes		
“Cactus Jack” Double Coupler with Options		
Riser Height	Riser Size	Arm Size
30"	4", 6", 8"	2" MIPT or FIPT
36"	4", 6", 8"	3" MIPT or FIPT
42"	4", 6", 8"	4" MIPT
60"	6", 8"	4" FIPT

**G**

RELIEF VALVES

**Pressure Relief Valves**

Factory set; specify setting.



966270

NI Part #	Size
966237	2"
966269	2-1/2"
96667	3"
966270	4"

**Air Relief & Vacuum Relief Valves**

Cast Aluminum

Factory set; specify setting.



97001

NI Part #	Size
97006	1-1/2" FNPT
97001	2" FNPT
97002	3" FNPT

RELIEF VALVES

**Netafim Air Release and Vacuum Valves**

**Features and Benefits**

- Ensures maximum protection of irrigation system with proper sizing and placement.
- Hydrodynamic float design ensures valve closure as water fills the system, remains open when air pressure reaches 10 psi.
- Large capacity valves prevent water hammer (pipes and fittings from cracking or bursting).
- Made of corrosion-resistant fiberglass with reinforced UV protected nylon (no metal parts to rust or corrode, no need for spare parts).
- On the 2" Combination, the unique rolling seal allows gradual opening and self cleaning.

NI Part #	Description	Max. Operating Pressure (psi)	Body Material	Nominal Size
97008	<b>2" Combination</b> Vacuum Relief and Continuous Acting Air Vent w/ Plastic Base	150	Polypropylene	2"
97015	<b>3" Guardian</b> Air and Vacuum Vent	150	Nylon	3"
97014	<b>2" Guardian</b> Air and Vacuum Vent	150	Nylon	2"
97017	<b>1" Guardian</b> Air and Vacuum Vent	150	Nylon	1"
97016	<b>3/4" Guardian</b> Air and Vacuum Vent	150	Nylon	3/4"

**2" Combination Vacuum Relief and Continuous Air Vent**

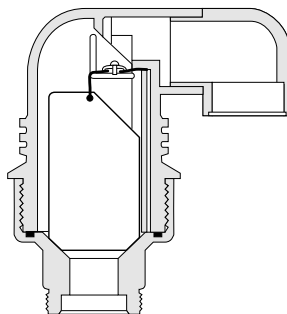
**Applications**

- For release of large volumes of air: pump and filtration stations, along mains, at the end of mainlines.
- At high elevations in pipe network.
- Every 1,000 feet along mainlines six inches and larger.
- At upstream side of manifolds.



**Stages of Operation**

1. During start-up, the valve releases large volumes of air.
2. As the system builds pressure, the body fills with water, forcing the float upwards and closing the valve.
3. While the system is pressurized, the automatic function continuously expels accumulated air.
4. At shutdown, the valve's large opening allows air back into the system preventing the pipe from collapsing.



**Guardian Air and Vacuum Vent**

**Applications**

- Commonly used at downstream of valves, primarily at manifolds, to break vacuum caused by system draining.
- On sloping terrain to prevent collapsing of pipes caused by vacuum when pipe networks drain.



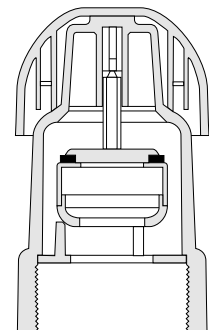
2" Guardian

**Stages of Operation**

1. The Guardian releases large quantities of air through an opening equal to a large size standard vent. As water enters, the float rises and forces the valve to close.
2. During normal flow, while the line is under pressure, the valve remains closed.
3. As the line empties, or during a drop in pressure, the float drops down and opens the valve. Air is admitted, breaking the vacuum created by the withdrawing water and prevents the collapse of pipelines and suction into dripperlines.



1" Guardian

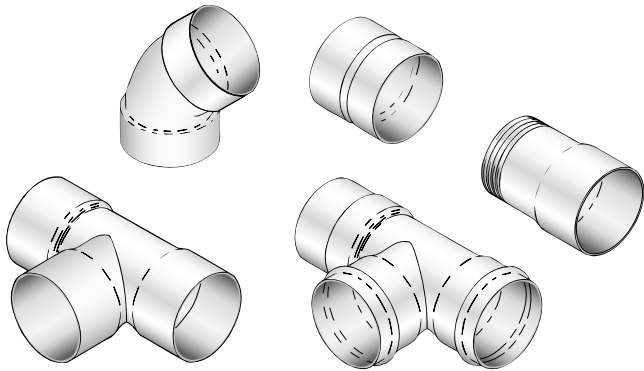


G



## PIPE AND PIPE FITTINGS

### PVC Pipe Fittings



- For underground and surface applications.
- PIP & IPS solvent weld types.
- PIP gasket type.

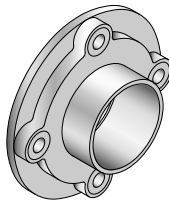
Nebraska Irrigation can supply various sizes and styles of PVC fittings along with PVC pipe, repair couplings, gaskets, welding solvent, and cement.

**Please call our sales office for more information.**

### Van Stone Style Plastic Flanges

IPS – Loose Ring

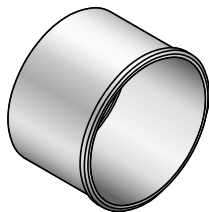
NI Part #	Description
54064	4" IPS
54000	6" IPS
54063	8" IPS
54051	10" IPS
54068	12" IPS



### Bushings

To Convert IPS to PIP

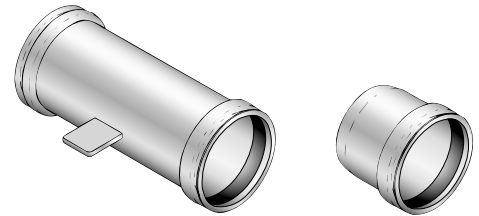
NI Part #	Description
24096	4" IPS x 4" PIP
24097	6" IPS x 6" PIP
24098	8" IPS x 8" PIP
240105	10" IPS x 10" PIP
240106	12" IPS x 12" PIP



### PVC Pipe

- Underground PIP 4" to 27" dia., 50 to 200 psi.
- Underground IPS 2" to 12" dia., 100 to 200 psi.
- Surface, gated, mainline, 6" to 27" dia.
- Well casing.

### Underground Fittings



- Couplers
- Tees
- Elbows
- Repair couplers
- And more . . .

PIP and IPS sizes are available.

**Please call our sales office for more information.**

### Polyethylene Plastic Pipe

- 1/2" to 2" diameters.
- Pressure range: 80 to 125 psi.
- 100 to 400 ft roll lengths.

### Aluminum Pipe

- Irrigation and industrial applications.
- Plain end.
- Sprinkler.
- Torque tube.
- Sizes from 2" to 12" dia. with wall thicknesses from .051" through .094" are available.
- Mainline.
- And more . . .

**Various diameters, wall sizes, and pressure ratings are available.**

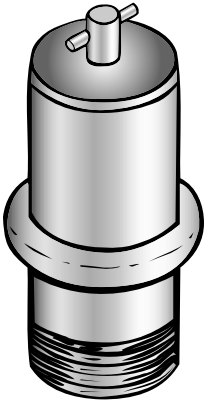
**Please call our sales office for more information.**

**G**

PIPE VALVES

**Valve Stubs, Tee Valves, Elbow Valves**

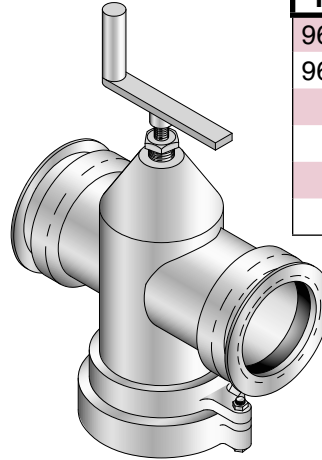
**Valve Stub w/ MIPT**



NI Part Number		Size
Aluminum	Steel	
----	966135	3" x 2"
966133	966136	3" x 3"
----	966137	4" x 3"
966134	966138	4" x 4"
----	966139	5" x 5"
----	966140	6" x 6"

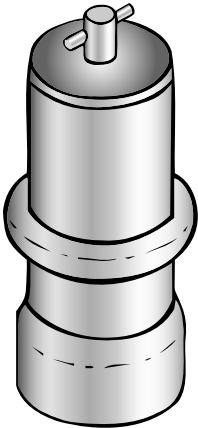
- First digit indicates valve size.
- Second digit indicates thread size.

**Valve, Tee, Opener, Ring Lock**



NI Part #		Size
Alumi-num	Steel	
966167	966185	4" x 3" x 3"
966168	966186	4" x 4" x 4"
----	966187	6" x 4" x 4"
----	966188	6" x 6" x 6"
----	966189	8" x 6" x 6"
----	966190	8" x 8" x 8"

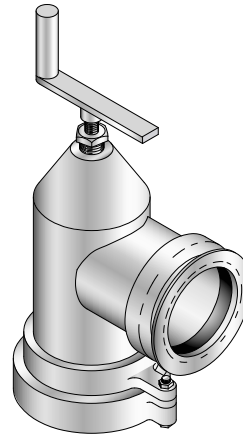
**Valve Stub w/ FIPT**



NI Part Number		Size
Aluminum	Steel	
966141	966148	3" x 2"
966142	----	3" x 2.5"
966143	966149	3" x 3"
966144	966150	4" x 3"
966145	966151	4" x 4"
966146	966152	5" x 5"
966147	966153	6" x 6"

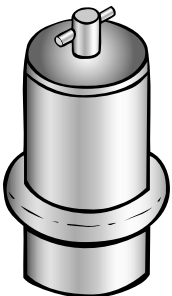
- First digit indicates valve size.
- Second digit indicates thread size.

**Valve, Elbow, Opener, Ring Lock**



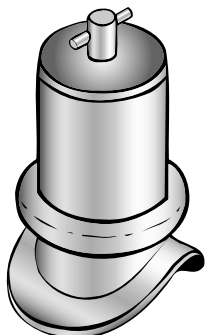
NI Part #		Size
Alumi-num	Steel	
966175	966191	3" x 2"
966176	966192	3" x 3"
966177	966193	4" x 3"
966178	966194	4" x 4"
----	96644	6" x 4"
----	96688	6" x 6"
----	966195	8" x 6"
----	966196	8" x 8"

**Valve Stub**



NI Part Number		Size
Aluminum	Steel	
966154	966158	3"
966155	96685	4"
966156	966159	5"
966157	96682	6"

**Valve Stub, Saddle Mount**

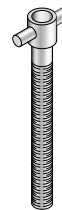


NI Part #	Size
Aluminum	
966160	4" x 4"
966161	4" x 5"
966162	4" x 6"
966163	4" x 7"
966164	4" x 8"
966165	4" x 10"
966166	4" x 12"

**Valve Stub Replacement Parts**

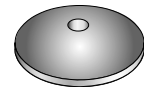
**Valve Stub Stem**

Please specify length and diameter of thread.



NI Part #	Size
93118	3" or 4"
93119	5" or 6"
93113	8"
93117	10"

**Valve Stub Disc, Domed**



NI Part #	Size
47022	3"
47007	4"
47023	5"
47009	6"
47015	8"
47024	10"

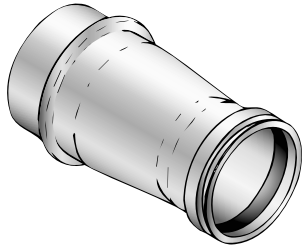
Flat discs also available.

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FITTINGS

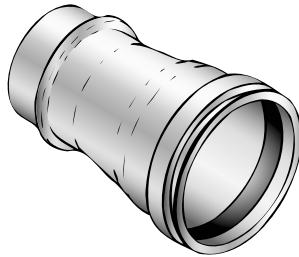
**Steel Fittings, Ring Lock**

**Reducer**



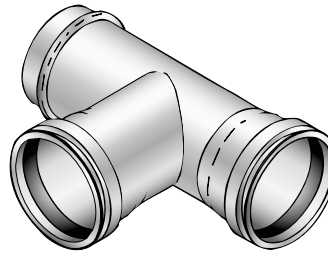
NI Part #	Size
89124	4" x 3"
89125	5" x 4"
89126	6" x 4"
89127	8" x 6"
89128	10" x 8"
89129	12" x 8"
89130	12" x 10"

**Increaser**



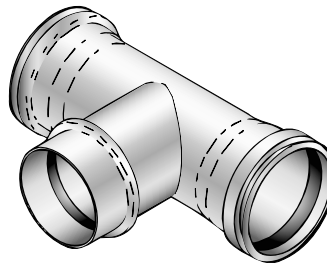
NI Part #	Size
68819	3" x 4"
68820	4" x 5"
68821	4" x 6"
68822	6" x 8"
68823	8" x 10"
68824	8" x 12"
68825	10" x 12"

**Line Tee, Steel**



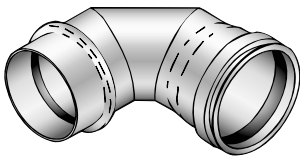
Part #	Size
93923	3" x 3" x 3"
93924	4" x 4" x 4"
93925	5" x 5" x 5"
93926	6" x 6" x 6"
93927	8" x 8" x 8"
93928	10" x 10" x 10"
93929	12" x 12" x 12"

**End Tee, Steel**



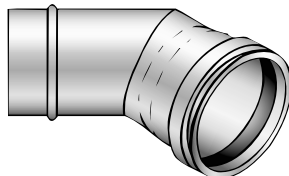
Part #	Size
93930	3" x 3" x 3"
93931	4" x 4" x 4"
93932	5" x 5" x 5"
93933	6" x 6" x 6"
93934	8" x 8" x 8"
93935	10" x 10" x 10"
93936	12" x 12" x 12"

**Elbow, 90°, Steel**



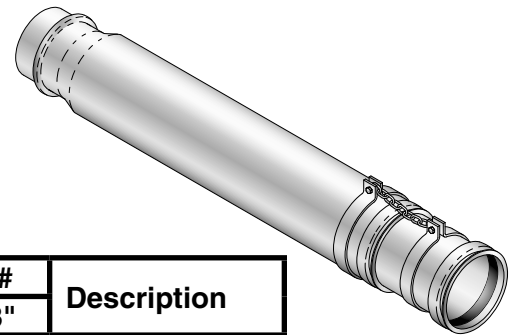
NI Part #	Size
51512	3"
51536	4"
51537	5"
51538	6"
51539	8"
51540	10"
51541	12"

**Elbow, 45°, Steel**



NI Part #	Size
51542	3"
51543	4"
51544	5"
51545	6"
51546	8"
51547	10"
51548	12"

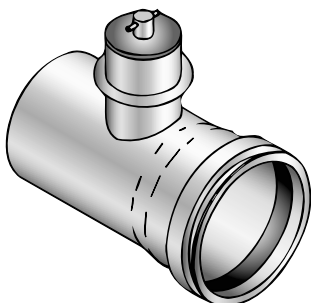
**Telescoping Joint, High Pressure, Steel**



NI Part #		Description
6"	8"	
----	71053	Extends 1' to 5'
----	71047	Extends 4' to 7'
71026	71022	Extends 5' to 10'
71027	71023	Extends 10' to 20'
71028	71024	Extends 20' to 40'
71029	71025	Extends 30' to 60'

For aluminum telescoping joints, see page 143.

**Valve, Main to Lateral**



NI Part #	Size
966218	4" x 4"
966219	6" x 4"
966220	6" x 6"
966221	8" x 4"
966222	8" x 6"
966223	10" x 4"
966224	10" x 6"

**Butterfly Line Valves and Combination Line / Check Valves**

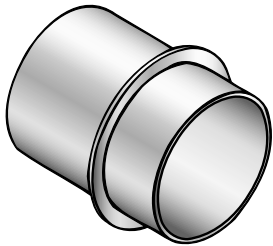
See page 130 for the listing of these valves.

**G**

FITTINGS

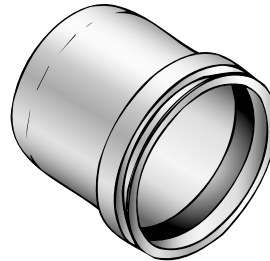
**Steel Fittings, Ring Lock** *(continued)*

**Coupler, Male, Press-On, Steel**



NI Part #	Size
420236	3"
420237	4"
420238	5"
420239	6"
420240	8"
420241	10"
420242	12"

**Deep Coupler, Female, Weld-On, Black Steel**



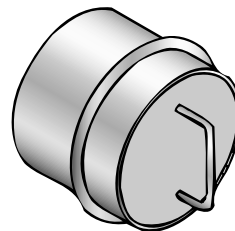
NI Part #	Size
420229	2"
420230	3"
420231	4"
420232	5"
420233	6"
420234	8"
420235	10"

**Coupler, Female, Press-On, Steel**



NI Part #	Size
420243	3"
420244	4"
420245	5"
420246	6"
420247	8"
420248	10"
420249	12"

**End Plug, Ring Lock**



NI Part #	Size
89043	3"
89044	4"
89045	5"
89046	6"
89047	8"
89048	10"
89049	12"

**Coupler, Male, Weld-On, Black Steel**



NI Part #	Size
420250	4"
42044	5"
42002	6"
42009	8"
42026	10"
42048	12"

**Horseshoe Clamp, Plated**



NI Part #	Size
33005	6"
33076	8"
33020	10"
33063	12"

**Clamp, Ring Lock, Plated**



Aluminum ring lock clamps are available on request.

NI Part #	Size
33071	3"
33073	4"
33074	5"
33016	6"
33016TL	6", Larger Diameter
33007	8"
33007TL	8", Larger Diameter
33008	10"
33075	12"

**G**

**Coupler, Female, Weld-On, Black Steel**



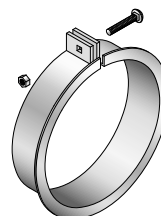
NI Part #	Size
42097	4"
42033	5"
42092	6"
42008	8"
42055	10"
42012	12"

**Ring, Weld-On, Steel**



NI Part #	Size
89800	6"
89824	8"
898102	10"

**Ring, Bolt-On, Steel**

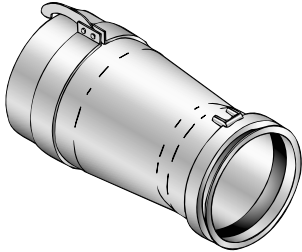


NI Part #	Size
33046S	6"
33091S	8"
33092S	10"

FITTINGS

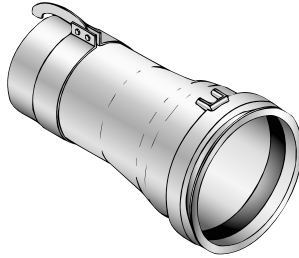
**Steel Fittings, Band & Hook**

**Reducer, Steel**



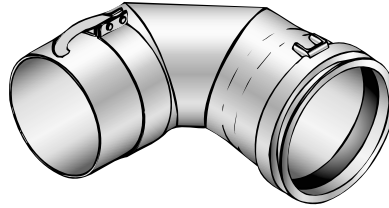
NI Part #	Size
89106	3" x 2"
89107	4" x 3"
89108	5" x 3"
89109	5" x 4"
89110	6" x 4"
89111	6" x 5"
89112	7" x 6"
89113	8" x 6"
89114	8" x 7"
89115	10" x 8"

**Increaser, Steel**



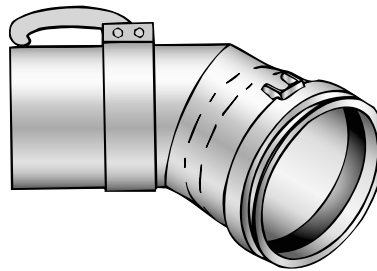
NI Part #	Size
68801	2" x 3"
68802	3" x 4"
68803	3" x 5"
68804	4" x 5"
68805	4" x 6"
68806	5" x 6"
68807	6" x 7"
68808	6" x 8"
68809	7" x 8"
68810	8" x 10"

**Elbow, 90°, Steel**



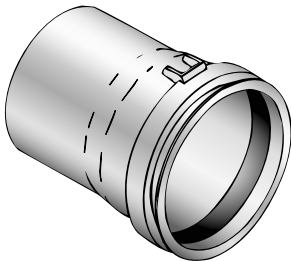
NI Part #	Size
51561	2"
51562	3"
51563	4"
51564	5"
51565	6"
51566	8"

**Elbow, 45°, Steel**



NI Part #	Size
51567	2"
51568	3"
51569	4"
51570	5"
51571	6"
51572	8"

**Coupler, Female, Press-On, Steel**



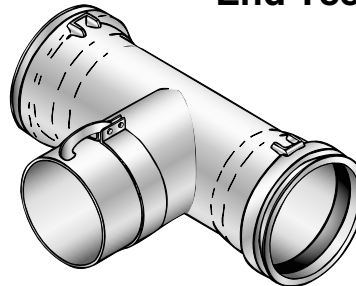
NI Part #	Size
420216	2"
420217	3"
420218	4"
420219	5"
420220	6"
420221	8"

**Deep Coupler, Female, Black Steel**



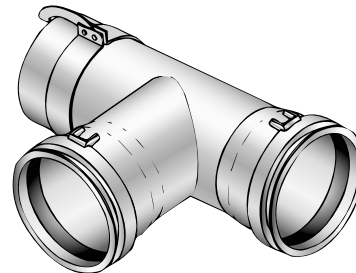
NI Part #	Size
420222	2"
420223	3"
420224	4"
420162	5"
420163	6"
420227	8"
420228	10"

**End Tee, Steel**



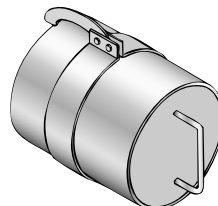
Part #	Size
93951	2" x 2" x 2"
93952	3" x 3" x 3"
93953	4" x 4" x 4"
93954	5" x 5" x 5"
93955	6" x 6" x 6"
93956	8" x 8" x 8"

**Line Tee, Steel**



Part #	Size
93957	2" x 2" x 2"
93958	3" x 3" x 3"
93959	4" x 4" x 4"
93960	5" x 5" x 5"
93961	6" x 6" x 6"
93962	8" x 8" x 8"

**End Plug, Steel**



NI Part #	Size
89037	2"
89038	3"
89039	4"
89040	5"
89041	6"
89042	8"

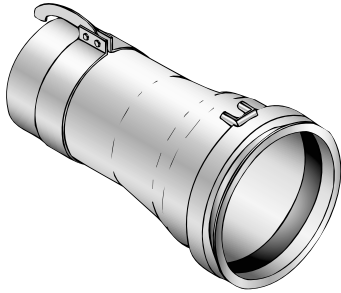
**G**

**Butterfly Line Valves and Combination Line / Check Valves**  
See page 130 for the listing of these valves.

FITTINGS

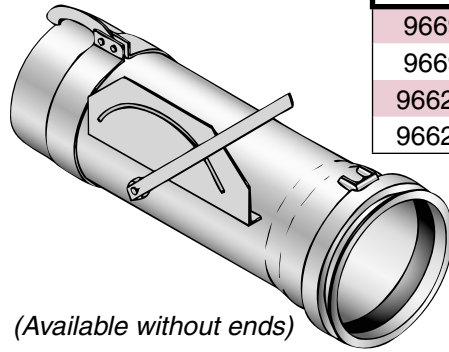
**Low Pressure Fittings, Band & Hook, Aluminum – Up to 75 psi**

**Increaser, Aluminum B & H**



NI Part #	Size
68815	4" x 6"
68816	6" x 8"
68817	8" x 10"
68818	10" x 12"

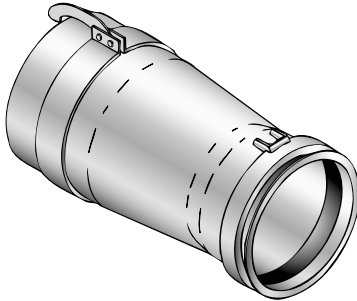
**Line Valve, Aluminum B & H**



NI Part #	Size
96695	6"
96697	8"
966238	10"
966239	12"

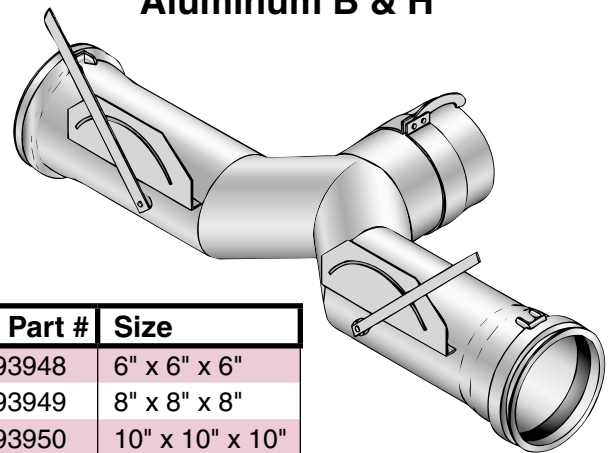
*(Available without ends)*

**Reducer, Aluminum B & H**



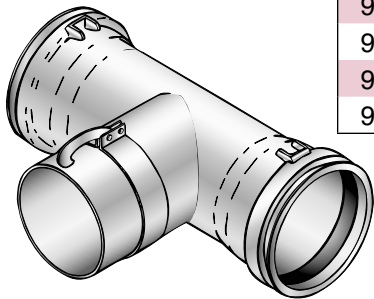
NI Part #	Size
89120	6" x 4"
89121	8" x 6"
89122	10" x 8"
89123	12" x 10"

**Line Valve Tee, Graduated "Y", Aluminum B & H**



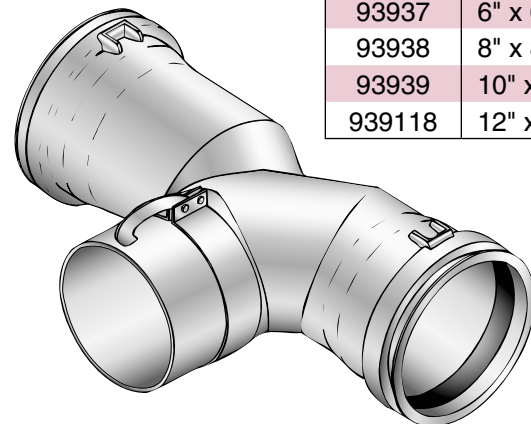
NI Part #	Size
93948	6" x 6" x 6"
93949	8" x 8" x 8"
93950	10" x 10" x 10"
939117	12" x 12" x 12"

**End Tee, Aluminum B & H**



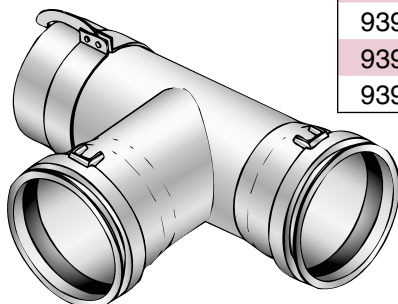
Part #	Size
93940	6" x 6" x 6"
93941	8" x 8" x 8"
93942	10" x 10" x 10"
93943	12" x 12" x 12"

**Graduated "Y" Tee, Aluminum B & H**



NI Part #	Size
93937	6" x 6" x 6"
93938	8" x 8" x 8"
93939	10" x 10" x 10"
939118	12" x 12" x 12"

**Line Tee, Aluminum B & H**



Part #	Size
93944	6" x 6" x 6"
93945	8" x 8" x 8"
93946	10" x 10" x 10"
93947	12" x 12" x 12"

G

FITTINGS

**Low Pressure Fittings, Band & Hook, Aluminum – Up to 75 psi**  
(continued)

**Band & Hook**



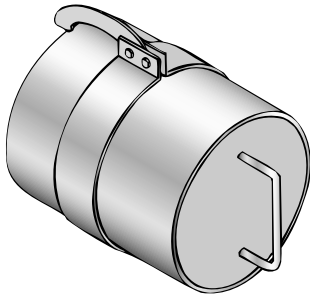
NI Part #	Size
15005	2"
15006	3"
15007	4"
15008	5"
15009	6"
15010	7"
15011	8"
15012	10"
15013	12"

**Band (only)**



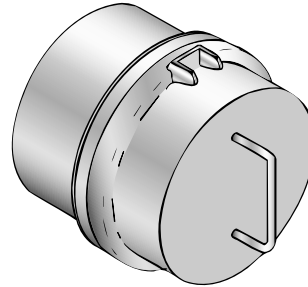
NI Part #	Size
15014	2"
15015	3"
15016	4"
15017	5"
15018	6"
15019	7"
15020	8"
15021	10"
15022	12"

**End Plug, Aluminum B & H**



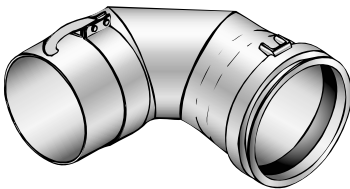
NI Part #	Size
89050	6"
89051	8"
89052	10"
89053	12"

**End Cap, Aluminum B & H**



NI Part #	Size
27048	6"
27049	8"
27050	10"

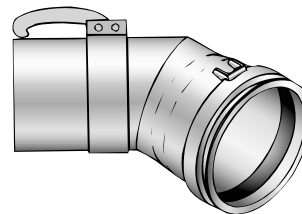
**Elbow, 90°, Aluminum B & H**



NI Part #	Size
51573	6"
51574	8"
51575	10"
51576	12"

(Also available as reducing elbow)

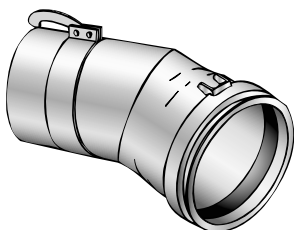
**Elbow, 45°, Aluminum B & H**



NI Part #	Size
51577	6"
51578	8"
51579	10"
51580	12"

(Also available as reducing elbow)

**Elbow, 22-1/2°, Aluminum B & H**



NI Part #	Size
51581	6"
51582	8"
51583	10"
51584	12"

**Coupler, Weld-On, Cast Aluminum B & H**



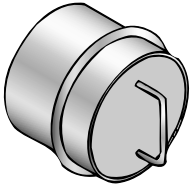
NI Part #	Size
420252	6"
420253	8"
420254	10"

**G**

FITTINGS

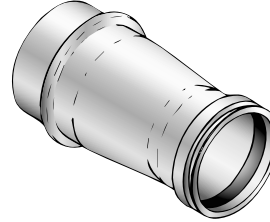
Low Pressure Fittings, Ring Lock, Aluminum — Up to 45 psi

**End Plug, Aluminum, LP**  
(end caps are also available)



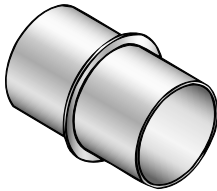
NI Part #	Size
89033	6"
89034	8"
89035	10"
89036	12"

**Reducer, Aluminum, LP**



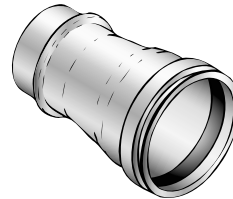
NI Part #	Size
89116	6" x 4"
89117	8" x 6"
89118	10" x 8"
89119	12" x 10"

**Coupler, Male, Press-On, Aluminum, LP**



NI Part #	Size
420200	6"
420201	8"
420202	10"
420203	12"

**Increaser, Aluminum, LP**



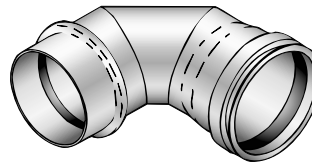
NI Part #	Size
68811	4" x 6"
68812	6" x 8"
68813	8" x 10"
68814	10" x 12"

**Coupler, Female, Press-On, Aluminum, LP**



NI Part #	Size
420204	6"
420205	8"
420206	10"
420207	12"

**Elbow, 90°, Aluminum, LP**



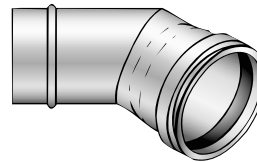
NI Part #	Size
51549	6"
51550	8"
51551	10"
51552	12"

**Coupler, Male, Weld-On, Aluminum, LP**



NI Part #	Size
420208	6"
420209	8"
420210	10"
420211	12"

**Elbow, 45°, Aluminum, LP**



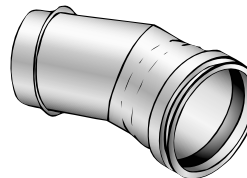
NI Part #	Size
51553	6"
51554	8"
51555	10"
51556	12"

**Coupler, Female, Weld-On, Aluminum, LP**



NI Part #	Size
420212	6"
420213	8"
420214	10"
420215	12"

**Elbow, 22-1/2°, Aluminum, LP**



NI Part #	Size
51557	6"
51558	8"
51559	10"
51560	12"

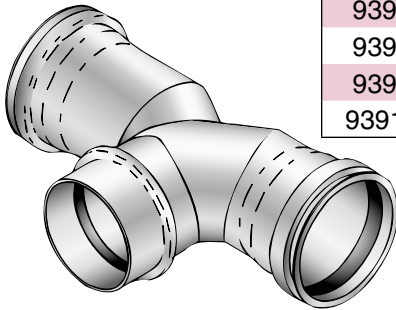
G



FITTINGS

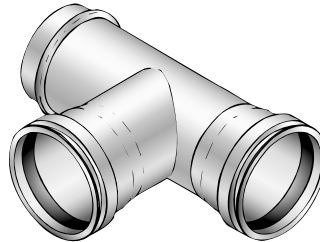
**Low Pressure Fittings, Ring Lock, Aluminum — Up to 45 psi (continued)**

**Graduated “Y” Tee, Aluminum, LP**



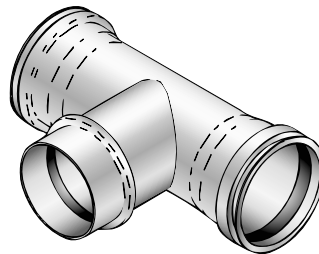
NI Part #	Size
93917	6" x 6" x 6"
93918	8" x 8" x 8"
93919	10" x 10" x 10"
939104	12" x 12" x 12"

**Line Tee, Aluminum, LP**



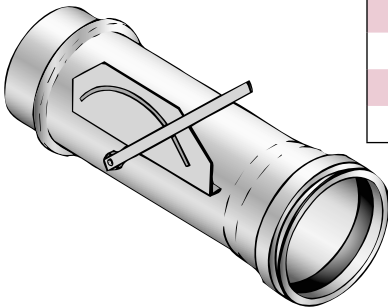
Part #	Size
93913	6" x 6" x 6"
93914	8" x 8" x 8"
93915	10" x 10" x 10"
93916	12" x 12" x 12"

**End Tee, Aluminum, LP**



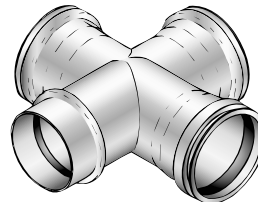
Part #	Size
93909	6" x 6" x 6"
93910	8" x 8" x 8"
93911	10" x 10" x 10"
93912	12" x 12" x 12"

**Line Valve, Aluminum, LP**



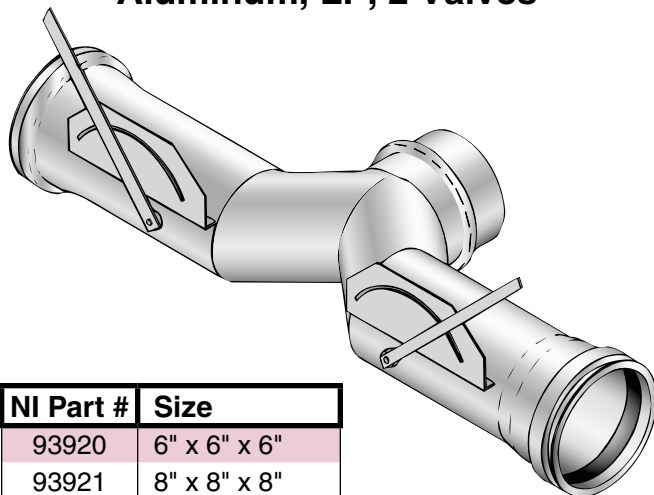
NI Part #	Size
966217	6"
966197	8"
966198	10"
966199	12"

**Cross, Aluminum, LP**



Part #	Size
43501	6" x 6" x 6" x 6"
43502	8" x 8" x 8" x 8"
43503	10" x 10" x 10" x 10"
43504	12" x 12" x 12" x 12"

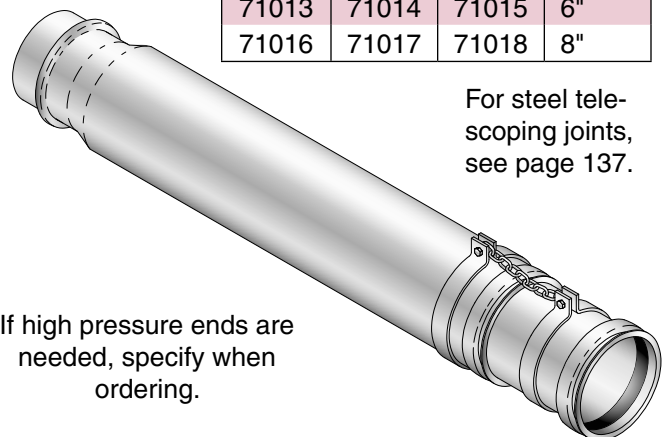
**Line Valve Tee, Graduated “Y”, Aluminum, LP, 2 Valves**



NI Part #	Size
93920	6" x 6" x 6"
93921	8" x 8" x 8"
93922	10" x 10" x 10"
939105	12" x 12" x 12"

**Telescoping Joint, Low Pressure, Aluminum**

Expands to:			Size
6 ft.	10 ft.	20 ft.	
71013	71014	71015	6"
71016	71017	71018	8"



If high pressure ends are needed, specify when ordering.

For steel telescoping joints, see page 137.

**G**

FITTINGS

**Aluminum & Steel Weld-On Fittings**

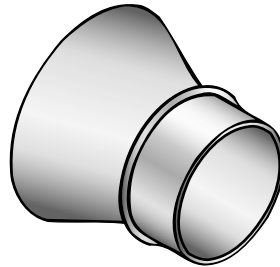
**Coupler — Cone, Weld-On**

NI Part Number		Size (cone to coupler)
Aluminum	Steel	
37034	37038	6" x 4"
37035	37039	8" x 6"
37036	37040	10" x 8"
37037	37041	12" x 10"



**Tube End — Cone, Weld-On**

NI Part Number		Size (cone to tube)
Aluminum	Steel	
37042	37045	8" x 6"
37043	37046	10" x 8"
37044	37047	12" x 8"

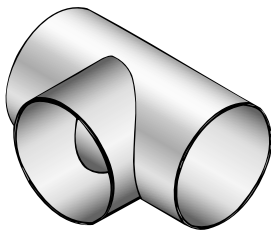


**Cone, Weld-On**

NI Part Number		Size
Aluminum	Steel	
37048	37056	3" x 2"
37049	37014	4" x 2"
37050	37057	4" x 3"
37051	37058	5" x 4"
37052	37016	6" x 4"
37053	37013	8" x 6"
37054	37017	10" x 8"
37055	37015	12" x 10"

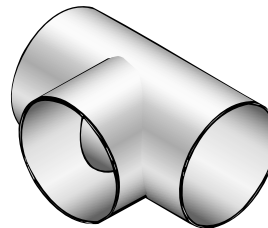


**Tee, Weld-On, Black Steel**



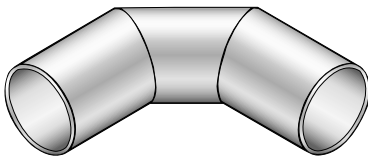
NI Part #	Size
93970	6"
93992	8"
939116	10"

**Tee, Weld-On, Cast Aluminum, High Pressure**



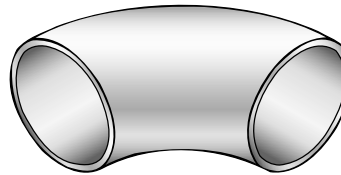
NI Part #	Size
93906	6"
93907	8"
93908	10"

**Elbow, 90°, Weld-On, Black Steel**



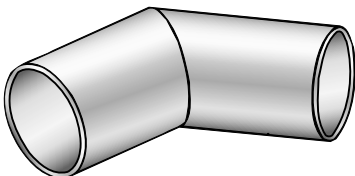
NI Part #	Size
51518	3"
51519	4"
51520	5"
51521	6"
51522	8"
51523	10"

**Elbow, 90°, Weld-On, Cast Aluminum, High Pressure**



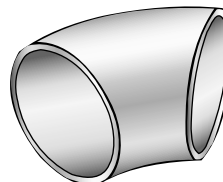
NI Part #	Size
51530	6"
51531	8"
51532	10"

**Elbow, 45°, Weld-On, Black Steel**



NI Part #	Size
51524	3"
51525	4"
51526	5"
51527	6"
51528	8"
51529	10"

**Elbow, 45°, Weld-On, Cast Aluminum, High Pressure**



NI Part #	Size
51533	6"
51534	8"
51535	10"

G

FITTINGS

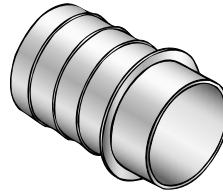
**Hose Barbs**

**Female Hose Barb**



NI Part Number		Size
Aluminum	Steel	
15801	15805	4"
15802	15806	6"
15803	15807	8"
15804	15808	10"

**Male Hose Barb**



NI Part Number		Size
Aluminum	Steel	
15809	15813	4"
15810	15814	6"
15811	15815	8"
15812	15816	10"

**Pipe Repair Clamps**

NI Part #	Description
330162	4" O.D. x 9" Long
330163	5" O.D. x 9" Long
330164	6" O.D. x 9" Long
330165	6-5/8" O.D. x 9" Long
330172	7" O.D. x 9" Long
330167	8" O.D. x 9" Long
330168	8-5/8" O.D. x 9" Long
330169	10-3/4" O.D. x 9" Long
330170	12-3/4" O.D. x 9" Long

Stainless steel repair clamps are ideal when you want to move saddle meter from one location to another.

Pipe repair clamps can also be used to repair steel or plastic pipe above ground or under ground.

**Cooling Coil**

with Coupler, Faucet Outlet, & ARV Outlet

NI Part #	Description
36050	6" x 54" — 60 to 80 hp
36051	6" x 72" — 80 to 100 hp
36052	8" x 36" — 60 to 75 hp
36053	8" x 54" — 75 to 100 hp
36054	8" x 72" — 100 to 120 hp
36055	10" x 54" — 100 to 120 hp
36056	10" x 72" — 125 to 150 hp

**Cooling Coil Accessories**

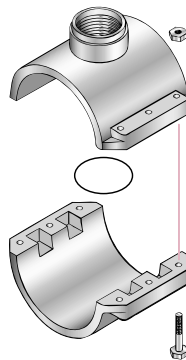
NI Part #	Description
27021	Cap, Cooling Coil, 6"
966132	Valve, Faucet, 1/2"
96628	Valve, Faucet, 3/4"

**Saddle Fittings for Irrigation Pipe**

- For IPS and PIP and OD steel pipe.
- Made of steel with epoxy or galvanized coating.
- Includes gaskets, bolts, and nuts.

**Easy to Install**

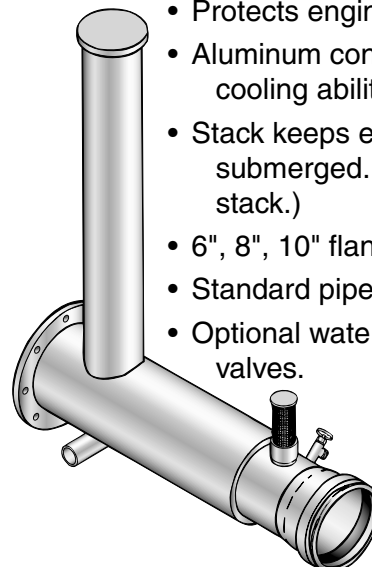
1. Install "O" ring.
2. Position saddle halves on pipe.
3. Bolt together.
4. Drill hole in pipe with hole-saw bit.



Please call our sales office for sizes available.

**Features and Benefits**

- Protects engine from overheating.
- Aluminum construction for superior cooling ability.
- Stack keeps engine's water pump submerged. (Also available w/o stack.)
- 6", 8", 10" flanges are standard.
- Standard pipe & hose connections.
- Optional water faucets & relief valves.



HOSE

**Water Hose for Agricultural and Industrial Applications**

Size	Working Pressure	Description
3/4" to 16"	30 to 140 psi	<b>PVC Discharge Hose, Blue*</b> <ul style="list-style-type: none"> <li>• Flexible</li> <li>• Resistant to oils, grease, and many chemicals and acids</li> <li>• Reinforced by cord fabric</li> </ul>
1" to 6"	150 psi	<b>PVC Medium-Duty Water Discharge Hose, Brown*</b> <ul style="list-style-type: none"> <li>• For irrigation and agricultural applications</li> <li>• Superior to blue water discharge hose in working pressure</li> <li>• Capable of handling a wide range of acids and chemicals.*</li> </ul>
1-1/2" to 12"	35 to 90 psi	<b>PVC Discharge &amp; Suction Hose, Green*</b> <ul style="list-style-type: none"> <li>• Suction and discharge hose for irrigation and agricultural industry</li> <li>• 26 to 28 in. Hg. vacuum</li> </ul>
1" to 6"	40 to 75 psi	<b>Medium-Duty Rubber Water Discharge Hose*</b> <ul style="list-style-type: none"> <li>• Especially designed for the agricultural industry and general water discharge usage</li> <li>• Two-ply reinforcement</li> </ul>
1" to 12"	75 to 255 psi	<b>Heavy-Duty Rubber Water Discharge Hose</b> <ul style="list-style-type: none"> <li>• Top Grade water hose for general discharge usage</li> <li>• Abrasion and weather resistant cover.</li> <li>• Two- to four-ply reinforcement.</li> </ul>
1-1/2" to 6"	150 to 200 psi	<b>Heavy-Duty Water / Petroleum Discharge Hose</b> <ul style="list-style-type: none"> <li>• Designed for agriculture and industry for handling water or petroleum</li> <li>• Reinforced crosswise and lengthwise.</li> </ul>
1" to 6"	to 150 psi	<b>EPDM Rubber Suction Hose*</b> <ul style="list-style-type: none"> <li>• Reinforced with synthetic cord and spiral helix wire</li> <li>• Cover is resistant to abrasion</li> <li>• 30 In. Hg. Vacuum.</li> </ul>
1-1/4" to 6"	35 to 70 psi	<b>Fertilizer Suction Hose*</b> <ul style="list-style-type: none"> <li>• Suction and discharge hose for the agricultural industry</li> <li>• Lightweight and resistant to herbicides and pesticides</li> <li>• Good flexibility in cold weather</li> <li>• EPDM with polyethylene helix reinforcement that also functions as a scuff strip</li> <li>• 20 to 28 In. Hg. Vacuum rating.</li> </ul>
4-1/2" to 18"	150 psi	<b>Dredge Sleeves</b> <ul style="list-style-type: none"> <li>• Rubber tube with multiple-ply reinforcement and abrasive-resistant rubber cover</li> <li>• Various wall thicknesses are available.</li> </ul>

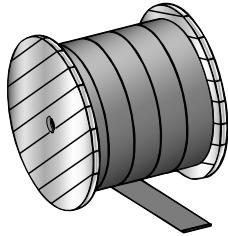
\* For undiluted chemicals, consult dealer.



TRAVELER ACCESSORIES

**Traveler Drag Hose for Irrigation and Sludge**

- 10-year warranty.
- Light weight.
- Lower cost.
- Ultraviolet protected.
- No cracking.
- No snaking or creeping.
- Will not elongate.
- Less drag coefficient.
- Lays flat — takes less space.
- Superior abrasion resistance.
- Max. working pressure: 150 psi.
- Withstands temperatures from -55° F to 150° F (-48° C to +65° C).

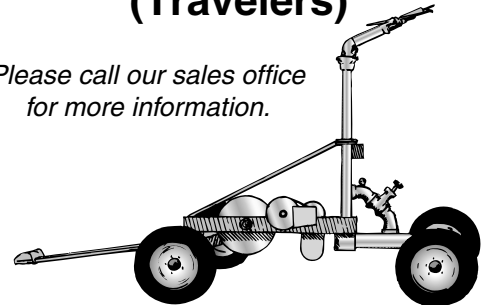


Hoses are available in standard lengths of 330', 500' and 660'. Longer lengths are available on request.

NI Part #	Description
66004	2" x 660'
66003	2-1/2" x 660'
66006	3" x 660'
66005	3-1/2" x 660'
66009	4" x 660'
66008	4-1/2" x 660'
66007	4-1/2" double x 660'
66010	5" x 660'
66011	6" x 660'

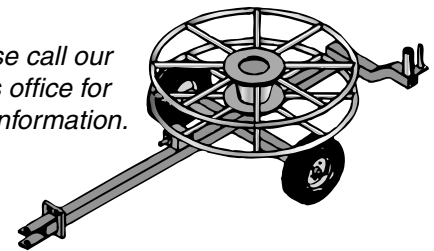
**Traveling Guns (Travelers)**

Please call our sales office for more information.



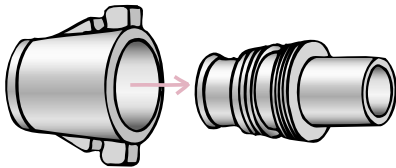
**Hose Reels**

Please call our sales office for more information.



**Pull Couplers**

Most common sizes and styles of pull couplers are available for irrigation and sludge hose.



**Please contact our sales office with your particular requirements.**

**Heavy-Duty Traveler Cable (Aircraft Cable)**

NI Part #	Description
25003	Cable, Galvanized, 1/4" x 1,320'
25001	Cable, Galvanized, 5/16" x 1,320'
25004	Cable, Galvanized, 3/8" x 1,320'

**Please call our sales office for other sizes of cable.**

**Bands and Clamps**

Part#	Description
15004	Band, 200 - 300 s.s., 1/2" x 100' (less clips) .020
15001	Band, 200 - 300 s.s., 5/8" x 100' (less clips) .020
15002	Band, 200 - 300 s.s., 3/4" x 100' (less clips) .020
15003	Band, 201 s.s., 3/4" x 100' (less clips) .030
34015	Clip, Buckle, for 1/2" band
34016	Clip, Buckle, for 5/8" band
34014	Clip, Buckle, for 3/4" band

Clamp, 3/4" wide x	
Part #	Diameter
33001	2"
33004	2-3/4"
33006	3"
33009	3-1/2"
33014	4"
33015	4-1/2"
33019	5"
33034	6"
33059	7"
33060	8"



Clamp, 3/4" wide

**Hose Splice Mender**

NI Part #	Description
92205	Splice Kit, 4" Hose Mender (w/ clamps)
92206	Splice Kit, 4-1/2" Hose Mender (w/ clamps)
92201	Splice, 4" Steel Hose Mender (no clamps)
92202	Splice, 4-1/2" Steel Hose Mender (no clamps)

NI Part#	Description
95401	Tool, Clamp (for use with above listed clamps, buckles, and clips)




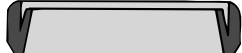

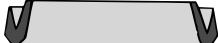
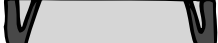



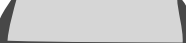




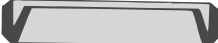



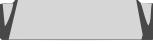
**G**

GASKETS

**Irrigation Pipe Gaskets – NI Part Numbers**




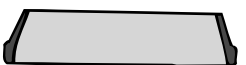



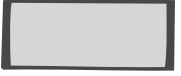



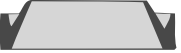


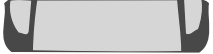

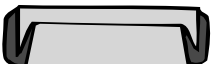



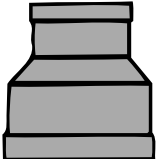








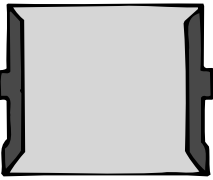










Type	2"	3"	4"	5"	6"	7"	8"	9"	10"	12"
A & M Type	57010	57087	57020	57006	57071	570104	57094		57029	
Ace Type					570163		570164		570165	
Ames ABC Type		570161	570162		570242		570105			
Ames Lo-Hi Type				570329	570116	57036	57076	57054	57041	
Ben Gar Type					57057	57025	57014		57012	
Cozad Type					570166					
Felton Type	570408		570167	57027	570108	57067	570121		57079	
Habco Type				57023	57075		57092		57019	
Hastings Type					570155		570156	570157	570158	
Ireco Type (Steelume)	570117	57065	57002	57050	57007	57096	570114		57033	
Kroy Type (Felton)							570159			
McDowell Type		57069	57013	57058	57021		57030		57095	
Moore Rane Gheen Type	57060	57032	57074	570120	57026	57028	57088		57024	57070
Oil Impregnated: Pierce Rd. Back Type Pierce Flat Back Type							570151 570153			
Pierce Flat Back Type					57084F		570152			
Pierce Round Back Type	57091	57080	57059	57082	57084	570103	57046	57056	57038	
Rainbo Type					57049					
Rainway Type	57081	57066	570113	57052	570101	570115	57053		57016	57061
Shur Rane Type		57043	57090	57078	57086					
Strolyte Type		570154								
Stout Type	57098	570119	57083	57077	57089					
Wade Rane Type	57055	57017	57063	57093	57064	570107	57073		57040	
Webster Trigger-Lock Type		57042	57097	57031	57004	570118	57005			
Western Type			570138		570139		570141		570226	
Wosco Type					570142		57018		57035	
Wyss Seal Ring Type	570215		570268							

**Irrigation Pipe Gasket Cross Sections**

 <b>A &amp; M Type</b>	 <b>Ames Suction Type</b>	 <b>Decoto Type</b>	 <b>Farmland SBS Type</b>
 <b>Ace Type</b>	 <b>Ault Type</b>	 <b>Dragon Type</b>	 <b>Felton Type</b>
 <b>Akron Type</b>	 <b>Ben Gar Type</b>	 <b>Dresser Gheen Type</b>	 <b>Flex-O-Seal Type</b>
 <b>Ames ABC-Q Type</b>	 <b>Champion Type</b>	 <b>Dresser NACO Type</b>	 <b>Gheen Type</b>
 <b>Ames Lo-Hi Type</b>	 <b>Commetco Type</b>	 <b>Farmland Green Dot Type</b>	 <b>Habco Type</b>

GASKETS

**Irrigation Pipe Gasket Cross Sections (continued)**

 <b>Hastings Type</b>	 <b>Pacific Speedlock Type, Old Style</b>	 <b>Rainway Round Type</b>	 <b>Wade Type, New Style</b>
 <b>Ireco AE Type</b>	 <b>Pierce Flat Back Type</b>	 <b>Rainway Square Type</b>	 <b>Wade Type, Old Style</b>
 <b>Ireco Type, Old Style</b>	 <b>Pierce Round Back Type</b>	 <b>Redi-Rain Type</b>	 <b>Webster Econo-Lock Type</b>
 <b>Ireco Steelume Type</b>	 <b>Port-Alum Type</b>	 <b>Shur-Rane Type, New Style</b>	 <b>Webster Trigger-Lock Type</b>
 <b>Lindsay Type</b> (use Moore Rane Gheen Type)	 <b>Race &amp; Race Type</b>	 <b>Shur-Rane Non-Drain Type</b>	 <b>Western Type</b>
 <b>Matthison Type</b>	 <b>Rain Control Types</b>	 <b>Shur-Rane Type, Old Style</b>	 <b>Wheel Trac Type</b>
	 <b>Rain Control Types</b>	 <b>Shur-Flo Type</b>	 <b>Wosco Type</b>
 <b>McDowell Type</b>	 <b>Rain For Rent Type</b>	 <b>Stout Old Style Type</b>	 <b>Wyss Type, Standard</b>
 <b>Midwest Type</b>	 <b>Rain-Ow Type</b>		 <b>Wyss Seal Ring Type</b>
 <b>Moore-Rane Type</b>	 <b>Rainbo Type</b>	 <b>Stout Seal Ring Type</b>	
 <b>Moulton Type</b>	 <b>Rainmaker Type</b>	 <b>Strolyte Type</b>	

**G**

NOTE: For Tex Flow Type, refer to Hastings Type.

GATES

**Roughneck™ Flood Irrigation Gates**



NI Part #	Description
58055-6	Gate, Rectangle Opening, Complete, for 6" pipe
58055	Gate, Rectangle Opening, Complete, for 8" and 10" pipe
58056-6	Gate, Keyhole Opening, Complete, for 6" pipe
58056	Gate, Keyhole Opening, Complete, for 8" and 10" pipe

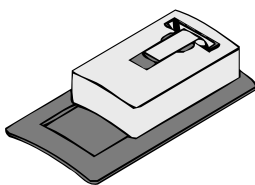
**Gate Features and Benefits**

- Made from automotive-grade ABS plastic and flexible PVC booting material.
- Super-tough, non-metallic, high-visibility orange screw allows for adjustment to prevent leakage.
- All-weather use – strong UV protection.
- Screw interlock maintains tension.
- Use a walking stick to open and close gate.
- Tool-free installation.

**Also available...**

**Socks** – for sandy or erosion-prone soil.

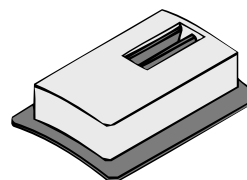
**Dam Gates**



NI Part #	Description
58015	Gate, Complete, for 6" pipe
58003	Gate, Complete, for 8", 10", 12" pipe

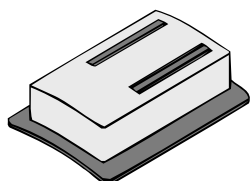
**Keyhole Gates**

**– Snap Type**



NI Part #	Description
58043	Gate, Complete, for 6" pipe
58006	Gate, Complete, for 8", 10", 12" pipe

**Rectangle Gates**



NI Part #	Description
58048	Gate, Complete, for 6" pipe
58007	Gate, Complete, for 8", 10", 12" pipe

**Universal Gates**

(Fits Round or Rectangular Hole)



NI Part #	Description
58025	Gate, Complete, for 6" pipe
58024	Gate, Complete, for 8", 10", 12" pipe

**Flow Gates**



NI Part #	Description
58051	Gate, Complete, Regular
58052	Gate, Complete, Giant

**Specify size of pipe when ordering**



# SECTION H: MISCELLANEOUS PRODUCTS

## SUPPORT EQUIPMENT

### Laser Range Finder

#### Contour XLR

NI Part #	Description
51623	Laser Range Finder, Contour XLR

- Instantly determine distances within a 4-inch accuracy in a fraction of a second without prisms or reflectors.
- Poor Weather Mode allows measuring in less than ideal conditions.
- Obtain continuous data readout from the Head-Up Display (HUD), and rear display.
- Kit includes two NiMH batteries, smart charger, and padded carry case.
- Smart function on charger quick charges and automatically goes to trickle mode after charging (lights indicate charge status).



- 4-inch accuracy.
- Lightweight, easy to use.
- Fast return, easy targeting.
- Worry-free battery system.
- Ideal for farm measuring.
- Used by center pivot dealers.
- Eliminates two-man taping.
- Great for golf course distances.

Contour XLR Specifications	
Category	Description
Max. Range	6,200 feet
Accuracy	4" (one sigma)
Range Performance (typical)	1,315 feet to power pole; 1,315 feet to bare tree 2,650 feet to building side Any range enhanced by reflectivity of object (white or light color, slow moving vehicle signs, etc.)
Power Supply	9.6 V internal NiMH pack (up to 24 hrs. use)
Weight	3 lbs.
Dimensions	7.4" x 4.25" x 10"
Environmental	Waterproof to IP67
FDA CDRH Laser Class	Class I (eye safe)

### Cable Fault Identifier



Part #	Description
51619	Cable Fault Identifier

- Test cabling in buildings, outside plant, central office, residences, and cable on reels. Up to 3,200 ft.
- Test shielded and unshielded twisted pair, 75 Ohm or 50 Ohm coax, electrical wire, or any copper wire.
- Find cable length, and distance to fault (opens and shorts).
- Easy to use. Only 3 control keys for scrolling, selecting, and editing variables.
- NVP values can be entered, selected from a list of cable types, or can be determined from known cable length.
- 9 different setup screens: Get Length, Set NVP, Select cable type, Find NVP, Warble tone on/off, Power down options, Display feet or meters, Screen contrast, and % of battery remaining.
- Kit includes CFI test set, BNC to alligator clip cord, 9-volt battery, user's manual, and soft carrying case.

Cable Fault Identifier Specifications	
Category	Description
Min. / Max. Distance	3 feet (1 meter) to 3,200 feet (975 meters)
Typical Accuracy	+/- 1.5% or +/- 3 feet, whichever is greater
Resolution	3 feet (1 meter) @ 61% NVP
Power Supply	9 V Alkaline Battery, 128 hours nominal, 100 hours in continuous test mode
Weight	.38 lbs.
Dimensions	5.5" x 3.25" x 1"
Locating Tone	1 kHz & 1.1 kHz
Operating Temp.	32 – 122° F (0 – 50° C)
Storage Temp.	-4 – 168° F (-20 – 70° C)
Humidity	5% – 95% Non-Condensing
Voltage Protection	300 Vrms

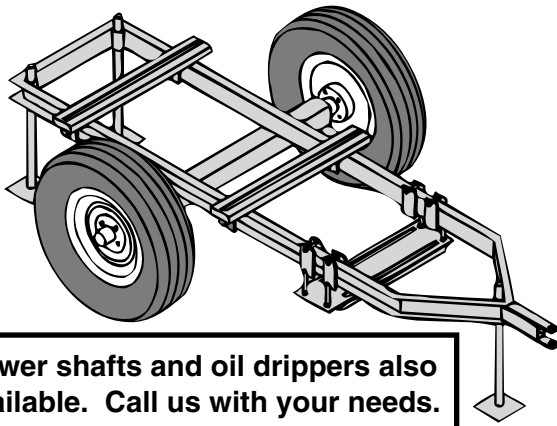
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SUPPORT EQUIPMENT

### Engine Trailers

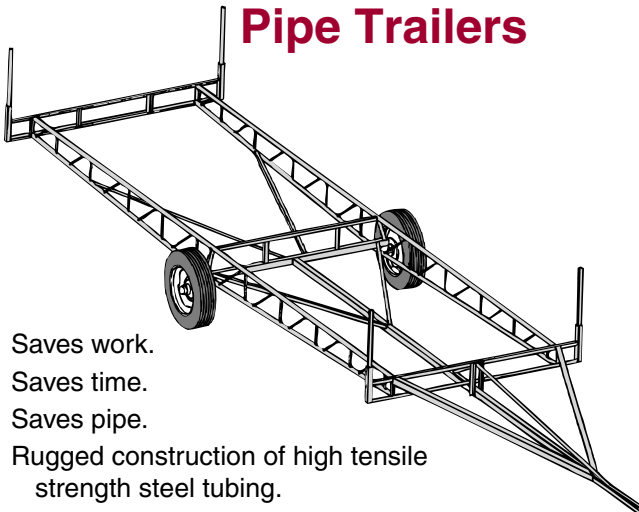
- Transport a power supply with ease.
- Quality construction throughout.
- Optional side or belly generator mount.
- Rims are included; tires sold separately.

NI Part #	Description
95501	Trailer, Engine, 6-ft., w/ two engine base channels (less tires)
95502	Trailer, Engine, 8-ft., w/ two engine base channels (less tires)
95503	Two Tires for trailer



**Power shafts and oil drippers also available. Call us with your needs.**

### Pipe Trailers



- Saves work.
- Saves time.
- Saves pipe.
- Rugged construction of high tensile strength steel tubing.

NI Part #	Description
95509	Trailer, Pipe, for 30' pipe, single tongue (less wheel assemblies)
97816	Wheel Assembly, 15", includes new painted rim and used tire (2 required)

**Many styles and sizes of custom-built trailers are available. Please consult our sales office with your particular requirements.**

### Rubber-Tracked Carriers



NI Part #	Description
51807	Rubber-Tracked Carrier

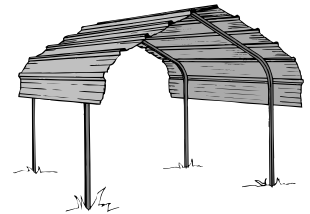
*Other sizes and models available.*

- Help take the back work out of carrying gearboxes, tires, and other heavy items out into the field.
- Size: 65" L x 24.4" W Track
- Machine wt.: 320#; Payload wt.: 551#
- 4-Cycle, Air-Cooled Mitsubishi Engine.
- 2 Forward and 2 Reverse Gears.
- Moves at speeds up to 3 mph.
- Heavy-duty, 1" thick, coreless, low vibration rubber track and seesaw rollers allow smooth and steady operation.
- Optional styles of cargo compartments available.

### Engine Covers

NI Part #	Description
43027	Cover, Engine

- Cover shields an area 8' x 12' from wind and rain.
- Heavy-duty construction assures many years of protection and use.



### Galvanizing Repair

#### Galvilite Galvanizing Repair Compound

NI Part #	Description
84501	Galvilite Galvanizing Repair Compound, 12 oz. Spray Can
84501GUN	Galvilite Galvanizing Dispensing Gun

84501GUN



84501

OTHER WATER PRODUCTS

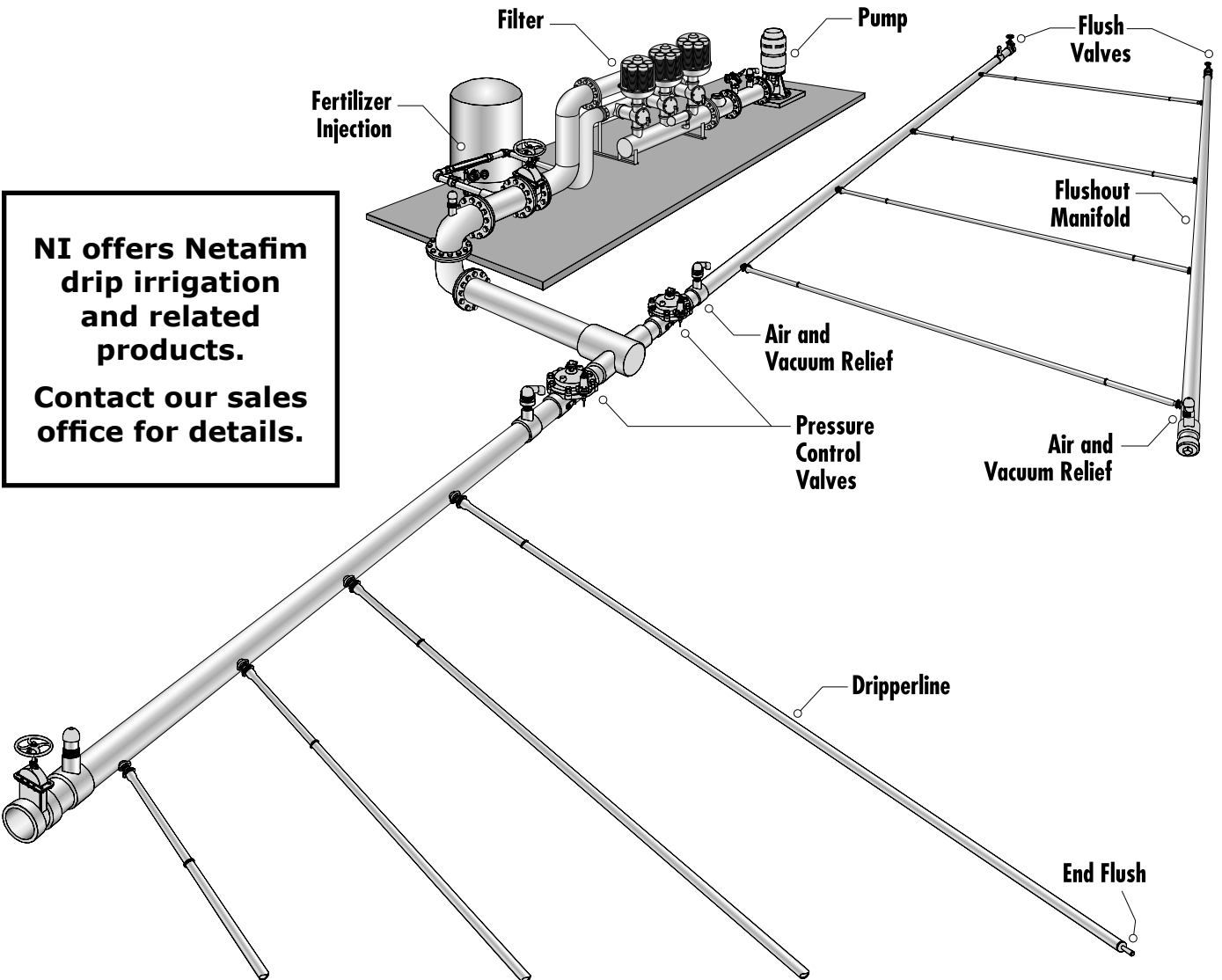
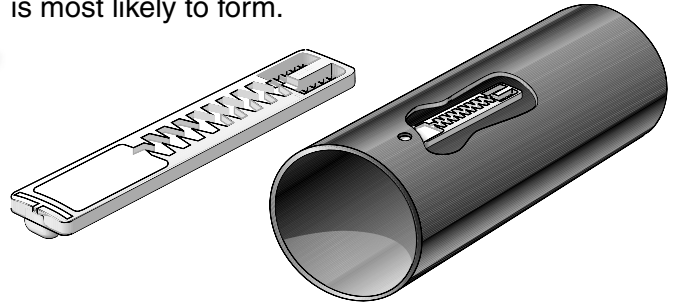
**Netafim Drip Products**

**Successful Drip Irrigation Systems**

At the heart of the system is the integral dripper. Netafim's integral drippers are injection molded using state-of-the-art precision machinery.

Each integral dripper includes a precision molded filter. The position of the filter ensures that water is not drawn from the wall of the lateral, where sediment is most likely to form.

**NI offers a full line of drip irrigation products. Contact us with your requirements.**



**NI offers Netafim drip irrigation and related products. Contact our sales office for details.**



OTHER WATER PRODUCTS

**Turf Products**

**NI offers turf irrigation and related products.  
Contact our sales office for details.**



- Nozzles
- Sprays
- Rotors
- Drains
- Controllers
- Solenoid Valves
- Control Wire
- Saddles
- Fittings
- Pipe
- Valve Boxes
- Backflow Preventers
- Rain Switches

**NI offers a full line of  
turf irrigation products.  
Contact us with your  
requirements.**

**H**

OTHER WATER PRODUCTS

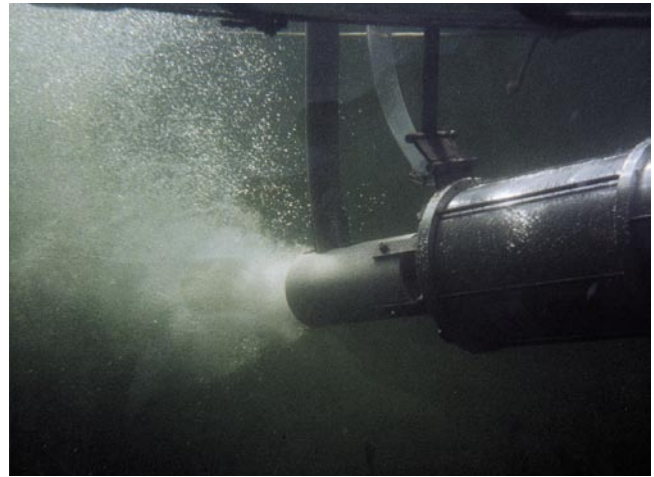
**Fountains and  
Fountain Aerators**



**F**ountains available in a wide variety of spray patterns allowing creation of dazzling waterscapes without increasing operational costs.



**Aeration Systems**



**A**eration is a natural, environmentally-safe and highly effective water quality management tool. It addresses a wide range of water quality problems, including algae build-up, aquatic weeds, bottom sludge, foul odors, insect infestation, and stagnation in lakes and ponds.



**NI offers AquaMaster fountains, aeration systems, and related products.  
Contact our sales office for details.**

LINER PRODUCTS

**Firestone Pond Gard EPDM Rubber Liners**

**F**irestone Pond Gard EPDM rubber liner combines flexibility and durability with ease of installation. It is the material of choice for professionals whether installing decorative ponds, canals, laterals, agricultural ponds, etc.

Unique properties give unique benefits:

- Fish Friendly
- Highly Flexible
- Design Versatility
- Weather Resistant
- High Elongation
- Extreme Durability
- Low Maintenance
- Easy Installation.

Applications:

- Decorative Ponds
- Water Features
- Landscape Applications
- Golf Course Ponds
- Farm Ponds
- Irrigation Canals and Laterals



**Fabriscape Landscape Fabrics and Erosion Control Products**

- Commercial Weed Stopper
- Professional Landscape Fabric
- Professional Plus
- Woven Weed Restrictor
- Woven Weed Restrictor Plus
- Woven Ground Cover
- Fabridrain® Vertical Drainage System
- Frost Blanket
- Fabrijute® Erosion Control Netting
- Straw Blanket
- Jute Netting
- Construction Fabric
- Burlap
- Silt Fence
- Retaining Wall Reinforcer



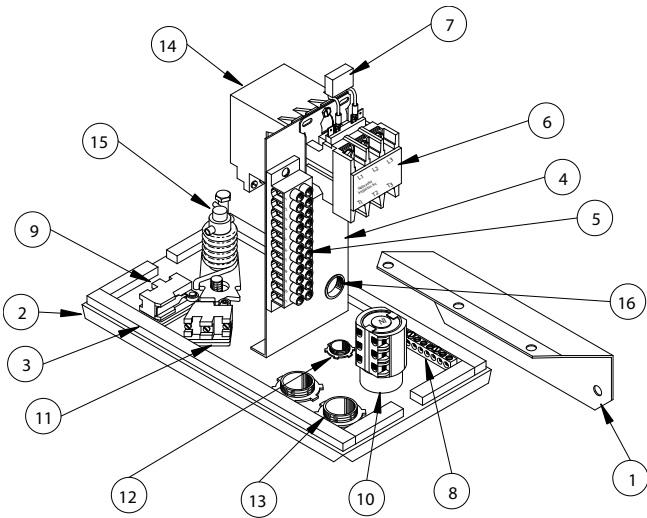
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**NI offers liner products for a variety of applications. Contact us with your requirements.**

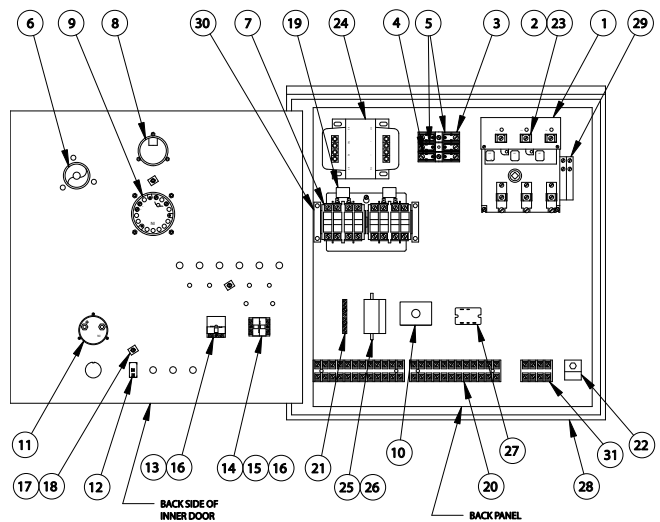
# SECTION I: PARTS BREAKDOWNS

Replacement Parts for All Types of Machines

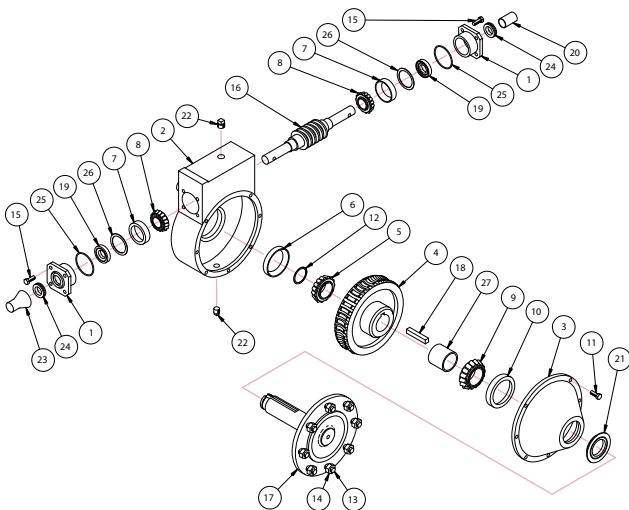
## Tower Control Boxes



## Control Panels



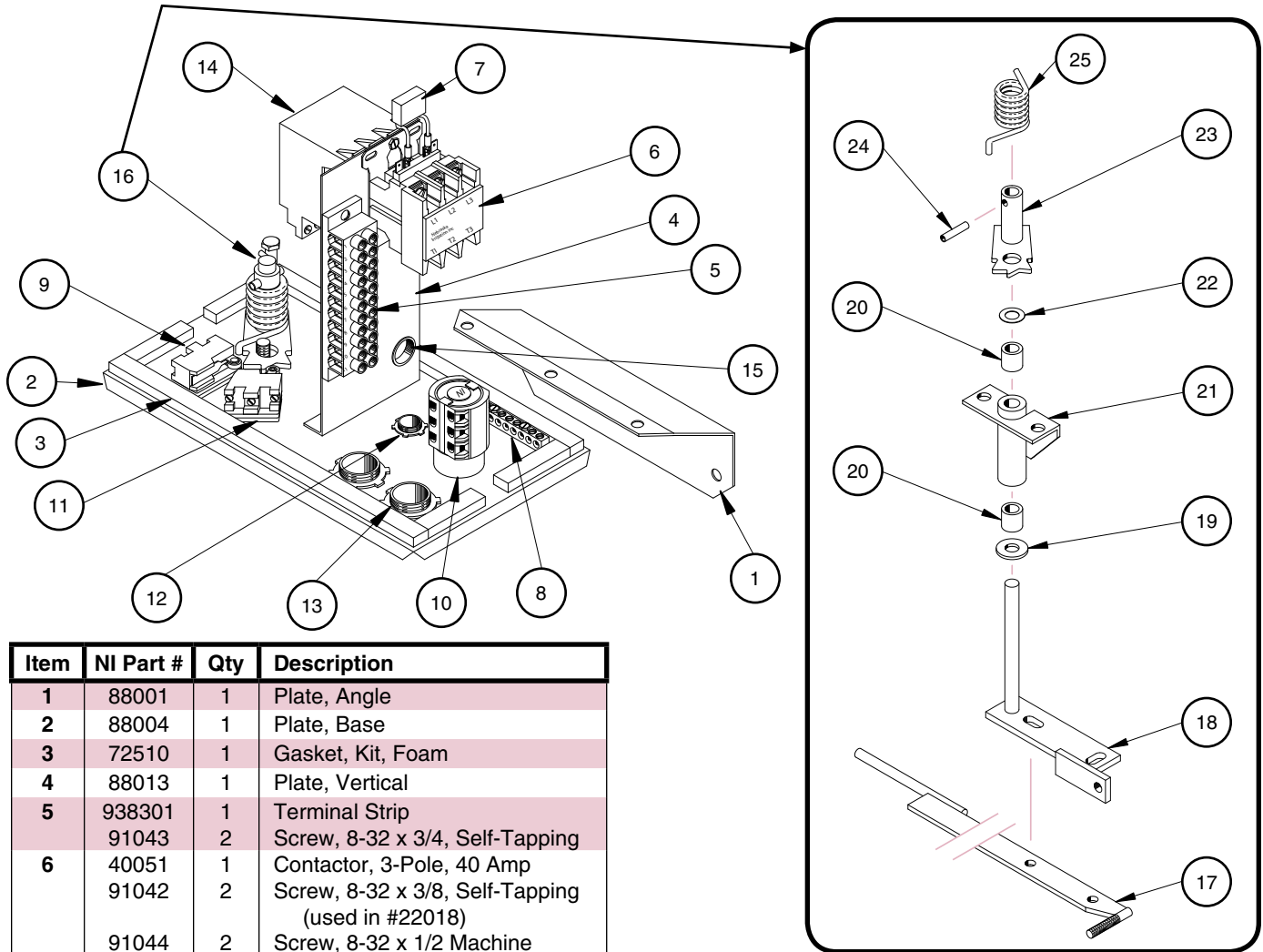
## Gearboxes



For a full line of components or just one item, Nebraska Irrigation can supply you with exactly what you need. Give us a call.

TOWER CONTROL BOX PARTS

**NI Intermediate Control Box — 22018  
and NI Stall Control Box — 22024**



Item	NI Part #	Qty	Description
1	88001	1	Plate, Angle
2	88004	1	Plate, Base
3	72510	1	Gasket, Kit, Foam
4	88013	1	Plate, Vertical
5	938301	1	Terminal Strip
6	91043	2	Screw, 8-32 x 3/4, Self-Tapping
6	40051	1	Contactor, 3-Pole, 40 Amp
6	91042	2	Screw, 8-32 x 3/8, Self-Tapping (used in #22018)
6	91044	2	Screw, 8-32 x 1/2 Machine (used in #22024)
6	82049	2	Nut, 8-32 (used in #22024)
7	93402	1	Suppressor, Arc
8	77005	1	Lug, Ground, Strip
8	91043	2	Screw, 8-32 x 3/4, Self-Tapping
9	93652	2	Switch, Micro, Short Arm
9	91040	4	Screw, 6/32 x 1 1/4" Steel
9	82006	4	Nut, Mach Screw, 6-32 Z
10	93601	1	Switch, Disconnect
11	91823	4	Spacer, Microswitch, Plastic
12	39006	1	Connector, Cord, w/ Jam Nut, 1/2" (option w/ basic box)
13	39007	2	Connector, Cord, w/ Jam Nut 1" (option w/ basic box)
14	94403	1	Timer, Stall, OFF-Delay (used on stall control box only)
15	24008	1	Bushing, Grommet
16	----	--	(See Cam & Linkage Diagram)

**Cam and Linkage Parts  
for Intermediate and Stall Control Boxes**

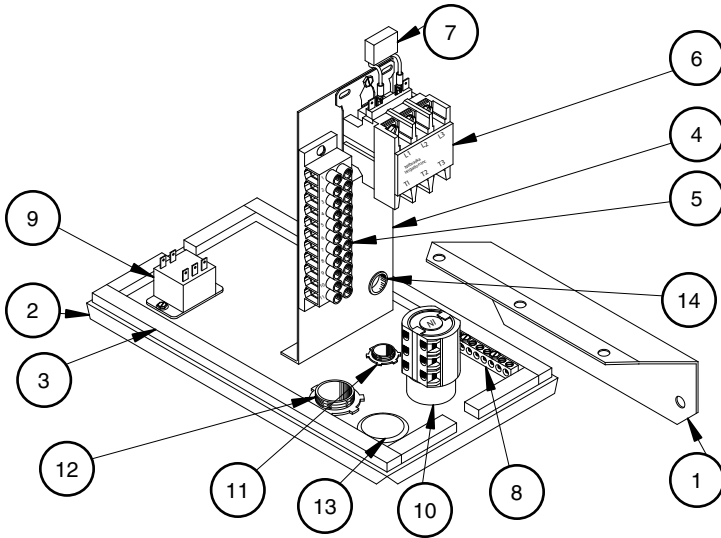
Item	NI Part #	Qty	Description
17	89902	1	Rod, Weldment, Linkage
18	12062	1	Arm, Weldment
19	97273	1	Washer, Plastic
20	24067	2	Bushing Insert
21	24070	1	Bushing, Cam
22	91803	1	Spacer, Control Arm
23	26022	1	Cam
24	85002	1	Pin, Roll
25	92604	1	Spring, Torsion

**Note:** NI controls and parts can be used as direct replacements for Valley style boxes.



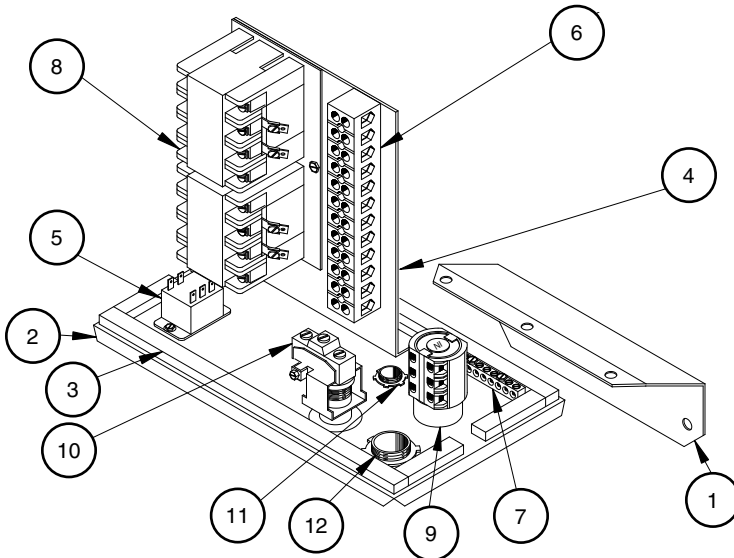
TOWER CONTROL BOX PARTS

**NI Last Tower Control Box — 22009**



Item	NI Part #	Qty	Description
1	88001	1	Plate, Angle
2	88002	1	Plate, Base
3	72510	1	Gasket, Kit, Foam
4	88013	1	Plate, Vertical
5	938301	1	Terminal Strip
	91043	2	Screw, 8-32 x 3/4, Self-Tapping
6	40051	1	Contactor, 3-Pole, 40 Amp
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
7	93402	1	Suppressor, Arc
8	77005	1	Lug, Ground, Strip
	91043	2	Screw, 8-32 x 3/4, Self-Tapping
9	89630	1	Relay
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
10	93601	1	Switch, Disconnect
11	39006	1	Connector, Cord, w/ Jam Nut, 1/2" (option w/ basic box)
12	39007	1	Connector, Cord, w/ Jam Nut, 1" (option w/ basic box)
13	89022	1	Plug, Flat, Black
14	24008	1	Bushing, Grommet

**NI Booster Box w/ Pressure Switch — 22053**



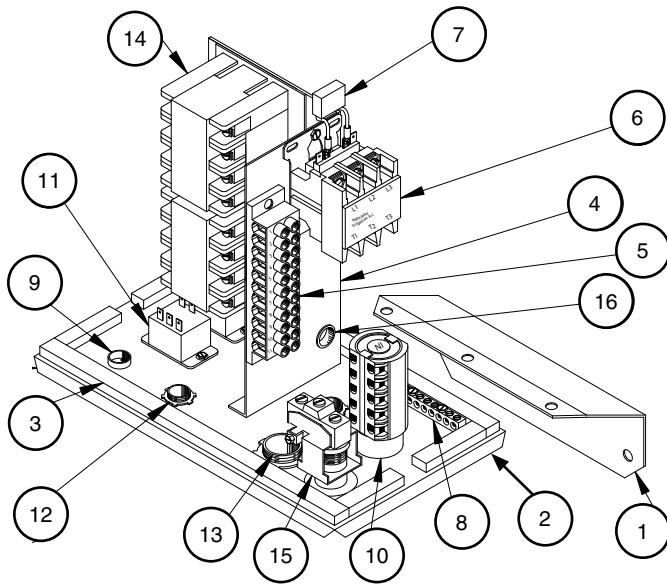
Item	NI Part #	Qty	Description
1	88001	1	Plate, Angle
2	88002	1	Plate, Base
3	72510	1	Gasket, Kit, Foam
4	88029	1	Plate, Vertical
5	89630	1	Relay
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
6	93801	1	Terminal Strip
	91003	2	Screw, 8-32 x 1 1/4", Rd. Hd.
7	77005	1	Lug, Ground, Strip
	91043	2	Screw, 8-32 x 3/4, Self-Tapping
8	40009	1	Contactor, Reversing
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
9	93601	1	Switch, Disconnect
10	93643	1	Switch, Pressure
11	39006	1	Connector, Cord, w/ Jam Nut, 1/2" (option w/ basic box)
12	39007	1	Connector, Cord, w/ Jam Nut, 1" (option w/ basic box)

**Nebraska Irrigation offers options in addition to those listed on these pages. Call us for details on adding these options.**



TOWER CONTROL BOX PARTS

**NI Last Tower / Booster Combo Control Box — 22036**



Item	NI Part #	Qty	Description
1	88001	1	Plate, Angle
2	88002	1	Plate, Base
3	72510	1	Gasket, Kit, Foam
4	88003	1	Plate, Vertical
5	938301	1	Terminal Strip
	91043	2	Screw, 8-32 x 3/4, Self-Tapping
6	40051	1	Contactors, 3-Pole, 40 Amp
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
7	93402	1	Suppressor, Arc
8	77005	1	Lug, Ground, Strip
	91043	2	Screw, 8-32 x 3/4, Self-Tapping
9	89020	1	Plug, Dome
10	936122	1	Switch, Disconnect
11	89630	2	Relay, 120 VAC, SPDT
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
12	39006	2	Connector, Cord, w/ Jam Nut, 1/2"
13	39007	1	Connector, Cord, w/ Jam Nut, 1"
14	40009	1	Contactors, Reversing
	91042	2	Screw, 8-32 x 3/8, Self-Tapping
15	93643	1	Switch, Pressure
16	24008	1	Bushing, Grommet

**NI Control Box Cover**

For All NI Tower Control Boxes



Control Box Cover, complete with latches 90607

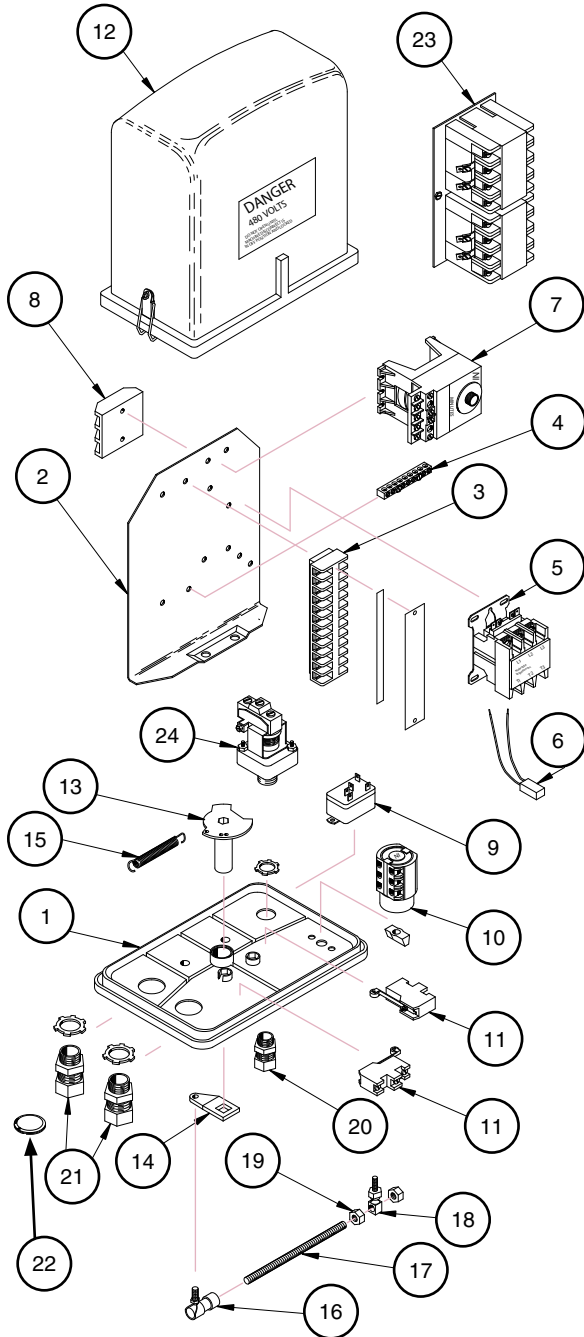
NI Part #	Description
90607	NI Cover, Control Box, complete with latches

**Control Box Cover Components**

Item	NI Part #	Qty	Description
1	73001	2	Latch
2	65115	4	Rivet (2 per latch)
3	45001	2	Decal, Danger

TOWER CONTROL BOX PARTS

**Replacement Parts for NIL Type Control Boxes  
— 22056, 22057, 22058, 22061, 22054**



**NI controls & parts can be used as direct replacements for Lindsay / Zimmatic style boxes.**

Item	NI Part#	Inter. 22056 Qty	Stall 22057 Qty	Last 22058 Qty	BP* 22061 Qty	Description
1	16001	1	1	1	1	Base
2	88007	1	1	1	1	Plate, Vertical Mount
3	938301	1	1	1	1	Terminal Strip, 11-Pole (alternate 93801 or 93803, 12-pole)
	91043	2	2	2	2	Screw, 8-32 x 3/4, Self-Tapping
4	77005	1	1	1	1	Lug, Ground Strip
	91043	2	2	2	2	Screw, 8-32 x 3/4, Self-Tapping
5	40051	1	1	1	--	Contactora, 3-Pole
	91042	2	2	2	--	Screw, 8-32 x 3/8, Self-Tapping
6	93402	1	1	1	--	Suppressor, Arc
7	94403	--	1	--	--	Timer, Stall, 5 Min. OFF
	91053	--	2	--	--	Screw, 8-32 x 1/2, Self-Tapping
8	56002	1	1	1	--	Fuseholder, 3-Pole, 30A (used on older models only)
9	89630	--	--	1	1	Relay, Last Tower
	91042	--	--	2	2	Screw, 8-32 x 3/8, Self-Tapping
10	93601	1	1	1	1	Switch, Disconnect, 6-Pole
11	936117	2	2	2	--	Switch
	91050	4	4	--	--	Screw, 6-32 x 1", Self-Tapping
12	90612	1	1	1	1	Shield, Tower Box w/ Latches
	73002	2	2	2	2	Latch only
13	26005	1	1	--	--	Cam, Control
14	12001	1	1	--	--	Arm, Cam, Control
15	92601	1	1	--	--	Spring
16	71002	1	1	--	--	Joint, Ball, Quick Disconnect
17	89906	1	1	--	--	Rod, Linkage, 6" (short)
-	89900	1	1	--	--	Optional Control Rod, 16" Long
18	71001	1	1	--	--	Joint, Swivel, Adjuster
-	71001-L	1	1	--	--	Joint, Swivel, Long Stud
19	82010	2	2	--	--	Nut, Hex, 5/16 - 24 UNF
20	39006	1	1	1	1	Connector, Cord, 1/2" w/ Jam Nut
21	39052	2	2	1	1	Connector, Cord, 3/4" (.7 - .8 dia.)
22	89021	--	--	1	--	Plug, Dome
23	40009	--	--	--	1	Contactora, Reversing, 4 Pole
	91042	--	--	--	2	Screw, 8-32 x 3/8, Self-Tapping
24	93643	--	--	--	1	Switch, Pressure **

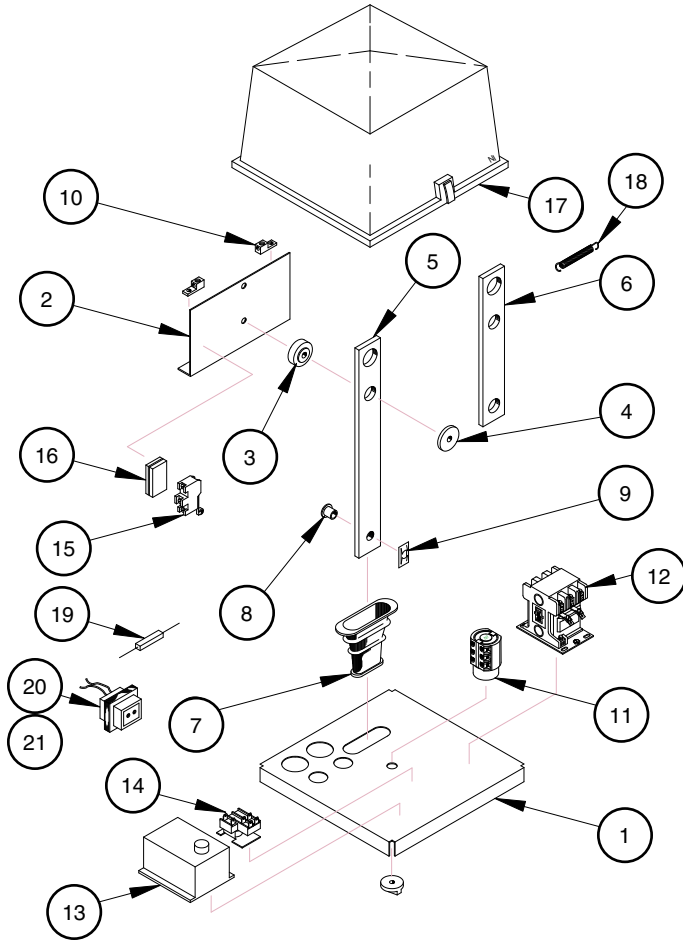
\* Booster Pump Control Boxes: 22061 w/ pressure switch; 22054 w/o pressure switch.

\*\* Item 24 is used in 22061 and not in 22054.

TOWER CONTROL BOX PARTS

NI Replacement Parts for:

**Lockwood Type Tower Control Box**



Item	Wire Alignment		Non-Wire Alignment		Description
	NI Part#	Qty	NI Part#	Qty	
1	16004	1	16003	1	Base
2	22821	1	22821	1	Bracket, Pendulum
3	24020	1	24020	1	Bushing, Shoulder
4	24019	1	24019	1	Bushing, Shoulder, Acetal
5	12065	1	-----	--	Arm, Pendulum Lever (wire)
6	-----	--	12066	1	Arm, Pendulum Lever (non-wire)
7	90613	1	90613	1	Boot, Pendulum
8	17005	1	17005	--	Bearing, Sintered
9	82003	1	82003	--	Clip, Retaining
10	77004	2	77004	2	Lug, Ground
11	93601	1	93601	1	Switch, Disconnect
12	40011	1	40011	1	Contact, 120V
13	94423	1	94423	1	Relay, Time Delay (next to last)
14	89624	1	89624	1	Relay, (next to last)
15	93658	1	93658	1	Switch
16	936115	1	936115	1	Mount, Switch Adjuster
17	67033	1	67033	1	Housing
18	-----	--	92616	1	Spring
19	89402	1	89402	1	Resistor, 50 Ohm
20	95607	1	95607	1	Transformer, 120/16VAC (used on standard spans)
21	95606	1	95606	1	Transformer, 120/24VAC (used on long spans)

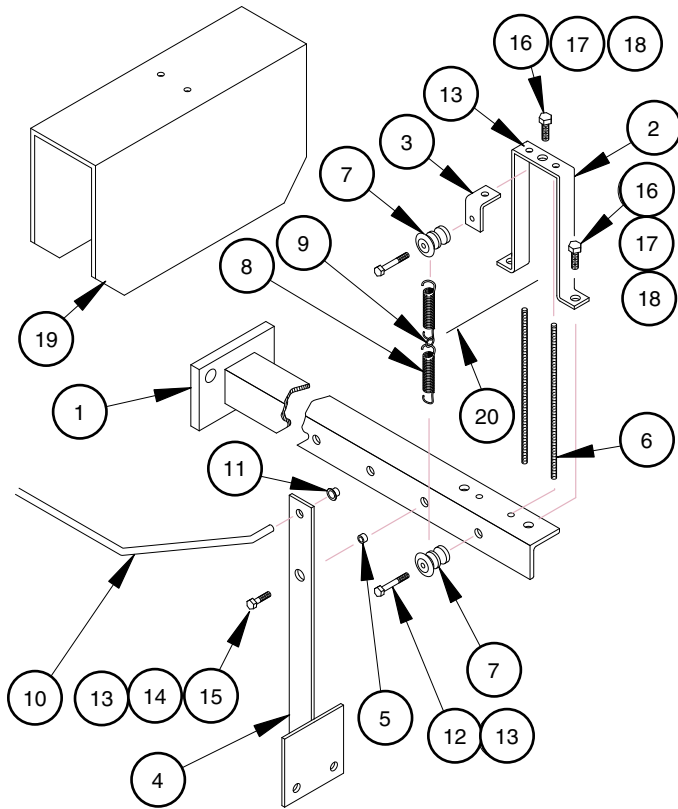


**Also available:  
Replacement parts for other  
brands of tower control boxes.  
Contact our sales department  
for details.**

TOWER CONTROL BOX PARTS

**NI Replacement Parts for:**

**Lockwood Wire Alignment Safety & Damper Assembly**



Item	NI Part #	Qty	Description
1	22824	1	Bracket, Alignment Angle
2	22822	1	Bracket, Shield
3	22823	1	Bracket, Spring
4	22825	1	Arm, Vane
5	17037	1	Bushing, Sintered
6	20090	2	Bolt, Take-Up, 1/4
7	70002	2	Insulator
8	92613	2	Spring, Tension
9	89832	1	Ring, Spring
10	75007	1	Link, Fixed Alignment
11	27018	1	Cap Nut, Push-On
12	20091	2	Bolt, Hex, 1/4"-20 UNC x 2", Gr. 5
13	82044	5	Nut, Hex, 1/4"-20 UNC
14	20022	1	Bolt, Hex, 1/4"-20 x 1-1/8" Gr. 5
15	97285	1	Washer, Flat, 1/4" (not shown)
16	82046	3	Nut, Hex, 5/16-18 UNC (not shown)
17	20057	3	Bolt, Hex, 5/16-18 UNC x 1, Gr. 5
18	97270	3	Washer, Lock, 5/16" (not shown)
19	90617	1	Shield
20	98201	--	Wire, Alignment, Galvanized, 1400'

NI Part #	Description
22801	Bracket, Safety, First Tower
92615	Spring, Tension, Last Tower
70003	Insulator, Safety
98201	Wire, Alignment, Galvanized, 1400'

**Other items are available – call us for information.**

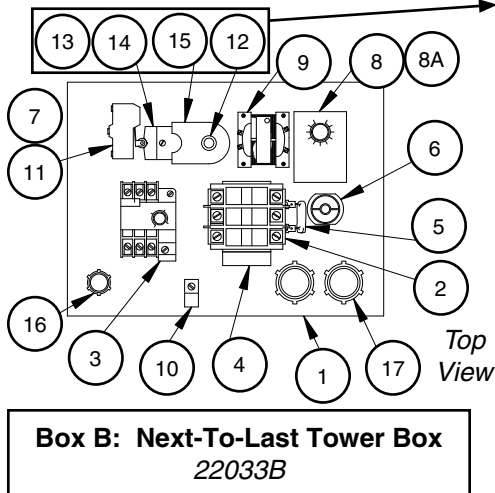
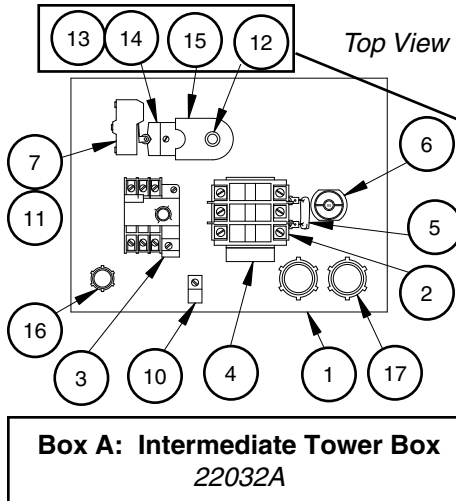
*For more information on the Lockwood alignment assembly and tower control boxes, see Section D: Controls, page 46.*



TOWER CONTROL BOX PARTS

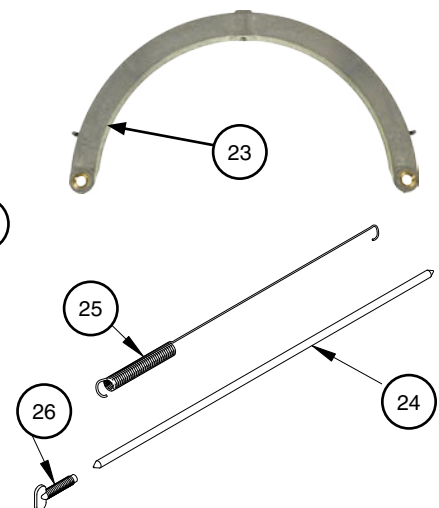
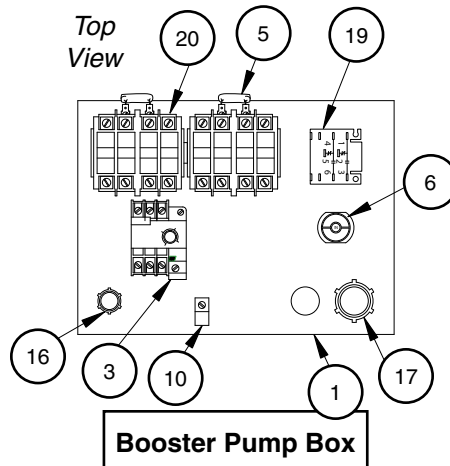
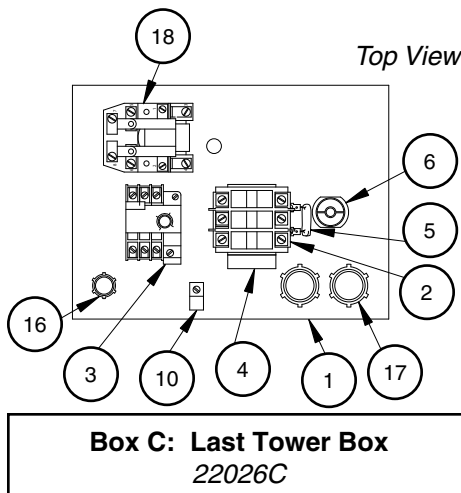
NI Replacement Parts for:

**Reinke Type Tower Box**



Other items are available for this type of alignment system. Please call our sales office for more information.

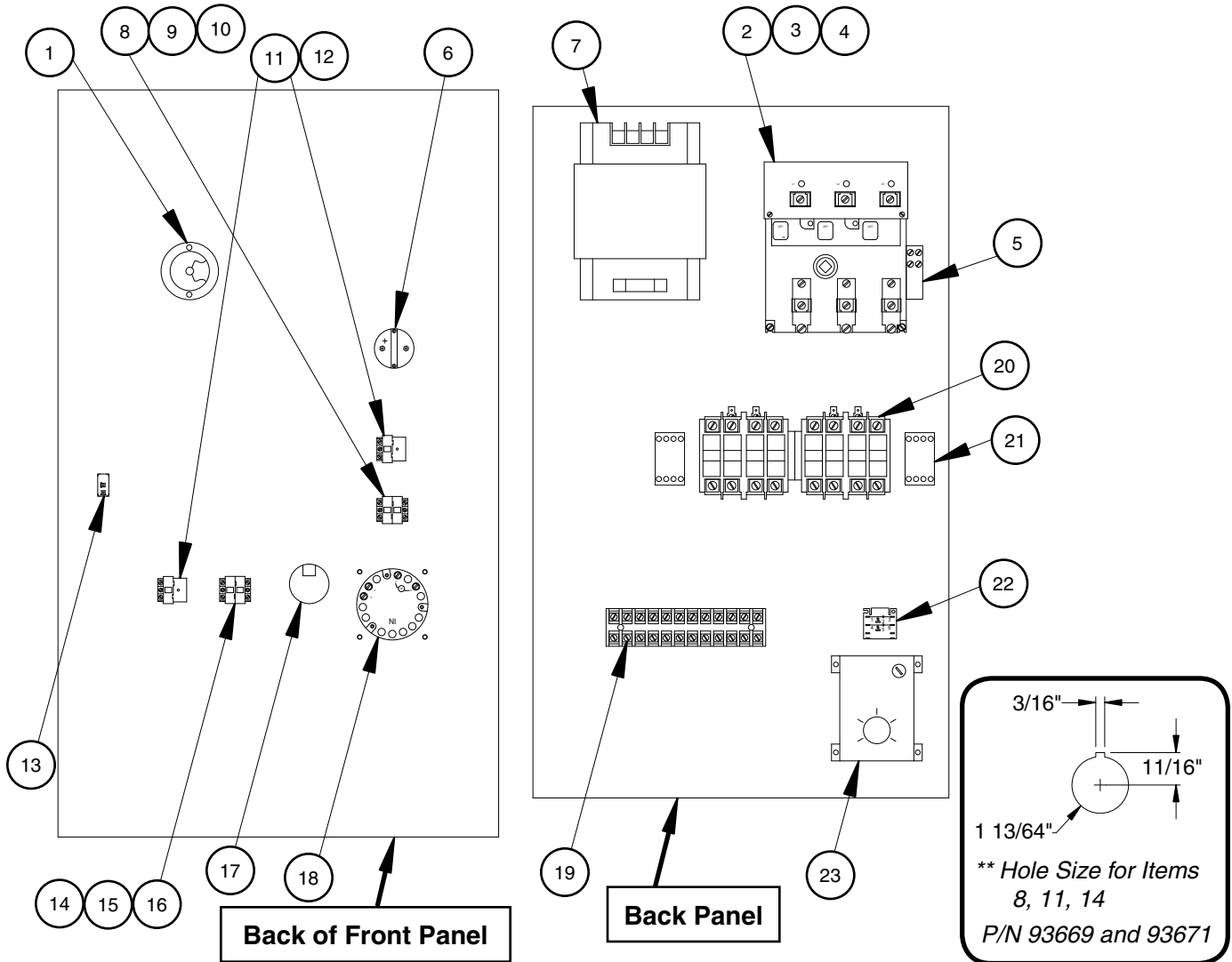
Item	NI Part #	Qty	Description
1	16005	1	Base, Molded
2	40051	1	Contactors, 3-Pole
3	89648	1	Overload
4	40023	1	Contactors, Auxiliary
5	93402	1	Suppressor, Arc
6	936122	1	Switch, Disconnect
7	93603	2	Switch, Micro
8	94423	1	Timer, 10 Min.
or			
8A	94438	1	Timer, 20 Min.
9	95608	1	Transformer
10	77010	1	Lug, Ground
11	91823	1	Insulator, Microswitch
12	26025	1	Cam Shaft
13	26026	1	Cam, Alignment (Safety)
14	26027	1	Cam, Limit
15	27051	1	Cap, Camshaft
16	39006	1	Connector, Cord, 1/2" w/ Jam Nut
17	39007	2	Connector, Cord, 1" w/ Jam Nut
18	89675	1	Relay, 480 VAC, DPDT (used in next-to-last tower box)
19	89624	1	Relay, 120 VAC, DPDT (used in last tower box)
20	43017	1	Cover (not shown)
21	73006	1	Latch Rod, Long
22	73007	1	Latch Rod, Short
23	145185	1	Yoke Assembly
24	75014	2	Rod, Linkage Alignment
25	92689	2	Spring, Reinke, Long
26	91081	2	Thumb Screw, Reinke
A	22032A		Intermediate Tower Box, Reinke Type
B	22033B		Next-to-Last Tower Box, Reinke Type
C	22026C		Last Tower Box, Reinke Type



MAIN CONTROL PANEL PARTS

**NI Replacement Parts For:**

**Reinke Type Main Control Panel**



Item	NI Part #	Qty	Description
1	65001	1	Handle, Main Disconnect, Kit (use with 93666)
2	93666	1	Switch, Main Disconnect
3	34008	6	Clip, Fuse, Main Disconnect (use with 93666)
4	550XX	3	Fuse (sized per system)
5	93665	1	Switch, Aux, Interlock (use with 93666)
6	78004	1	Meter, Volt, 600V
7	95602	1	Transformer
8	93669	1	Switch, 3-Position* (see hole size**)
9	93667	2	Switch, Contact Block, N.O., Green*
10	93668	2	Switch, Contact Block, N.C., Red*
11	93671	1	Switch, Push-Button (see hole size**)
12	93667	1	Switch, Contact Block, N.O., Green

Item	NI Part #	Qty	Description
13	93679	1	Switch, Toggle, SPST
14	93669	1	Switch, 3-Position (see hole size**)
15	93667	1	Switch, Contact Block, N.O., Green
16	93668	1	Switch, Contact Block, N.C., Red
17	78001	1	Meter, Hour
18	94411	1	Timer, Percent, 60-Second
19	93803	1	Strip, Terminal
20	40009	1	Contactor, Reversing, 4-Pole
21	89683	2	Relay, 4-Pole, 3/N.O. - 1/N.C.
22	89624	1	Relay, DPDT (auto-restart option)
23	94414	1	Timer, 10-Minute ON Delay (auto-restart option)

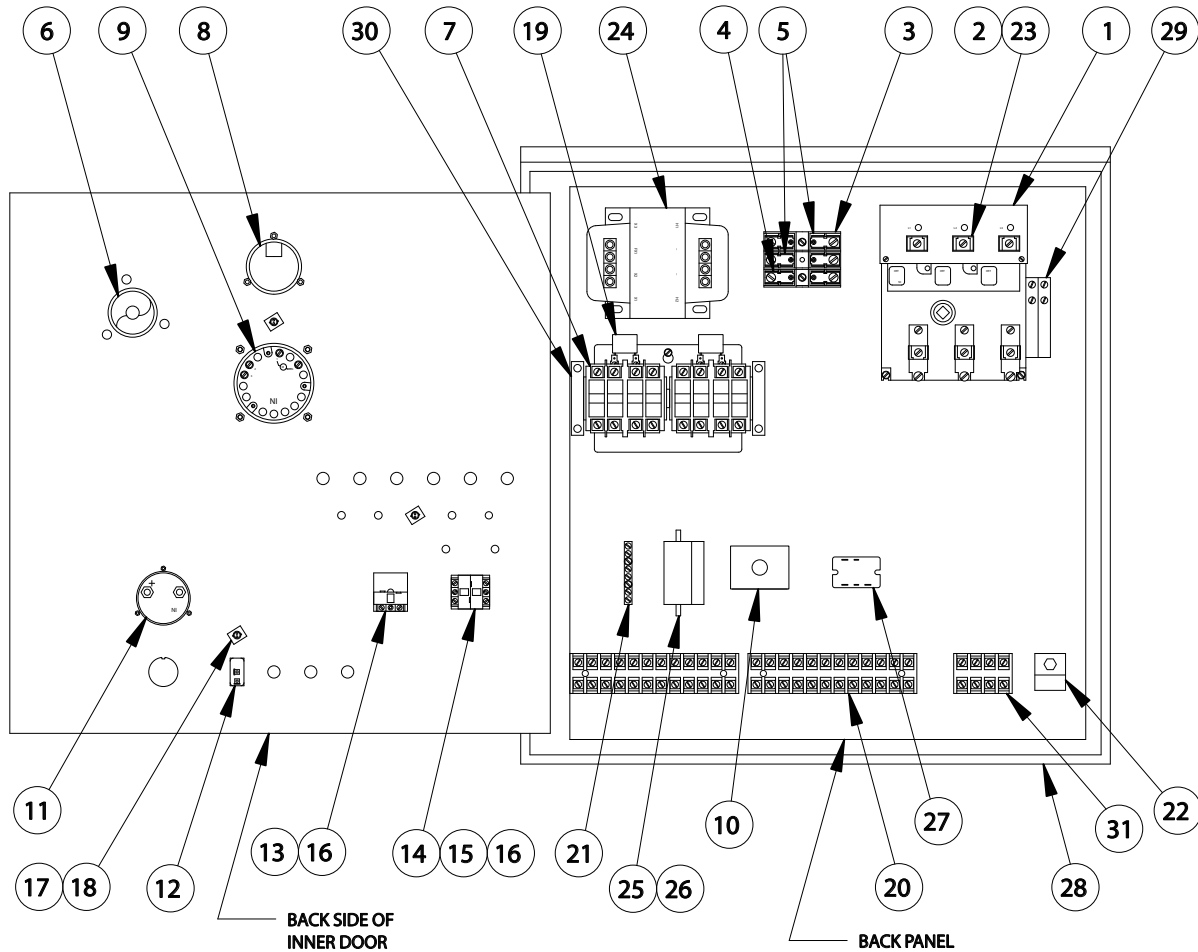
\* Note for Items 8, 9, 10: Factory switch is a 4-position switch. This switch is a 3-position switch. It will still check all phases but will not switch all phases off. One phase will be connected to the test button switch at all times.

MAIN CONTROL PANEL PARTS

NI Replacement Parts for:

**Basic NI Main Control Panel, UL — 22023U**

(Replacement Parts for Options are also available)



Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	56008	1	Fuseholder, 3-Pole
4	550127	1	Fuse, KLDR, 5 Amp
5	550159	2	Fuse, KLDR, 3 Amp
6	65001	1	Handle, Main Disconnect, Kit
7	40009	1	Contactor, Reversing, 4-Pole
8	78001	1	Meter, Hour
9	94401	1	Timer, Percent, 60-Second
10	94418	1	Timer, Safety Relay, 3-Second
11	78037-1	1	Meter, Volt, 600V
12	93679	1	Switch, Toggle, SPST
13	93671	1	Switch, Push-Button
14	93669	1	Switch, 3-Position
15	93668	2	Switch Block, N.C., Red
16	93667	3	Switch Block, N.O., Green

Item	NI Part #	Qty	Description
17	76002	3	Light, Indicator
18	82003	3	Clip, Retaining, Light
19	93401	2	Suppressor, Arc
20	93803	2	Strip, Terminal, 12-Pole
21	77005	1	Lug, Ground, Strip
22	77022	1	Lug, Ground
23	550XX	3	Fuse (sized per system)
24	95603	1	Transformer
25	89408	1	Resistor
26	90630	1	Shield, Resistor
27	89630	1	Relay
28	22028-U	1	Enclosure, with Back Panel and Mounting Brackets
29	93665	1	Switch, Aux., Main Disconnect
30	40052	2	Switch, Aux., Contactor, For/Rev
31	93809	1	Strip, Terminal, 4-Pole

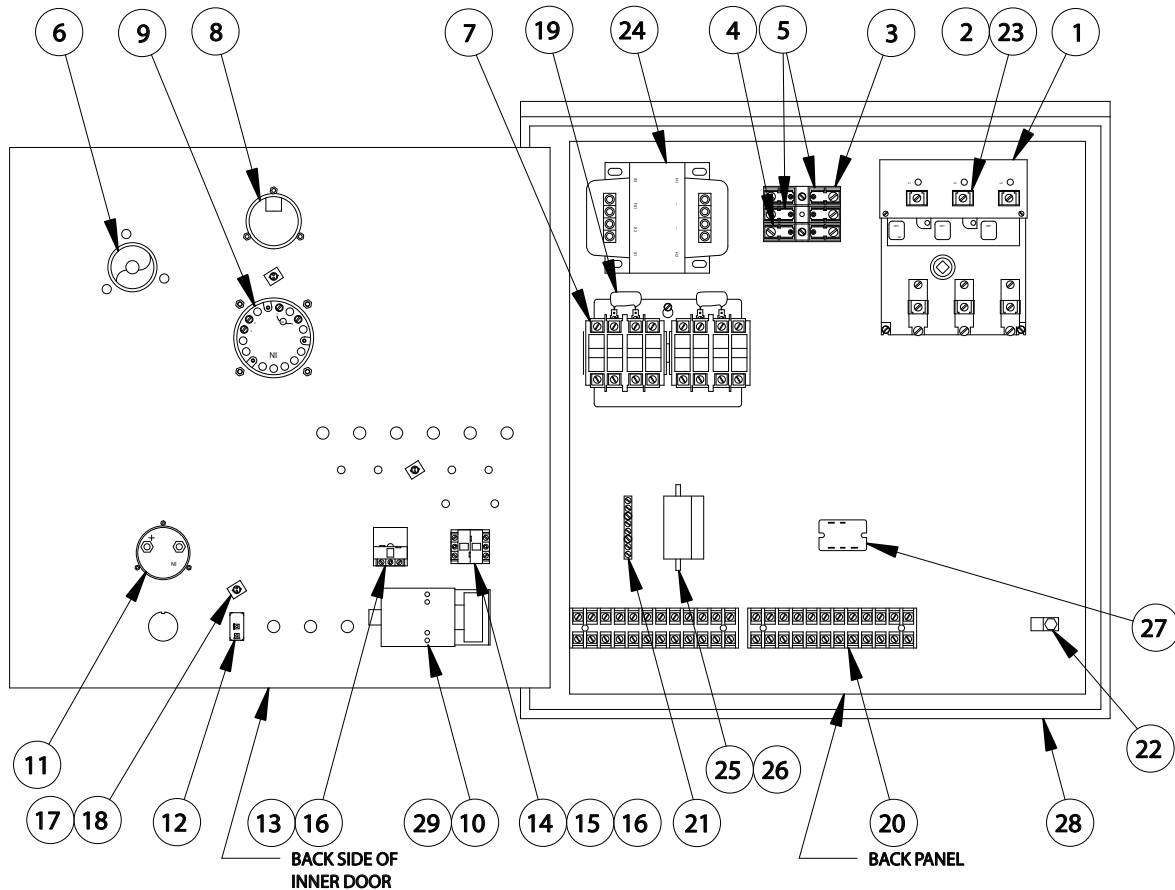


MAIN CONTROL PANEL PARTS

**NI Replacement Parts for:**

**Basic NI Main Control Panel — 22023**

(Replacement Parts for Options are also available)



Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	56002	1	Fuseholder, 3-Pole
4	55018	1	Fuse, FLQ, 5 Amp
5	55030	2	Fuse, FLQ, 3 Amp
6	65001	1	Handle, Main Disconnect, Kit
7	40009	1	Contactor, Reversing, 4-Pole
8	78001	1	Meter, Hour
9	94401	1	Timer, Percent, 60-Second
10	94418	1	Timer, Safety Relay, 3-Second
11	78037-1	1	Meter, Volt, 600V
12	93679	1	Switch, Toggle, SPST
13	93671	1	Switch, Push-Button
14	93669	1	Switch, 3-Position
15	93668	2	Switch Block, N.C., Red

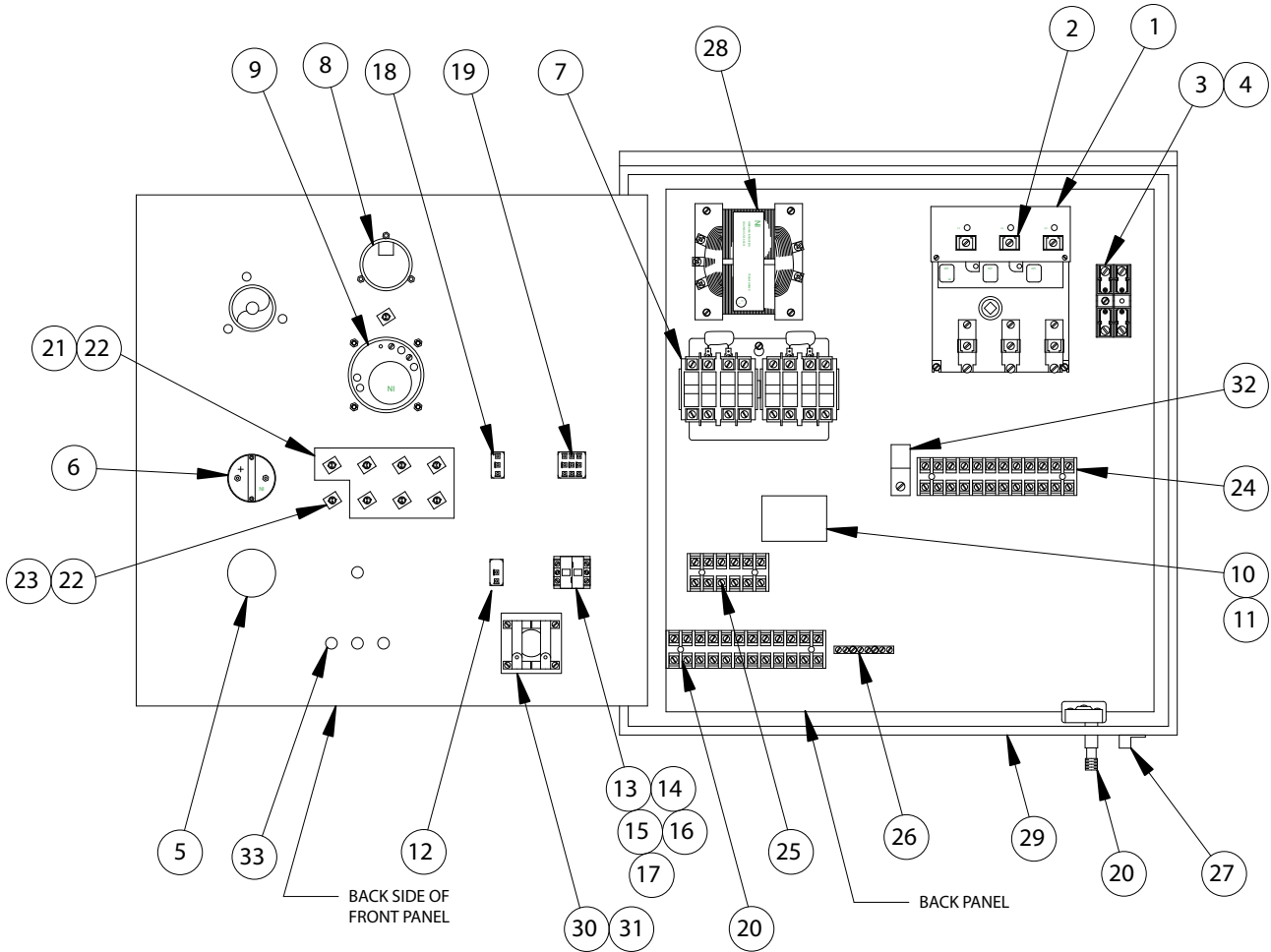
Item	NI Part #	Qty	Description
16	93667	3	Switch Block, N.O., Green
17	76002	3	Light, Indicator
18	82003	3	Clip, Retaining, Light
19	93401	2	Suppressor, Arc
20	93803	2	Strip, Terminal, 12-Pole
21	77005	1	Lug, Ground, Strip
22	77004	2	Lug, Ground, Single
23	550XX	3	Fuse (sized per system)
24	95603	1	Transformer
25	89408	1	Resistor
26	90630	1	Shield, Resistor
27	89630	1	Relay
28	22028-U	1	Enclosure, with Back Panel and Mounting Brackets
29	89665	1	Socket, Relay, 8-Pin, Octal



MAIN CONTROL PANEL PARTS

NI Replacement Parts For:

**Lindsay Type Main Control Panel**



Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	56003	1	Fuseholder, 2-Pole
4	55003	1	Fuse, FLQ, 2 Amp
5	89032	1	Plug, Hole, 2-1/2"
6	78003	1	Meter, Volt, 600V
7	40009	1	Contactora, Reversing
8	78001	1	Meter, Hour
9	94411	1	Timer, Percent, 60-Second
10	89637	1	Socket, 11 Pin, Octal
11	89614	1	Relay, Latching
12	93679	1	Switch, Toggle, SPST
13	93668	*	Switch Block, N.C., Red
14	93667	2	Switch Block, N.O., Green
15	93674	*	Switch Block, N.C., Late Break
16	93673	*	Switch Block, N.O., Early Make
17	93672	1	Switch, Operator, 3-Position, Spring Return

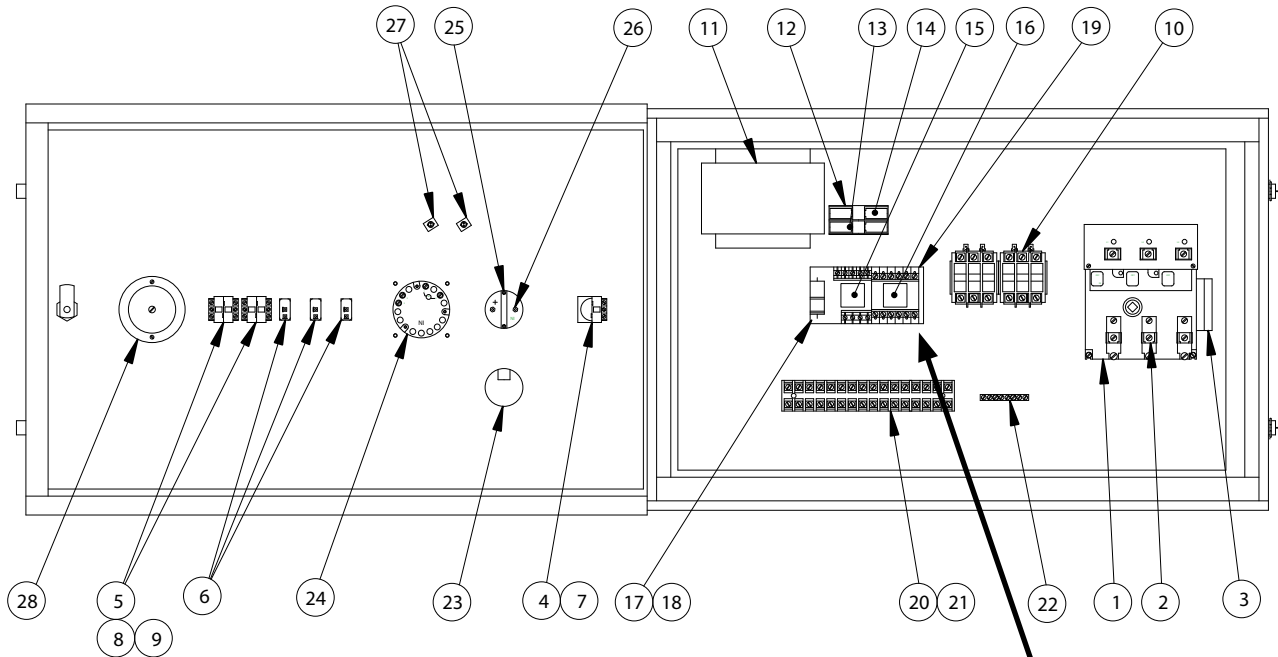
Item	NI Part #	Qty	Description
18	936156	1	Switch, Toggle, SPDT
19	93675	1	Switch, Toggle, 3PDT
20	93643	1	Switch, Pressure
21	76002	7	Light, Indicator, 120 VAC
22	82003	8	Clip, Retaining, Light
23	760XX	1	Light, Indicator, 28 VAC
24	93803	2	Terminal Strip, 12-Pole
25	93804	1	Terminal Strip, 6-Pole
26	77005	1	Lug, Ground, Strip
27	77004	1	Lug, Ground, Single
28	95603	1	Transformer
29	22028	1	Enclosure, Main Panel, with Inner Panel & Mount Brackets
30	89640	1	Relay, DPST
31	46202	1	Resistor, Cap, Diode Delay
32	77003	1	Lug, Terminal
33	89018	*	Plug, Plastic, 1/2"

\* As required.

MAIN CONTROL PANEL PARTS

**NI Replacement Parts For:**

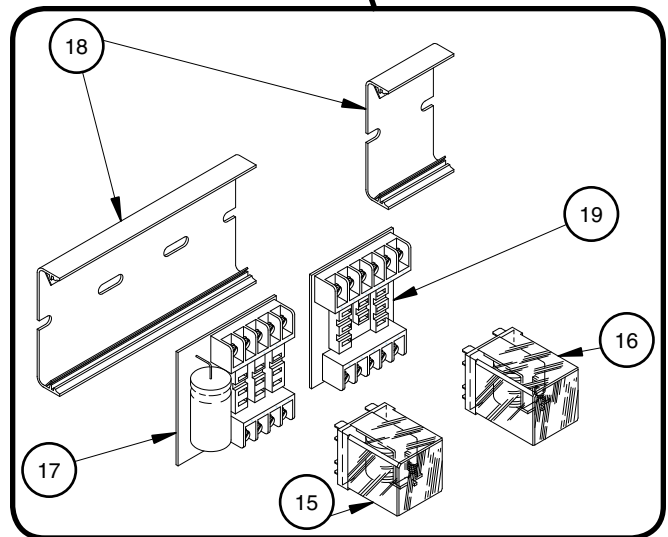
**Valley Type Main Control Panel**



**Parts are available for many kinds of main panels.**

**Call our sales office for assistance.**

Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	93665	1	Switch, Interlock, Aux.
4	936154	1	Switch, Push-Button w/ 1 N.O.
5	936154	1	Switch, Push-Button w/ 1 N.O.
6	93679	3	Switch, Toggle, SPST
7	936152	1	Switch Block, N.O.
8	936152	2	Switch Block, N.O.
9	936153	1	Switch Block, N.C.
10	40018	2	Contactor, 3-Pole
11	95603	1	Transformer
12	56003	1	Fuseholder, 2-Pole
13	55030	1	Fuse, FLQ, 3 Amp
14	55018	1	Fuse, FLQ, 5 Amp
15	89618	1	Relay, DPDT, 120V DC (Safety)
	89666	1	Relay, DPDT, 120V DC (Safety) (smaller base for earlier models)
16	89615	1	Relay, Latching, DPDT (Auto-Reverse)
17	19504	1	Board, Relay, 3-Second Delay
18	91401	1	Snap Track, 2"
	91402	1	Snap Track, 6"
19	19511	1	Board, Relay, Latching (Auto-Reverse)

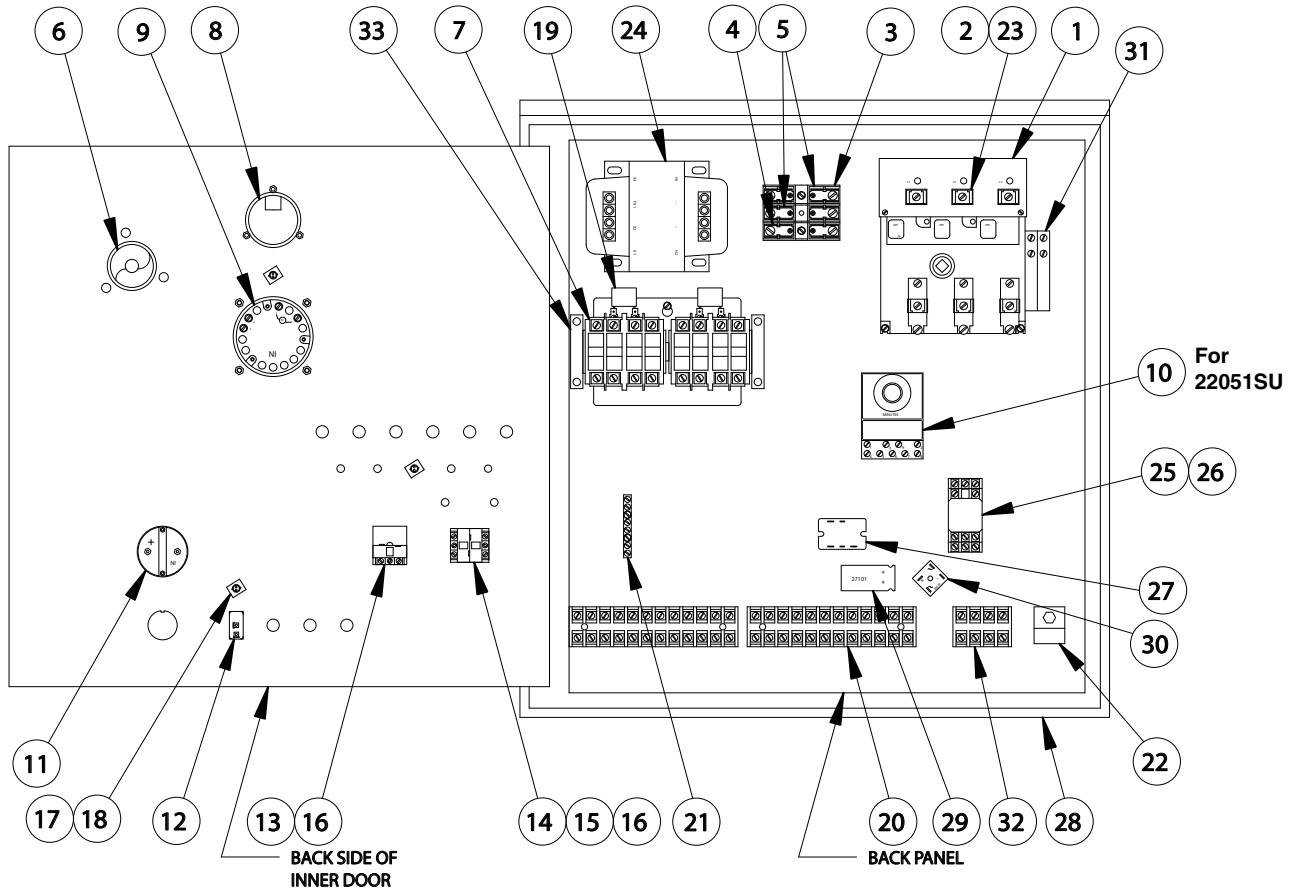


Item	NI Part #	Qty	Description
20	93805	1	Strip, Terminal, 16-Pole
21	93806	1	Terminal, Marker Strip, 16-Pole
22	77005	1	Lug, Ground Strip
23	78001	1	Meter, Hour
24	94401	1	Timer, Percent, 60-Second
25	78004	1	Meter, Volt, 600V
26	270XX	2	Cap, Vinyl
27	76002	2	Light, Indicator
28	65001	1	Handle, Main Disconnect, Kit

MAIN CONTROL PANEL PARTS

NI Replacement Parts For:

**Basic NI – Lockwood Type Main Control Panel, UL —  
22051SU and 22051U**



Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	56008	1	Fuseholder, 3-Pole
4	550127	1	Fuse, KLDR, 5 Amp
5	550159	2	Fuse, KLDR, 3 Amp
6	65001	1	Handle, Main Disconnect, Kit
7	40009	1	Contactor, Reversing, 4-Pole
8	78001	1	Meter, Hour
9	94409	1	Timer, Percent, 30-Second
10	94423	1	Timer, Overwatering (Optional)
11	78037-1	1	Meter, Volt, 600V
12	93679	1	Switch, Toggle, SPST
13	93671	1	Switch, Push-Button
14	93669	1	Switch, 3-Position
15	93668	2	Switch Block, N.C., Red
16	93667	3	Switch Block, N.O., Green
17	76002	3	Light, Indicator

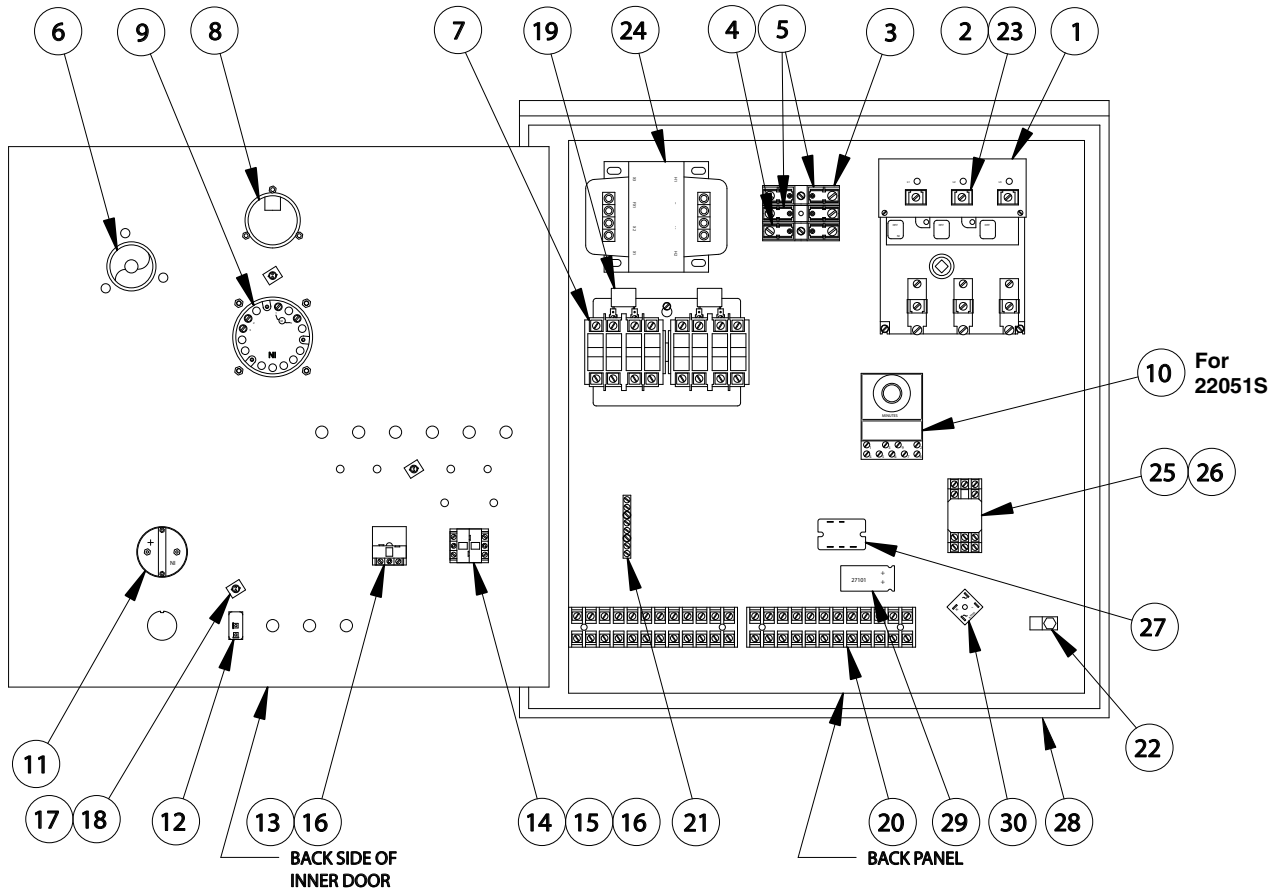
Item	NI Part #	Qty	Description
18	82003	3	Clip, Retaining, Light
19	93402	2	Suppressor, Arc
20	93803	2	Strip, Terminal, 12-Pole
21	77005	1	Lug, Ground, Strip
22	77022	2	Lug, Ground
23	550XX	3	Fuse (sized per system)
24	95603	1	Transformer
25	89617	1	Relay, 12 VDC
26	89638	1	Relay Socket
27	89630	1	Relay
28	22028	1	Enclosure, with Back Panel and Mounting Brackets
29	27101	1	Capacitor
30	89300	1	Rectifier
31	93665	1	Switch, Aux., Main Disconnect
32	93809	1	Strip, Terminal, 4-Pole
33	40052	2	Switch, Aux., Contactor, For/Rev

NOTE: 22051SU includes item 10; 22051U does not.

MAIN CONTROL PANEL PARTS

**NI Replacement Parts For:**

**Basic NI – Lockwood Type Main Control Panel  
— 22051S and 22051**



Item	NI Part #	Qty	Description
1	93666	1	Switch, Main Disconnect
2	34008	6	Clip, Fuse, Main Disconnect
3	56002	1	Fuseholder, 3-Pole
4	55018	1	Fuse, FLQ, 5 Amp
5	55030	2	Fuse, FLQ, 3 Amp
6	65001	1	Handle, Main Disconnect, Kit
7	40009	1	Contactor, Reversing, 4-Pole
8	78001	1	Meter, Hour
9	94409	1	Timer, Percent, 30-Second
10	94423	1	Timer, Overwatering (Optional)
11	78037-1	1	Meter, Volt, 600V
12	93679	1	Switch, Toggle, SPST
13	93671	1	Switch, Push-Button
14	93669	1	Switch, 3-Position
15	93668	2	Switch Block, N.C., Red
16	93667	3	Switch Block, N.O., Green

Item	NI Part #	Qty	Description
17	76002	3	Light, Indicator
18	82003	3	Clip, Retaining, Light
19	93401	2	Suppressor, Arc
20	93803	2	Strip, Terminal, 12-Pole
21	77005	1	Lug, Ground, Strip
22	77004	2	Lug, Ground, Single
23	550XX	3	Fuse (sized per system)
24	95603	1	Transformer
25	89617	1	Relay, 12 VDC
26	89638	1	Relay Socket
27	89630	1	Relay
28	22028	1	Enclosure, with Back Panel and Mounting Brackets
29	27101	1	Capacitor
30	89300	1	Rectifier

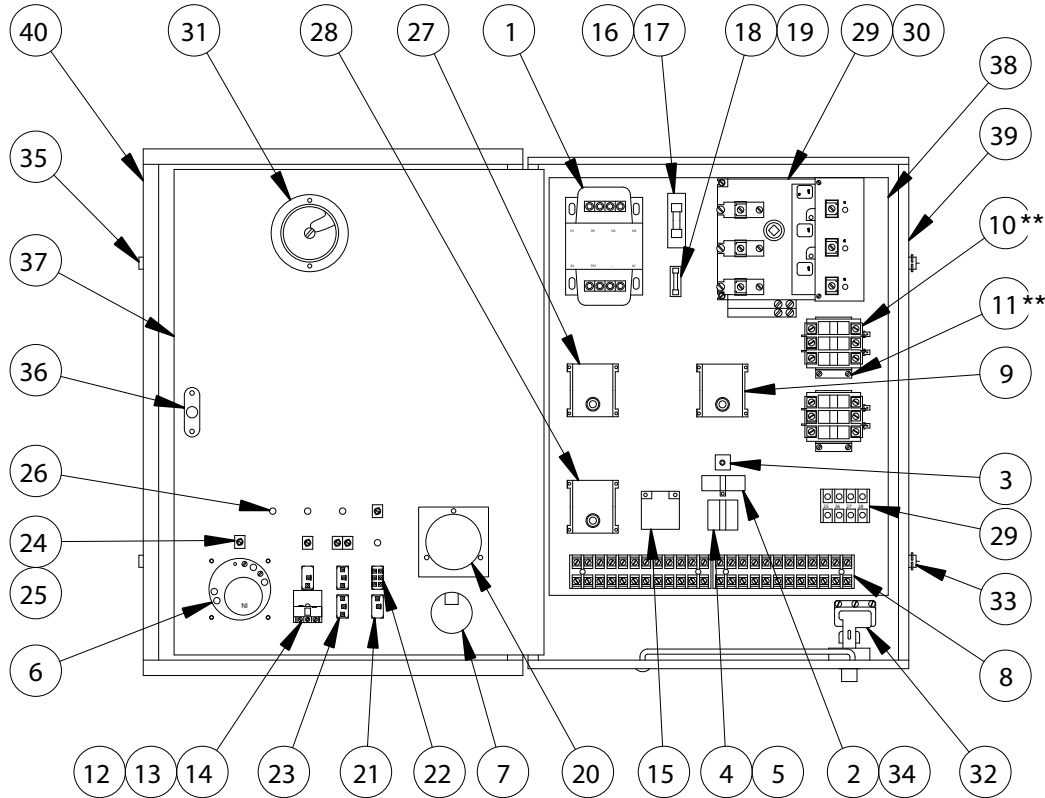
**NOTE:** 22051S includes item 10; 22051 does not.



MAIN CONTROL PANEL PARTS

NI Replacement Parts For:

**Lockwood Type 2000 Series Main Panel (Pivot Mounted)**



Item	NI Part #	Qty	Description
1	95611	1	Transformer, .375 kVA
2	27101	1	Capacitor
3	89300	1	Rectifier
4	89617	1	Relay, 12 VDC, DPDT
5	89638	1	Relay Socket
6	94404	1	Timer, Percent, 30-Second
7	78001	1	Meter, Hour
8	93803	2	Terminal Strip, 12-Pole
9	94423	1	Timer, 10-Minute OFF Delay, Over-watering
10	40018	2	Contactora, 3-Pole **
11	40025-1	2	Contactora, Auxiliary, N.O. / N.C. **
12	93671	1	Switch Operator, Push-Button
13	27028	1	Cap, Switch, Red
14	93667	1	Switch Block, N.O., Green
15	89624	1	Relay, DPDT, 120 VAC, Auto Restart
16	56001	1	Fuseholder
17	55011	1	Fuse, 1 1/8 Amp
18	56004	1	Fuseholder
19	55040	1	Fuse, 3 Amp, 250 V, Glass
20	78004	1	Meter, Volt, 0-600 VAC
21	93679	2	Switch, Toggle, SPST
22	93680	1	Switch, Toggle, DPDT
23	936156	2	Switch, Toggle, SPDT

Item	NI Part #	Qty	Description
24	76002	*	Light, Indicator, 120 VAC
25	82003	*	Clip, Light
26	89017	*	Plug, Plastic, 5/16"
27	94443	1	Timer, 20-Minute ON Delay, Low Pressure Bypass
28	94414	1	Timer, 10-Minute On Delay, Auto Restart
29	93666	1	Switch, Main Disconnect
30	34008	1	Clip, Fuse, Main Disconnect
31	65001	1	Handle, Main Disconnect, Kit (use with 93666)
32	93643	1	Switch, Pressure, 3-90 psi
33	73001	2	Latch, Tension
34	330XX	1	Clamp
35	730XX	2	Latch, Keeper
36	730XX	1	Latch, Inner Control Panel
37	N/A	1	Panel, Inner Control
38	N/A	1	Panel, Back, Component Mounting
39	220XX	1	Enclosure, Main Panel
40	N/A	1	Door, Outer, Main Panel

\* As required.

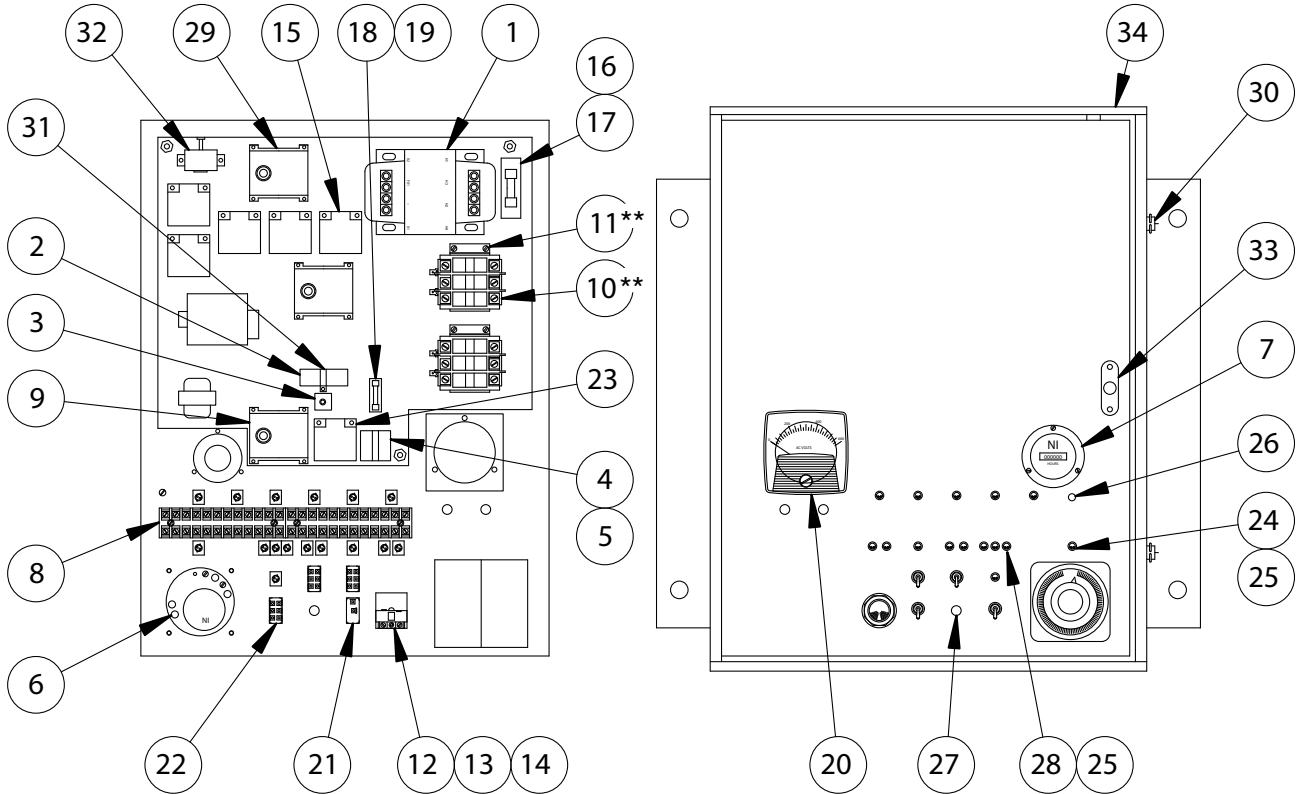
\*\* Alternate contactors are available:

Contactora (#40051) & Aux. N.O. & N.C. (#40067) or FOR/REV Contactors, 4-Pole, Mech. Interlock (#40009) & Aux. N.O. & N.C. (#40025-1) (This would be the best replacement if extra space is available in the panel.)

MAIN CONTROL PANEL PARTS

**NI Replacement Parts For:**

**Lockwood Type 2000 Series Main Panel (Span Mounted)**



Item	NI Part #	Qty	Description
1	95611	1	Transformer, .375 kVA
2	27101	1	Capacitor
3	89300	1	Rectifier
4	89617	1	Relay, 12 VDC, DPDT
5	89638	1	Relay Socket
6	94404	1	Timer, Percent, 30-Second
7	78001	1	Meter, Hour
8	93803	2	Terminal Strip, 12-Pole
9	94423	1	Timer, 10-Minute OFF Delay, Overwatering
10	40018	2	Contactors, 3-Pole **
11	40025-1	2	Contactors, Auxiliary, N.O. / N.C. **
12	93671	1	Switch Operator, Push-Button
13	27028	1	Cap, Switch, Red
14	93667	1	Switch Block, N.O., Green
15	89624	1	Relay, DPDT, 120 VAC, Auto Restart
16	56001	1	Fuseholder
17	55011	1	Fuse, 1 1/8 Amp
18	56004	1	Fuseholder
19	55040	1	Fuse, 3 Amp, 250 V, Glass

Item	NI Part #	Qty	Description
20	78004	1	Meter, Volt, 0-600 VAC
21	93679	1	Switch, Toggle, SPST
22	93680	3	Switch, Toggle, DPDT
23	89624	1	Relay, DPDT, 120 VAC, Power Interrupt
24	76002	*	Light, Indicator, 120 VAC
25	82003	*	Clip, Light
26	89017	*	Plug, Plastic, 5/16"
27	89018	*	Plug, Plastic, 1/2"
28	76005	3	Light, Indicator, 480 VAC
29	94414	1	Timer, 10-Minute On Delay, Auto Restart
30	73001	2	Latch, Tension
31	330XX	1	Clamp
32	730XX	1	Latch, Solenoid, 120 VAC, Door Lock
33	730XX	1	Latch, Inner Control Panel
34	220XX	1	Enclosure, Main Panel

\* As required.

\*\* Alternate contactors are available:

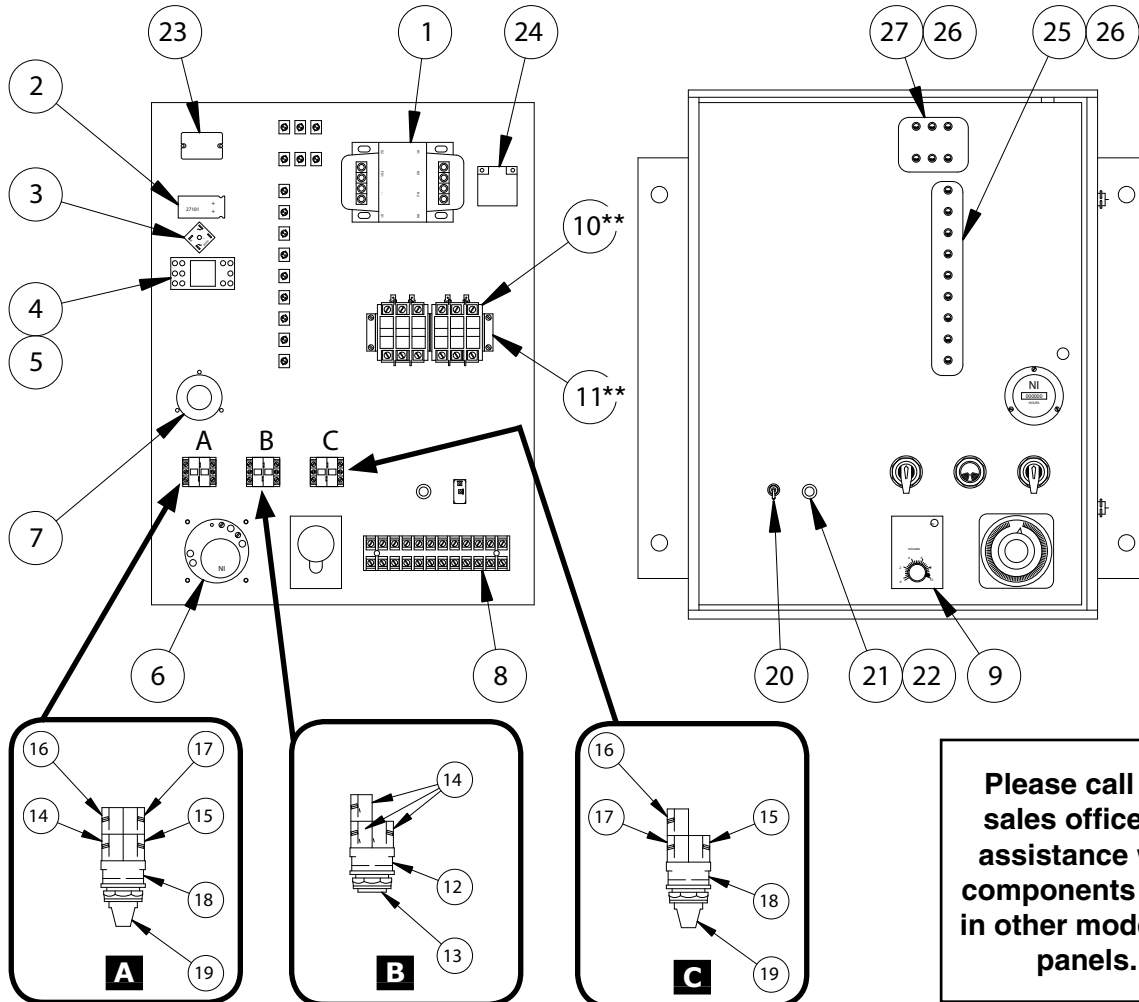
Contactors (#40051) & Aux. N.O. & N.C. (#40067) or FOR/REV Contactors, 4-Pole, Mech. Interlock (#40009) & Aux. N.O. & N.C. (#40025-1) (This would be the best replacement if extra space is available in the panel.)



MAIN CONTROL PANEL PARTS

NI Replacement Parts For:

**Lockwood Type 2200 Series Main Panel (Span Mounted)**



Item	NI Part #	Qty	Description
1	95611	1	Transformer, .375 kVA
2	27101	1	Capacitor
3	89300	1	Rectifier
4	89617	1	Relay, 12 VDC, DPDT
5	89638	1	Relay Socket
6	94404	1	Timer, Percent, 30-Second
7	78001	1	Meter, Hour
8	93803	1	Terminal Strip, 12-Pole
9	94423	1	Timer, 10-Minute OFF Delay, Overwatering
10	40018	2	Contactor, 3-Pole **
11	40025-1	2	Contactor, Auxiliary, N.O. / N.C. **
12	93671	1	Switch Operator, Push-Button
13	27028	1	Cap, Switch, Red
14	93667	4	Switch Block, N.O., Green
15	93668	2	Switch Block, N.C., Red
16	93674	2	Switch Block, N.C., Late Break

Item	NI Part #	Qty	Description
17	93673	1	Switch Block, N.O., Early Make
18	93669	2	Switch Operator, 3-Position
19	65007	--	Knob
20	93679	1	Switch, Toggle, SPST
21	56007	1	Fuseholder
22	55006	1	Fuse, 8 / 10 Amp
23	89630	1	Relay, SPDT, 120 VAC
24	89675	1	Relay, DPDT, 480 VAC, Phase Failure
25	76002	9	Light, Indicator, 120 VAC
26	82003	15	Clip, Light
27	76005	6	Light, Indicator, 480 VAC

\* As required.

\*\* Alternate contactors are available:

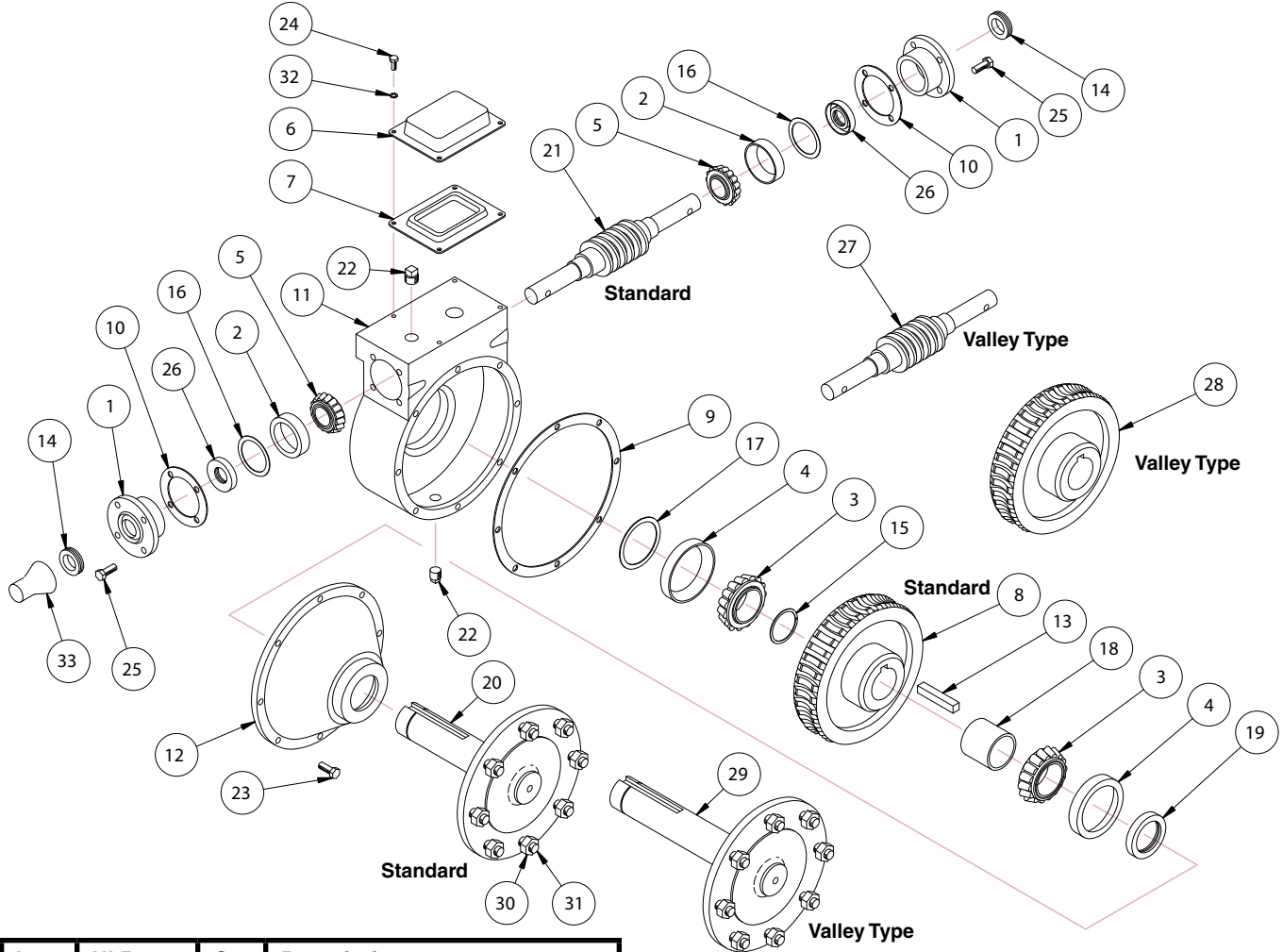
Contactor (#40051) & Aux. N.O. & N.C. (#40067) or FOR/REV Contactors, 4-Pole, Mech. Interlock (#40009) & Aux. N.O. & N.C. (#40025-1) (This would be the best replacement if extra space is available in the panel.)



WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**Omni Standard and Valley Type — 610502 & 610504**



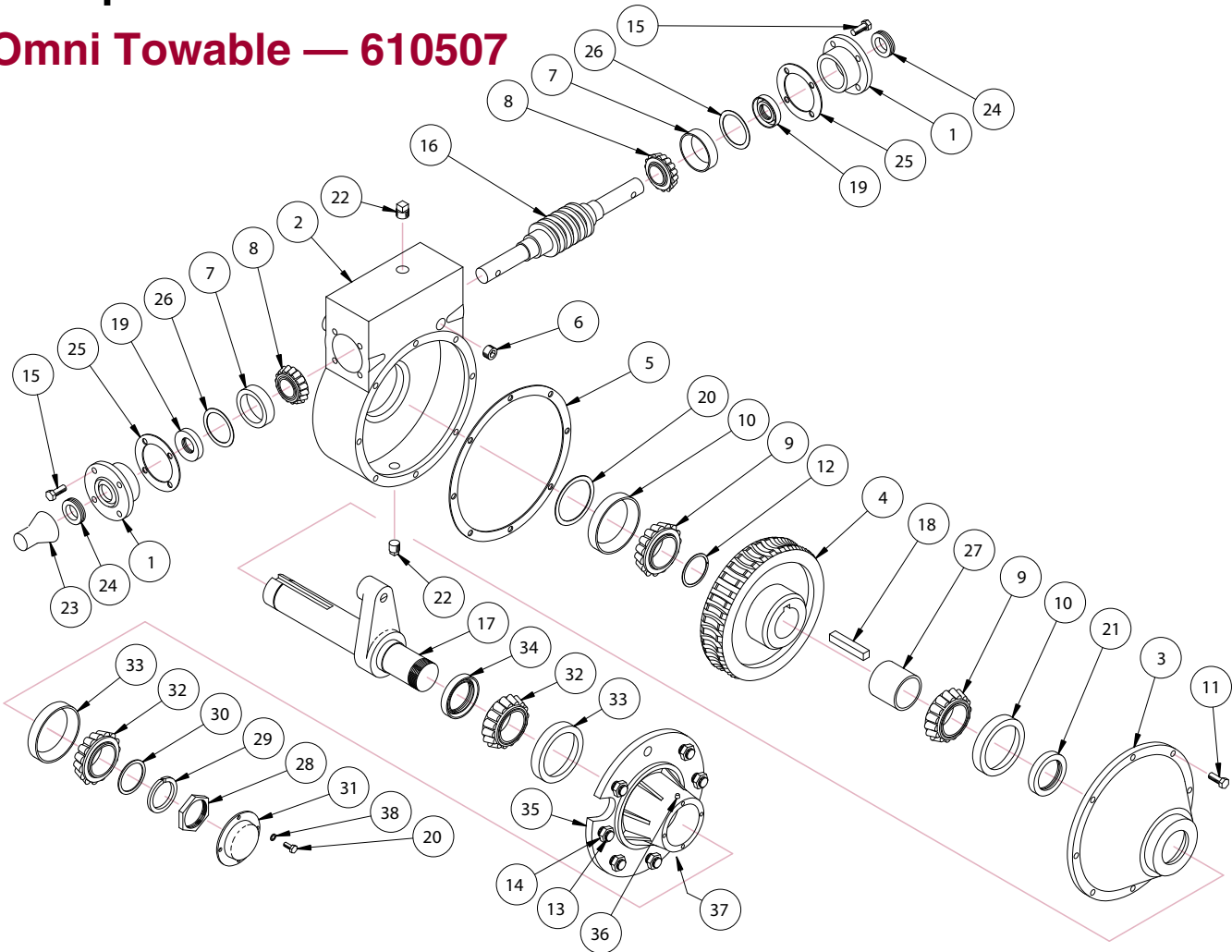
Item	NI Part #	Qty	Description
1	27073	2	Cap, Input, Open End
2	44049	2	Cup, Bearing, Input
3	37033	2	Cone, Bearing, Output
4	44028	2	Cup, Bearing, Output
5	17079	2	Cone, Bearing, Input
6	32001	1	Chamber, Expansion, Flat Top
7	46008	1	Diaphragm, Expansion Chamber
8	600XX	1	Gear, Worm, for 610502
9	570XX	1	Gasket, Hub
10	570XX	2	Gasket, End Cap
11	670XX	1	Housing, Flat Top
12	680XX	1	Hub
13	72008	1	Key
14	911107	2	Seal, Input
15	898XX	1	Snap Ring, Output
16	908XX	2	Shim, Input
17	908XX	1	Shim, Output
18	918XX	1	Spacer, Output

Item	NI Part #	Qty	Description
19	911XX	1	Seal, Output
20	902XX	1	Shaft, Output for 610502
21	902106	1	Shaft, Worm, Input, for 610502
22	89012	2	Plug
23	200XX	8	Bolt
24	20073	4	Screw, Cap, 1/4-20 x 1/2
25	91002	8	Screw, Cap, 3/8" - 16 x 1
26	911XX	2	Seal, Input
27	902XX	1	Shaft, Worm, Input, for 610504
28	600XX	1	Gear, Worm, for 610504
29	902XX	1	Shaft, Output, for 610504
30	82002	8	Nut, Lug, 9/16-18
31	20002	8	Bolt, Press-In, 9/16-18 x 1-5/8"
32	972117	4	Washer, Lock, 1/4"
33	90623	1	Shield, Input Shaft Protector

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WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:  
Omni Towable — 610507**



Item	NI Part #	Qty	Description
1	270XX	2	Cap, End
2	670XX	1	Housing, Gearbox
3	670XX	1	Housing, Cover
4	600XX	1	Gear, Bull
5	570XX	1	Gasket*
6	890XX	1	Plug, 3/4" NPT w/ Hex Socket
7	44049	2	Cup, Bearing, Input
8	17079	2	Cone, Bearing, Input
9	37033	2	Cone, Bearing, Output
10	44028	2	Cup, Bearing, Output
11	91002	8	Screw, Hex Hd, 3/8-16 x 1"
12	898XX	1	Ring, Retaining
13	20002	8	Bolt, Press-In, 9/16-18 x 1-5/8"
14	82002	8	Nut, Lug, 9/16-18
15	91002	8	Screw, Hex Hd, 3/8-16 x 1"
16	902XX	1	Shaft, Worm, Input
17	902XX	1	Shaft, Output
18	72008	1	Key, Output Shaft
19	911XX	2	Seal, Input

\* Specify size.

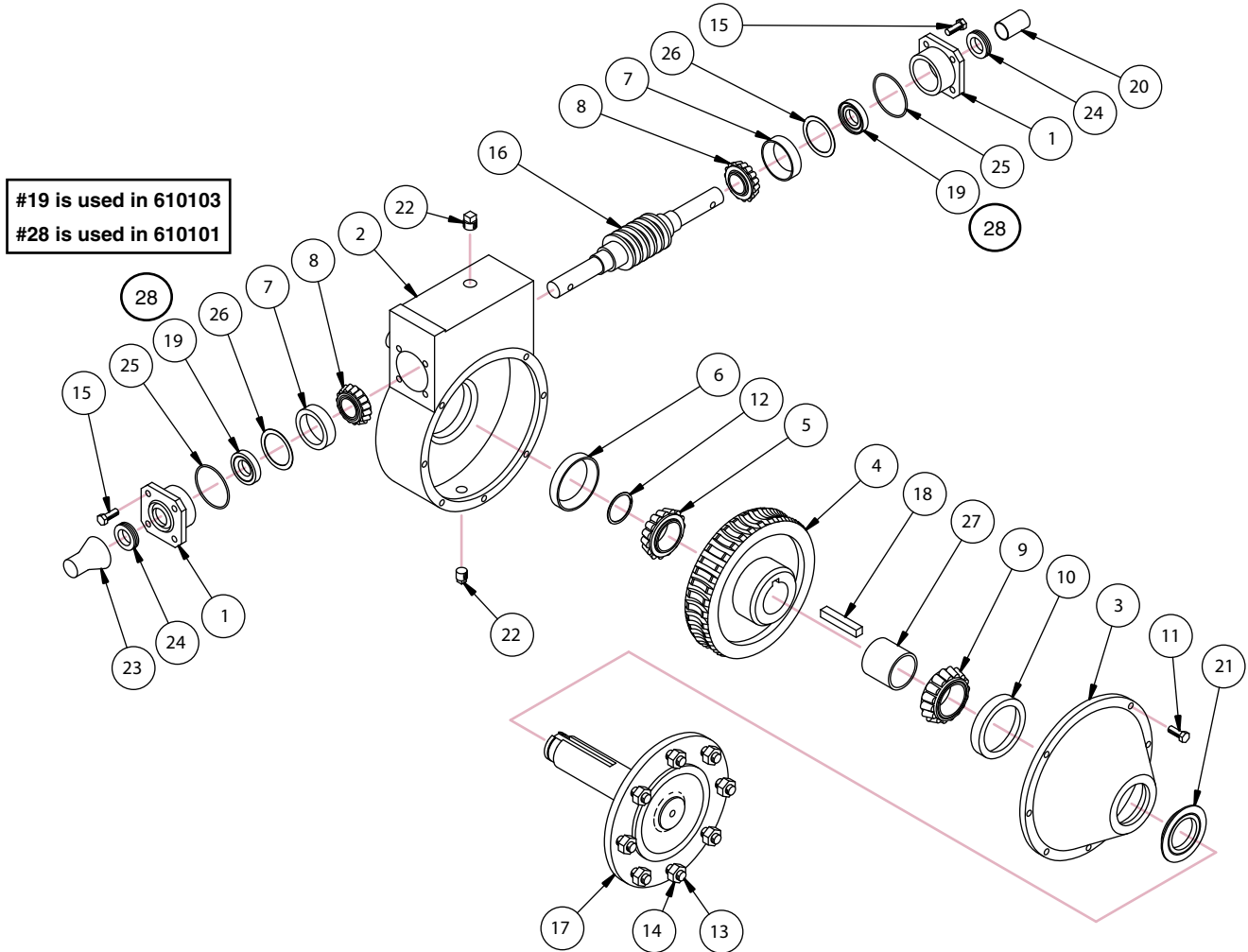
Item	NI Part #	Qty	Description
20	20073	4	Screw, Cap, 1/4-20 x 1/2
21	911XX	1	Seal, Output
22	89012	2	Plug, 3/4" NPT
23	90633	1	Shield, Input Shaft Protector
24	911107	2	Seal, Input Dust Excluder
25	570XX	2	Gasket, Input*
26	908XX	2	Shim, Input Bearing*
27	918XX	1	Spacer, Output Shaft
28	918XX	1	Spacer
29	918XX	1	Spacer
30	918XX	1	Spacer
31	270XX	1	Cap, Dust
32	37011	2	Cone, Bearing, Output Shaft, 2"
33	44014	2	Cup, Bearing, Output, 2"
34	911XX	1	Seal
35	670XX	1	Housing, Towable Hub
36	98402	1	Zerk, Grease
37	970XX	1	Vent
38	972117	4	Washer, Lock, 1/4"

\* Specify size.

WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**Durst Extreme Duty — 610103 & 610101**



Item	NI Part #	Qty	Description
1	270A192C	2	Cap, Steel, 2002
2	670A1339C	1	Housing
3	430A1239C-2	1	Cover
4	600B649C	1	Gear, Bull
5	37011	1	Cone, Bearing, Output Shaft, 2"
6	44014	1	Cup, Bearing, Output, 2"
7	44049	2	Cup, Bearing, Input
8	17079	2	Bearing, Input, Tapered Roller
9	37069	1	Cone, Bearing, Output Shaft, 2-1/4" I.D.
10	44028	1	Cup, for 2-1/4" Output Style
11	91002	7	Screw, HHCS, 3/8-16 x 1"
12	89805	1	Ring, Snap, Output Shaft
13	20005	8	Bolt, Lug, 9/16-18 x 1.69"
14	82002	8	Nut, 9/16-18, Lug, Wheel

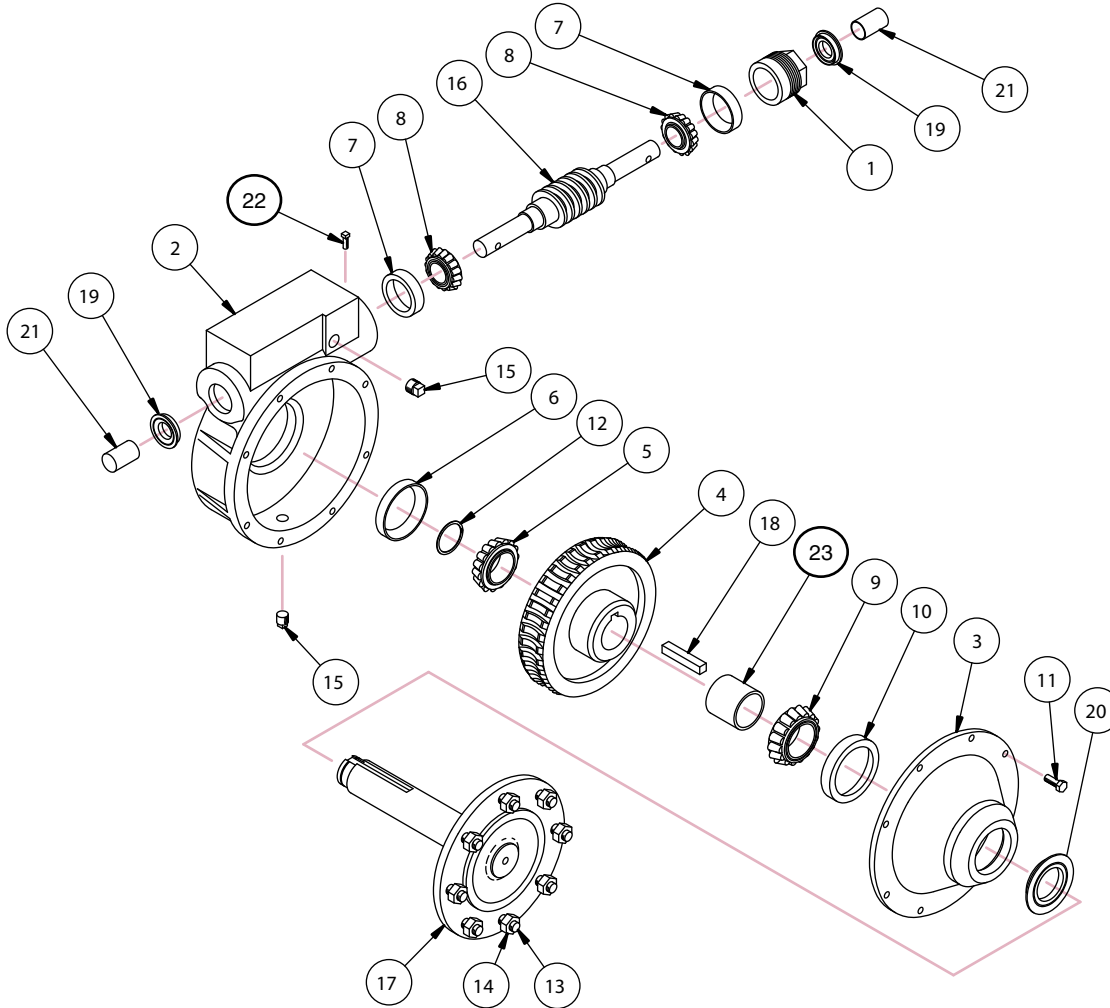
Item	NI Part #	Qty	Description
15	97203	8	Bolt, HHCS, 3/8-16 x 1"
16	90233-1	1	Shaft, Worm, Input
17	902261-1	1	Shaft, Output
18	72008	1	Key, Output Shaft
19	911130	2	Seal, Input, Trakseal for 610103
20	270XX	1	Cap, Protector, Shaft, Vinyl
21	911134	1	Seal, Output, Trakseal
22	89012	2	Plug, 3/4" NPT
23	90623	1	Shield, Input, Shaft, Protector
24	911107	2	Seal, Input, Dust, Excluder
25	89820	2	O-Ring, Input Shaft
26	90810	2	Shim, Bearing, Input
27	P577	1	Spacer, 2-1/4" Shaft
28	91153-1	2	Seal, Input for 610101



WHEEL GEARBOX PARTS

NI Replacement Gearbox Parts for:

**Durst Valley Type — 610104**



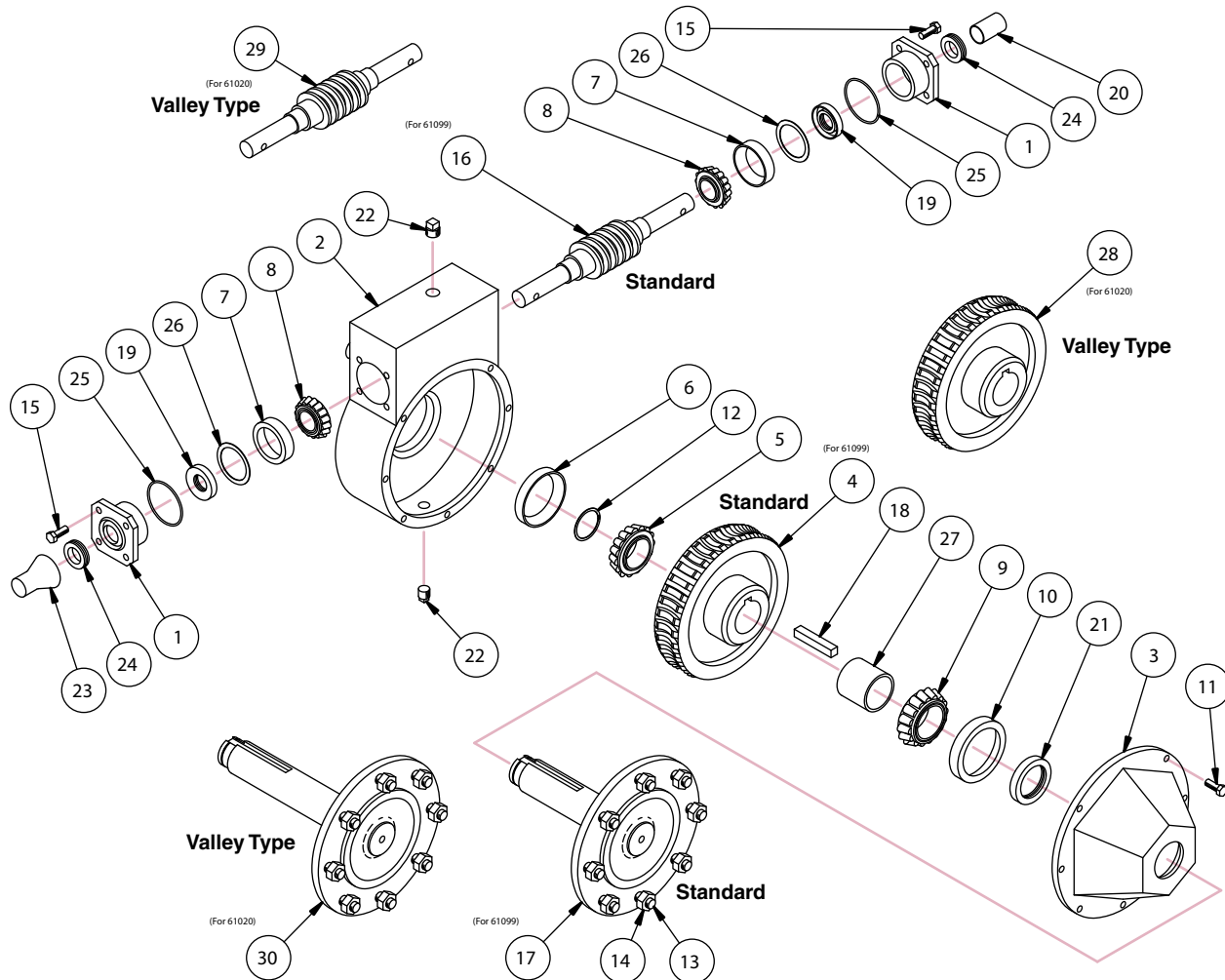
Item	NI Part #	Qty	Description
1	270XX	1	Cap, Input, Open End
2	670XX	1	Housing
3	430XX	1	Cover
4	600XX	1	Gear, Bull
5	37011	1	Cone, Bearing, Output Shaft, 2"
6	44014	1	Cup, Bearing, Output, 2"
7	44049	2	Cup, Bearing, Input
8	17079	2	Cone, Bearing, Input
9	37069	1	Cone, Bearing, Output Shaft, 2-1/4" I.D.
10	44028	1	Cup, Bearing, Output, 2-1/4"
11	91002	7	Screw, HHCS, 3/8-16 x 1"

Item	NI Part #	Qty	Description
12	89805	1	Ring, Snap, Output Shaft
13	20005	8	Bolt, Lug, 9/16-18 x 1.69"
14	82002	8	Nut, 9/16-18, Lug, Wheel
15	89012	1	Plug, 3/4" NPT
16	902XX	1	Shaft, Worm, Input
17	902XX	1	Shaft, Output
18	72008	1	Key, Output Shaft, 2-1/4"
19	911130	2	Seal, Input, Trakseal
20	911134	1	Seal, Output, Trakseal
21	270XX	1	Cap, Protector, Shaft, Vinyl
22	910XX	1	Screw, Set
23	918XX	1	Spacer, NI Seal

WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**Durst Standard and Valley Type — 61099 & 61020**



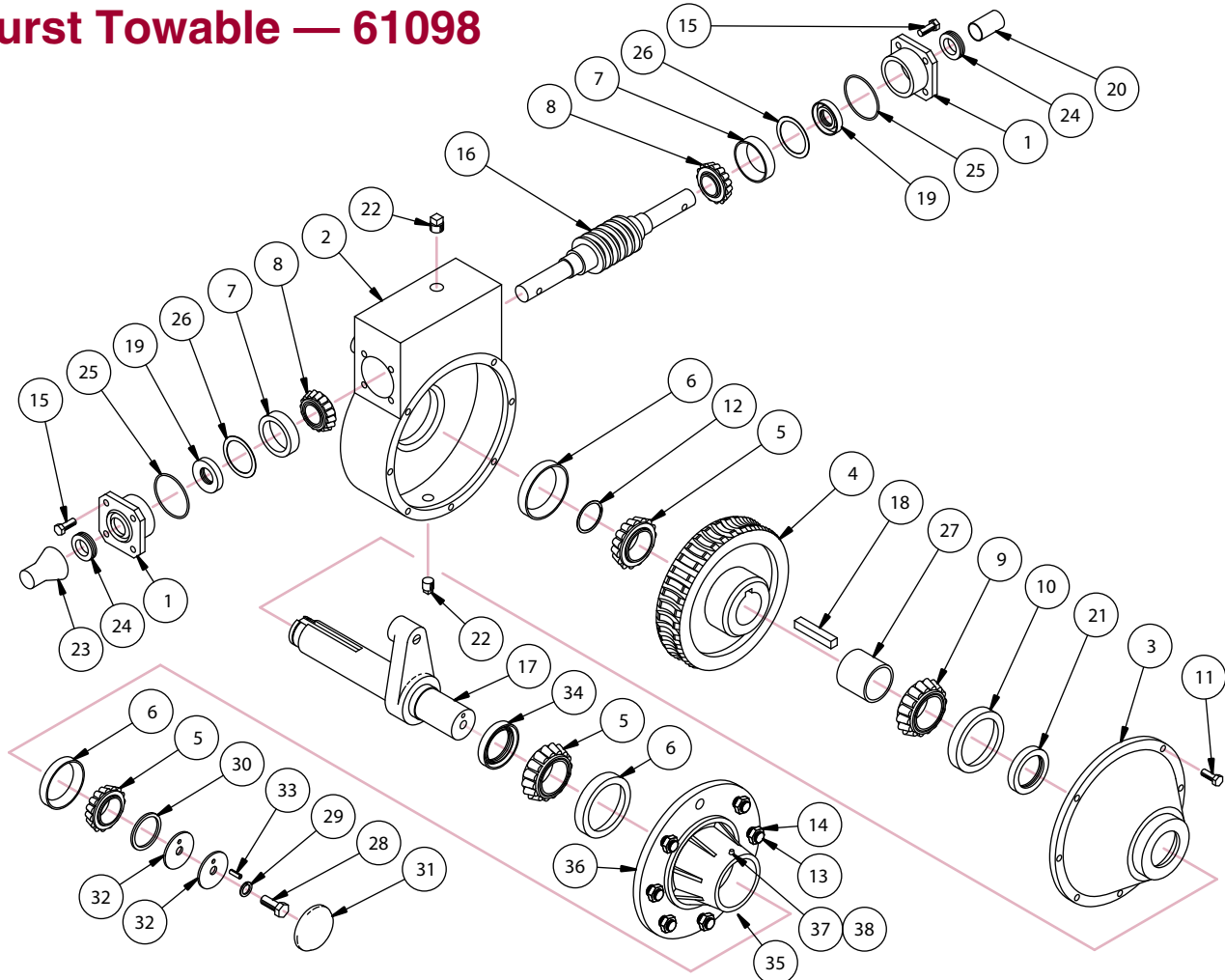
Item	NI Part #	Qty	Description
1	27075	2	Cap, End, Open Steel
2	67051	1	Housing, Back, 1995
3	43021	1	Cover, Output Shaft, 2-1/4"
4	60033	1	Gear, HD Output, 2-1/4" for 61099
5	37011	1	Cone, Bearing, Output Shaft, 2"
6	44014	1	Cup, Bearing, Output, 2"
7	44009	2	Cup, Bearing, Input, 1-1/4"
8	37072	2	Cone, Bearing, Input, 1-1/4"
9	37033	1	Cone, Bearing, Output Shaft, 2-1/4" I.D.
10	44028	1	Cup, Bearing, Output, 2-1/4"
11	91002	7	Screw, HHCS, 3/8-16 x 1"
12	89805	1	Ring, Snap, Output Shaft
13	20005	8	Bolt, Lug, 9/16-18 x 1.69"
14	82002	8	Nut, 9/16-18, Lug, Wheel
15	97203	8	Bolt, HHCS, 3/8-16 x 1"
16	90208	1	Shaft, Worm, Input, for 61099

Item	NI Part #	Qty	Description
17	902261	1	Shaft, Output, 2-1/4" Std for 61099
18	72008	1	Key, Output Shaft, 2-1/4"
19	91153	2	Seal, Input
20	270XX	1	Cap, Protector, Shaft, Vinyl
21	911113	1	Seal, Output Shaft, 2-1/4"
22	89012	2	Plug, 3/4", Steel, Black, NPT
23	90623	1	Shield, Input, Shaft, Protector
24	911107	2	Seal, Input, Dust, Excluder
25	89820	2	O-Ring, Input Shaft
26	90802	1	Shim, Input Shaft
27	918XX	1	Spacer, 2-1/4" Shaft
28	600XX	1	Gear, HD Output, 2-1/4" for 61020
29	902XX	1	Shaft, Worm, Input for 61020
30	902XX	1	Shaft, Output, 2-1/4" Std for 61020



WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:  
Durst Towable — 61098**



Item	NI Part #	Qty	Description
1	27040	2	Cap, End
2	670XX	1	Housing
3	670XX	1	Housing, Cover
4	600XX	1	Gear, Worm
5	37011	1	Cone, Bearing, Output Shaft, 2"
6	44014	1	Cup, Bearing, Output, 2"
7	44049	2	Cup, Bearing, Input, 1-1/4"
8	17079	2	Cone, Bearing, Input, 1-1/4"
9	37069	1	Cone, Bearing, Output Shaft, 2-1/4"
10	44028	1	Cup, Bearing, Output, 2-1/4"
11	91002	7	Screw, HHCS, 3/8-16 x 1"
12	89805	1	Ring, Snap, Output Shaft
13	200XX	8	Bolt, Lug
14	82002	8	Nut, 9/16-18, Lug, Wheel
15	91002	8	Screw, HHCS, 3/8-16 x 1"
16	90233-1	1	Shaft, Worm, Input
17	902XX	1	Shaft, Output
18	72008	1	Key, Output Shaft
19	91153-1	2	Seal, Input

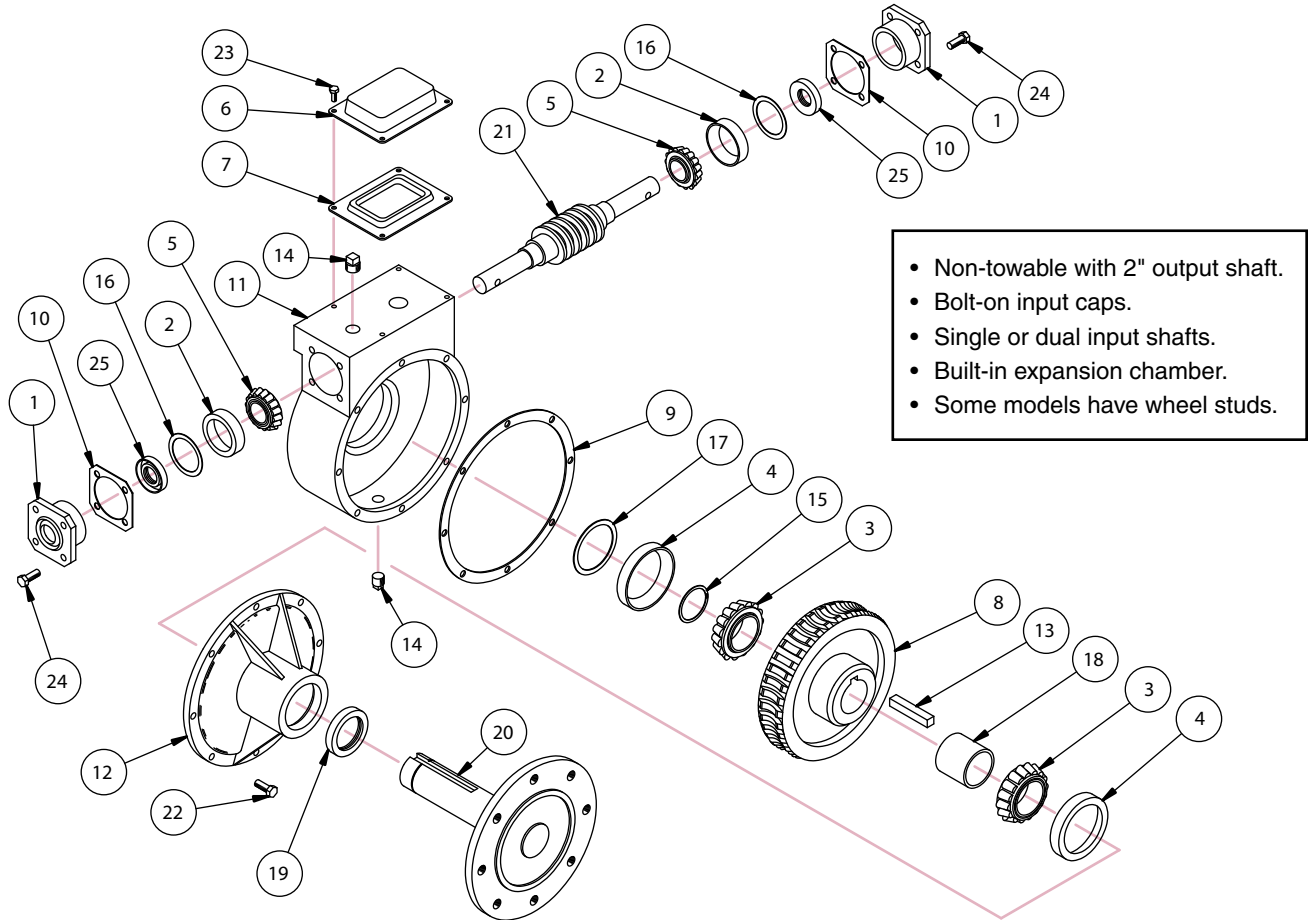
Item	NI Part #	Qty	Description
20	270XX	1	Cap, Protector, Shaft, Vinyl
21	911134	1	Seal, Output Shaft, 2-1/4"
22	89012	2	Plug, 3/4" NPT
23	90623	1	Shield, Input, Shaft, Protector
24	911107	2	Seal, Input, Dust, Excluder
25	89820	2	O-Ring, Input Shaft
26	90810	*	Shim, Input Shaft
27	918XX	1	Spacer
28	200XX	1	Bolt, 1/2-13UNC 1.25 Long
29	97272	1	Washer, Lock, 1/2"
30	918XX	1	Spacer
31	430XX	1	Cover, Dust
32	880XX	2	Plate, Keeper
33	850XX	1	Roll Pin
34	911XX	1	Seal
35	966XX	1	Pressure Relief Fitting
36	680XX	1	Hub, Wheel
37	984XX	1	Zerk, Grease
38	270XX	1	Cap, Plastic Zerk

\* As required.

WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**80-90 Non-Towable**



Note: Some models of gearboxes are obsolete, and some parts are difficult to obtain.

Please contact our sales office for assistance.

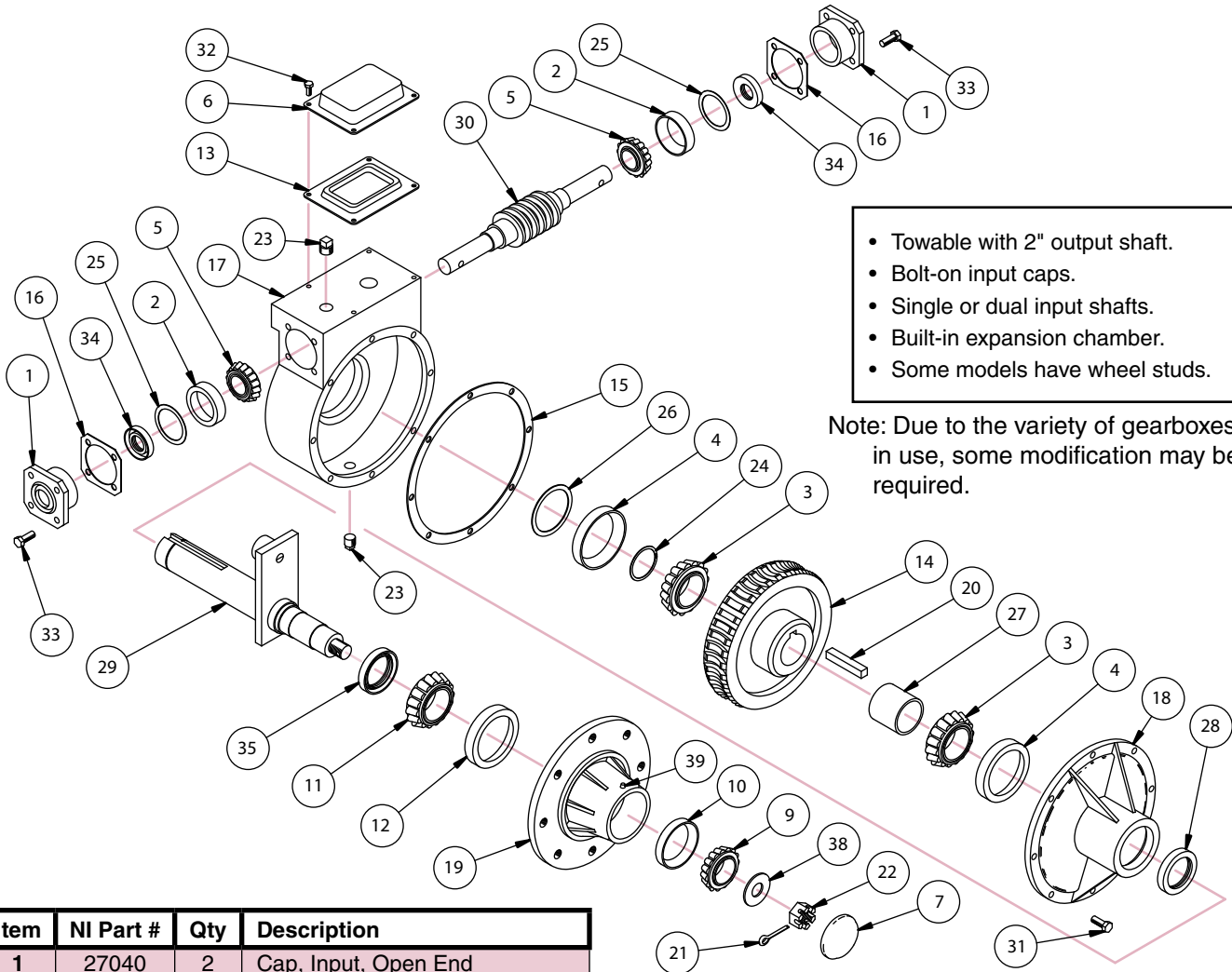
Item	NI Part #	Qty	Description
1	27040	2	Cap, Input, Open End
2	44009	2	Cup, Bearing, Input
3	37011	2	Cone, Bearing, Output
4	44014	2	Cup, Bearing, Output
5	37002	2	Cone, Bearing, Input
6	32001	1	Chamber, Expansion, Flat Top
7	46008	1	Diaphragm, Expansion Chamber
8	60019	1	Gear, Worm, Heavy-Duty
9	57037	1	Gasket, Hub
10	570112	2	Gasket, End Cap
11	67006	1	Housing, Flat Top
12	68002	1	Hub

Item	NI Part #	Qty	Description
13	72001	1	Key
14	89006	2	Plug, 1/2" - 14 NPT
15	89805	1	Snap Ring, Output
16	90802	2	Shim, Input
17	90801	1	Shim, Output
18	91801	1	Spacer, Output
19	91155	1	Seal, Output
20	90211	1	Shaft, Output
21	90208	1	Shaft, Worm, Input
22	91002	8	Screw, Cap, 3/8" - 16 x 1
23	91005	4	Screw, Cap, 1/4" - 20 x 5/8
24	91006	8	Screw, Cap, 3/8" - 16 x 1
25	91153	2	Seal, Input



WHEEL GEARBOX PARTS

NI Replacement Gearbox Parts for: **80-90 Towable**



- Towable with 2" output shaft.
- Bolt-on input caps.
- Single or dual input shafts.
- Built-in expansion chamber.
- Some models have wheel studs.

Note: Due to the variety of gearboxes in use, some modification may be required.

Item	NI Part #	Qty	Description
1	27040	2	Cap, Input, Open End
2	44009	2	Cup, Bearing, Input
3	37011	2	Cone, Bearing, Output
4	44014	2	Cup, Bearing, Output
5	37002	2	Cone, Bearing, Input
6	32001	1	Chamber, Expansion, Flat Top
7	27006	1	Cap, Output, Spindle, Dust
-	27026	1	Plastic Lube Cap ( <i>not shown</i> )
9	37007	1	Cone, Bearing, Outer Hub
10	44026	1	Cup, Bearing, Outer Hub
11	37005	1	Cone, Bearing, Inner Hub
12	44018	1	Cup, Bearing, Inner Hub
13	46008	1	Diaphragm, Expansion Chamber
14	60019	1	Gear, Worm, Heavy-Duty
15	57037	1	Gasket, Hub
16	570112	2	Gasket, End Cap
17	67006	1	Housing, Flat Top
18	68002	1	Hub
19	68003	1	Hub, Towable, Wheel
20	72001	1	Key
21	72002	1	Key, Cotter, 5/32" x 1-1/4"

Item	NI Part #	Qty	Description
22	82001	1	Nut, Castelated, 7/8" - 14
23	89006	2	Plug, 1/2" - 14 NPT
24	89805	1	Snap Ring, Output
25	90802	2	Shim, Input
26	90801	1	Shim, Output
27	91801	1	Spacer, Output
28	91155	1	Seal, Output
29	90232	1	Shaft, Towable Output
30	90208	1	Shaft, Worm, Input
31	91002	8	Screw, Cap, 3/8" - 16 x 1" w/ flare
32	91005	4	Screw, Cap, 1/4" - 20 x 5/8"
33	91002	8	Screw, Cap, 3/8" - 16 x 1"
34	91153	2	Seal, Input
35	91151	1	Seal, Hub
36	45012	1	"No Lube" Tag ( <i>not shown</i> )
37	53004	1	Hydraulic Relief Fitting, Press-In, 3/8" dia. ( <i>not shown</i> )
38	97202	1	Washer, Flat, 7/8"
39	98402	1	Zerk, 1/4-28

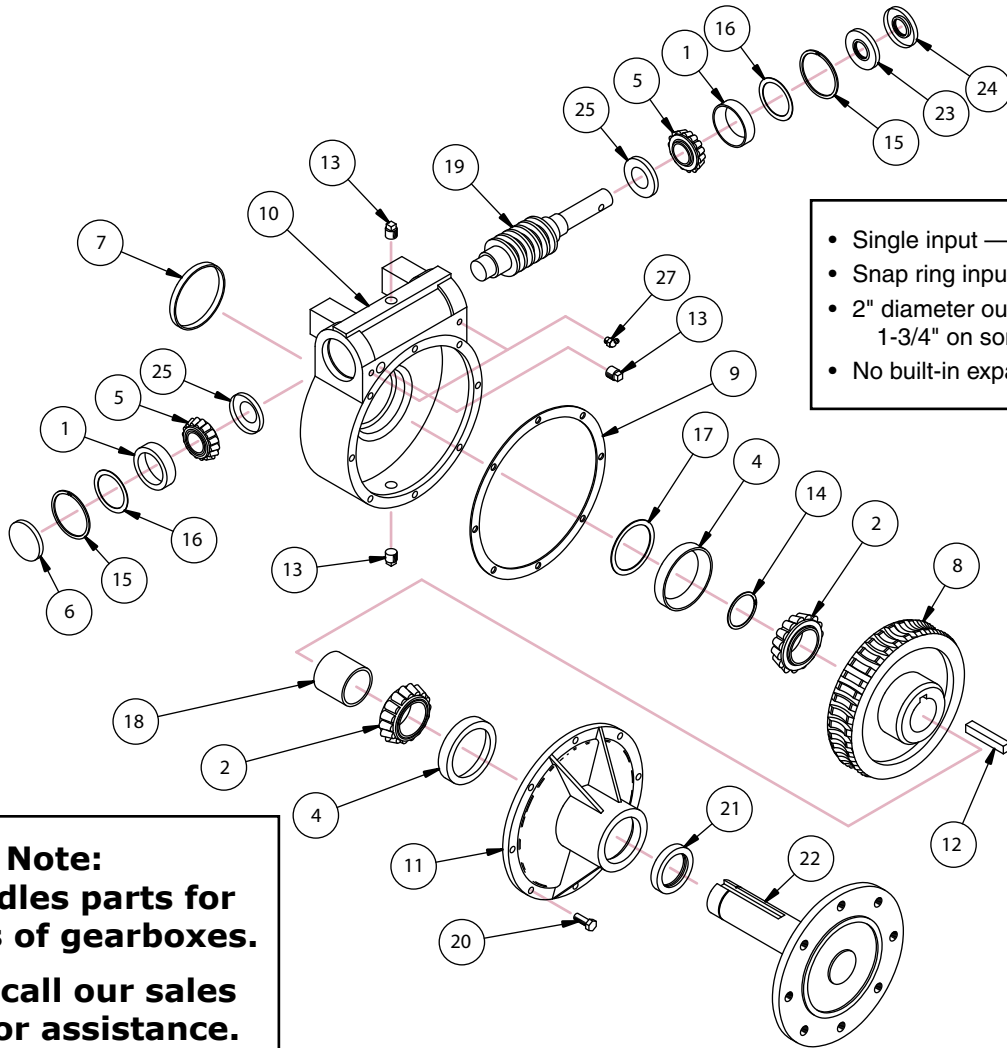




WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**70 Non-Towable**



- Single input — double on some.
- Snap ring input caps.
- 2" diameter output shaft — 1-3/4" on some.
- No built-in expansion chamber.

**Note:**  
**NI handles parts for all types of gearboxes.**  
**Please call our sales office for assistance.**

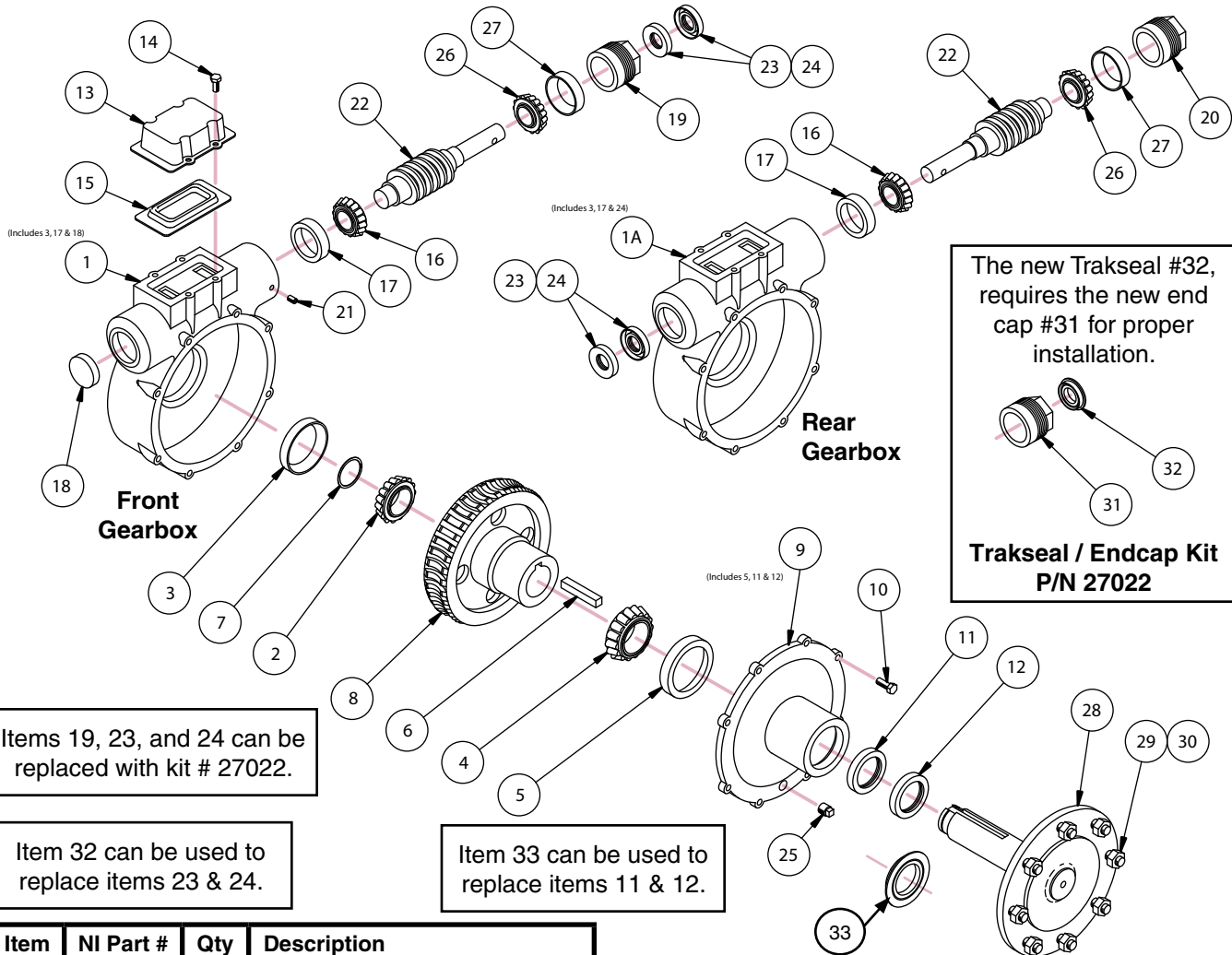
Item	NI Part #	Qty	Description
1	44009	2	Cup, Bearing, Input
2	37011	2	Cone, Bearing, Output
-	27026	2	Cap, Plastic Lube ( <i>not shown</i> )
4	44002	2	Cup, Bearing, Output
5	37002	2	Cone, Bearing, Input
6	27002	1	Cap, Input, Press-In
7	27005	1	Cap, Output, Press-In
8	60019	1	Gear, Worm, Heavy-Duty
9	57037	1	Gasket, Hub
10	67007	1	Housing, Heavy-Duty
11	68005	1	Hub
12	72001	1	Key
13	89006	3	Plug, 1/2-14 NPT
14	89805	1	Ring, Snap, Output

Item	NI Part #	Qty	Description
15	89817	2	Ring, Snap, Input
16	90802	2	Shim, Input
17	90801	1	Shim, Output
18	91801	1	Spacer, Output
19	90208	1	Shaft, Worm, Input
20	91002	8	Screw, Cap, 3/8"
21	91155	1	Seal, Output
22	90233	1	Shaft, Output
23	91148	1	Seal, Inner Input
24	91154	1	Seal, Outer Input
25	90610	1	Shield, Nilos, Input
-	45012	1	"No Lube" Tag ( <i>not shown</i> )
27	98403	2	Zerk, Grease, 45°

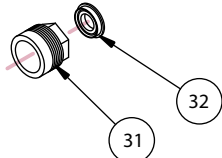


WHEEL GEARBOX PARTS

NI Replacement Gearbox Parts for: **Valley Type**



The new Trakseal #32, requires the new end cap #31 for proper installation.



**Trakseal / Endcap Kit  
P/N 27022**

Items 19, 23, and 24 can be replaced with kit # 27022.

Item 32 can be used to replace items 23 & 24.

Item 33 can be used to replace items 11 & 12.

Item	NI Part #	Qty	Description
1	67035	1	Housing, Front Assembly (Includes Items 3, 17, & 18)
1A	67036	1	Housing, Rear Assembly (Includes Items 3, 17, & 24)
2	37011	1	Cone, Bearing, Inner Output
3	44014	1	Cup, Bearing, Inner Output
4	37033	1	Cone, Bearing, Outer Output
5	44028	1	Cup, Bearing, Outer Output
6	72004	1	Key
7	89879	1	Snap Ring, Inner Output
8	60023	1	Gear, Worm
9	68011	1	Hub (Includes Items 5, 11, & 12)
10	91028	8	Screw, Cap 3/8" x 1-1/4"
11	91157	1	Seal, Inner Output
12	91160	1	Seal, Outer Output
13	32004	1	Chamber, Expansion
14	91029	4	Screw, Cap, 5/16" x 1"
15	46005	1	Diaphragm, Expansion Chamber
16	37019	1	Cone, Bearing, Input
17	44010	1	Cup, Bearing, Input
18	27041	1	Cap, Input, Press-in

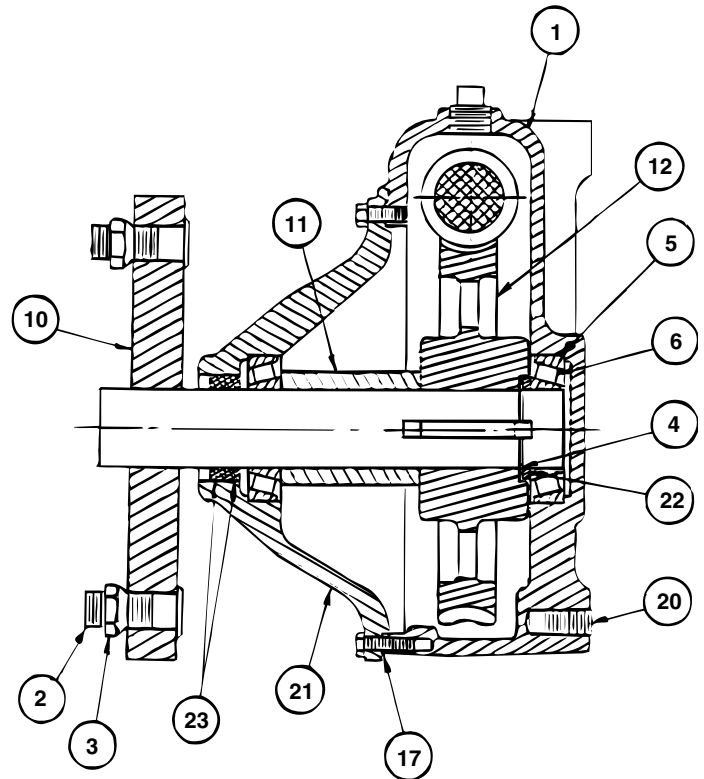
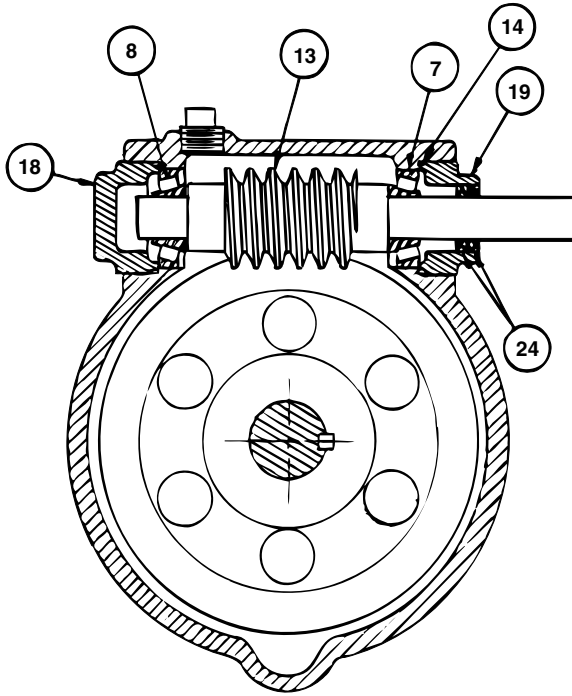
Item	NI Part #	Qty	Description
19	27022	1	Cap, Input, Open End
20	27023	1	Cap, Input, Closed End
21	91030	1	Screw, Set, 5/16" x 1/2"
22	90236	1	Shaft, Worm, Input
23	91108	1	Seal, Outer, Input
24	91108	2	Seal, Inner, Input
25	89007	1	Plug, 1/2" NPT
26	37021	1	Cone, Bearing, Input
27	44022	1	Cup, Bearing, Input
28	90281	1	Shaft, Output
29	20039	8	Bolt, Stud, Non-Towable, 9/16"
-	20006	8	Bolt, Stud, Towable, 5/8" Press-In
30	77008	8	Nut, Lug, Non-Towable, 9/16"
-	77009	8	Nut, Lug, Towable, 5/8"
31	----	1	Cap, Input, Open End
32	911130	1	Seal, Input, Trakseal
33	911133	1	Seal, Output, Trakseal
	27022		Kit, Trakseal and End Cap (Items 31 & 32)

WHEEL GEARBOX PARTS

**NI Replacement Gearbox Parts for:**

**Lockwood Non-Towable**

Left Hand / Right Hand, 5" and 6"



**Note:**  
Parts subject to availability.

Item	NI Part Number		Qty	Description
	5"	6"#		
1	----	----	1	Housing
2	20005	20005	8	Bolt, Lug, Long
3	82002	82002	8	Nut, Lug, 9/16"
4	----	----	1	Snap Ring, Output
5	44019	44023	2	Cup, Bearing, Output
6	37025	37031	2	Cone, Bearing, Output
7	44009	44009	2	Cup, Bearing, Input
8	37026	37026	2	Cone, Bearing, Input
-	----	----	2	Ball, Lead, 1/4" (not shown)
10	----	----	1	Shaft, Output
11	----	----	1	Spacer
12	60030	60024	1	Gear, Worm

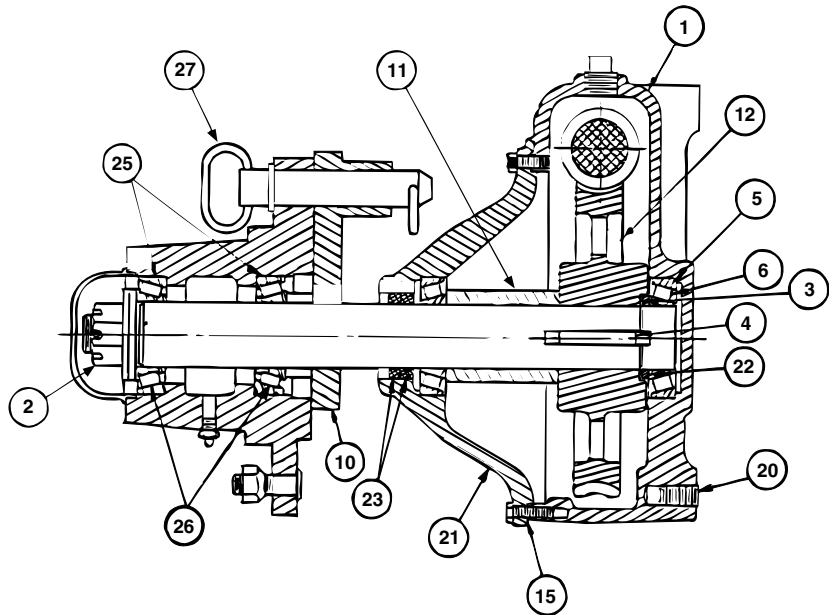
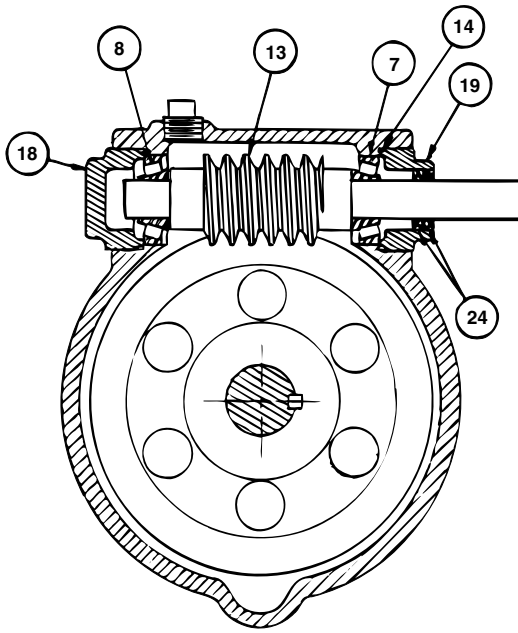
Item	NI Part Number		Qty	Description
	5"	6"		
13	----	----	1	Shaft, Worm, Input
14	89828	89828	1	O-Ring
-	----	----	2	Gasket, Copper (not shown)
-	----	----	1	Gasket, Copper, 1/2"
17	570126	570127	1	Gasket, Cover
18	----	----	1	Cap, Input, Closed End
19	27016	27016	1	Cap, Input, Open End
20	----	----	4	Plug, Cap
21	----	----	1	Hub
22	97206	----	1	Washer
23	91122	91123	2	Seal, Output
24	91121	91121	2	Seal, Input



WHEEL GEARBOX PARTS

NI Replacement Gearbox Parts for:

**Lockwood Towable**  
Left Hand / Right Hand, 5" and 6"



**Note:**  
*Parts subject to availability.*

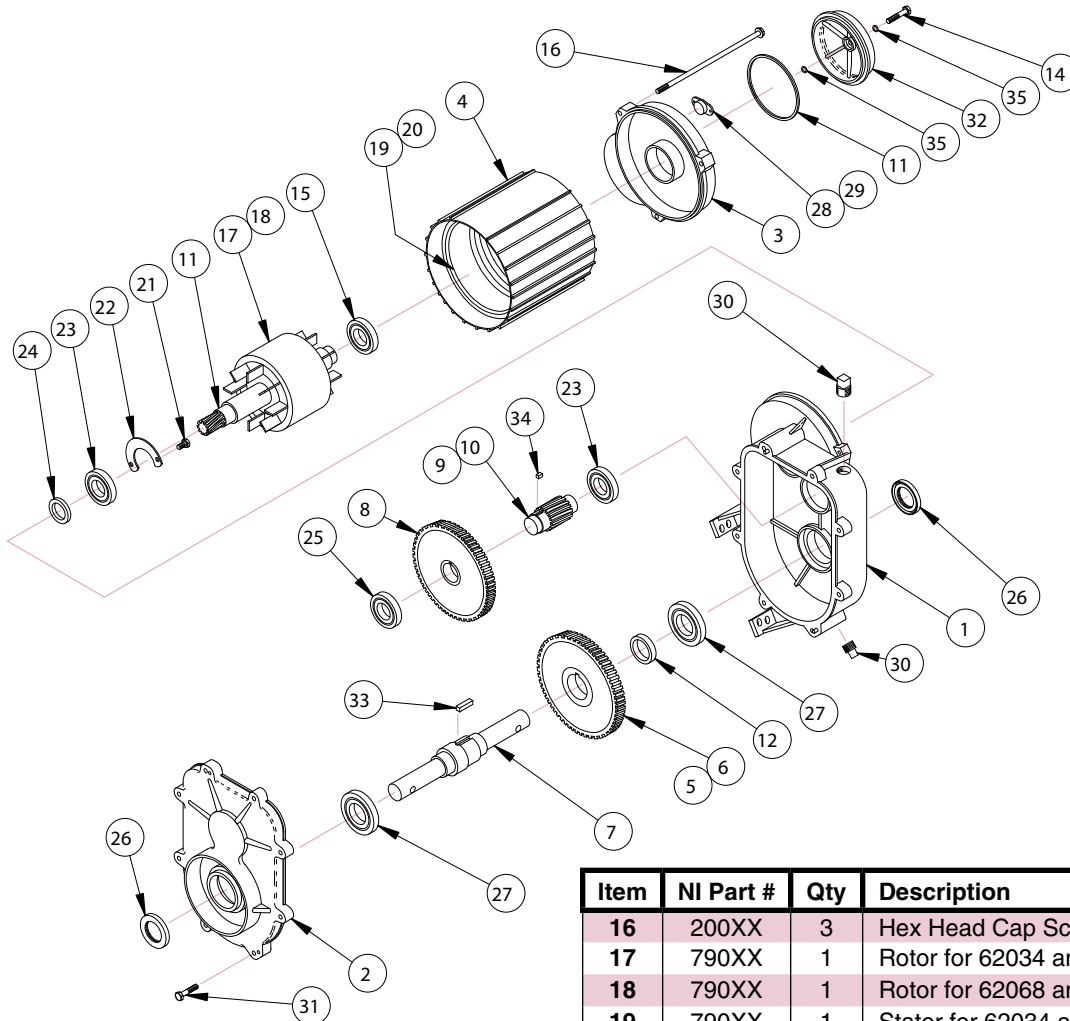
Item	NI Part Number		Qty	Description
	5"	6"		
1	----	----	1	Housing
2	----	----	1	Nut, Slotted Hex, 1"
3	89830	----	1	Snap Ring, Output
4	----	----	1	Key, sq. 0.500 x 2.188"
5	44019	44023	2	Cup, Bearing, Output
6	37025	37031	2	Cone, Bearing, Output
7	44009	44009	2	Cup, Bearing, Input
8	37026	37026	2	Cone, Bearing, Input
-	----	----	1	Ball, Lead, 1/4" <i>(not shown)</i>
10	----	90244	1	Shaft, Output
11	----	----	1	Spacer
12	60030	60024	1	Gear, Worm
13	90235	90234	1	Shaft, Worm, Input
14	89828	89828	2	O-Ring

Item	NI Part Number		Qty	Description
	5"	6"		
15	----	----	1	Gasket, Copper
-	----	----	1	Gasket, Copper, 1/2"
-	570126	570127	1	Gasket, Cover <i>(not shown)</i>
18	----	----	1	Cap, Input, Closed End
19	27017	27017	1	Cap, Input, Open End
20	----	----	4	Plug, Cap
21	----	----	1	Hub
22	97206		1	Washer
23	----	91123	2	Seal, Output
24	91121	91121	2	Seal, Input
25	44019	44028	2	Cup, Bearing, Output, Hub
26	37025	37031	2	Cone, Bearing, Output, Hub
27	85047	85047	2	Pin, Tow, 1" x 3-7/8"

*CENTER DRIVE PARTS*

**NI Replacement Parts for:**

**Durst Helical Center Drive — 62034, 62043, 62068, 62086**



Item	NI Part #	Qty	Description
1	670XX	1	Housing, Main
2	430XX	1	Cover, Reducer
3	430XX	1	Cover, Motor
4	670XX	1	Can, Motor
5	600XX	1	Gear, Output, 73-Tooth for 62068 and 62034
6	600XX	1	Gear, Output, 71-Tooth for 62043 and 62086
7	902XX	1	Shaft, Output
8	600XX	1	Gear, 1st Intermediate, 86-Tooth
9	902XX	1	Pinion, Output, 11-Tooth for 62034 and 62068
10	902XX	1	Pinion, Output, 13-Tooth for 62043 and 62086
11	600XX	1	Shaft / Pinion Rotor, 11-Tooth
12	918XX	1	Spacer, Output
13	898XX	1	O-Ring, Seal
14	200XX	1	Hex Head Cap Screw
15	170XX	1	Bearing, Ball, Cover, Motor

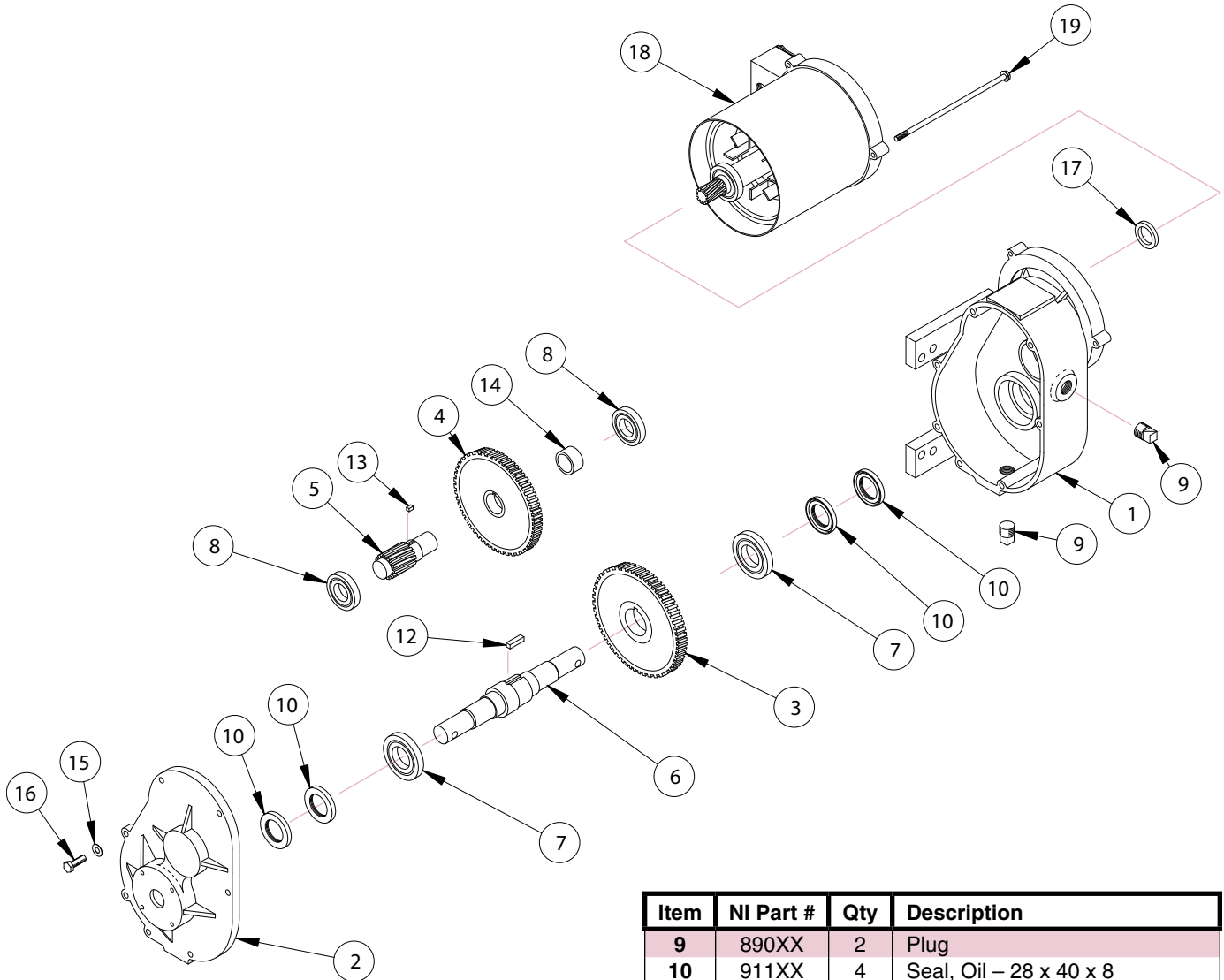
Item	NI Part #	Qty	Description
16	200XX	3	Hex Head Cap Screw
17	790XX	1	Rotor for 62034 and 62043
18	790XX	1	Rotor for 62068 and 62086
19	790XX	1	Stator for 62034 and 62043
20	790XX	1	Stator for 62068 and 62086
21	910XX	1	Hex Head Cap Screw, Keeper Plate
22	880XX	1	Plate, Keeper
23	170XX	2	Bearing, Ball
24	911XX	1	Seal
25	170XX	1	Bearing, Ball
26	911XX	2	Seal, Output
27	170XX	2	Bearing, Ball, Output
28	896XX	1	Thermal Protector for 62034 and 62043
29	896XX	1	Thermal Protector for 62068 and 62086
30	890XX	2	Pipe Plug, Sq. Hd., Fill / Drain
31	910XX	8	Hex Head Cap Screw
32	430XX	1	Cover, Connector Box
33	720XX	1	Key, Output Shaft
34	720XX	1	Key, Intermediate Shaft
35	898XX	2	O-Ring, Cover Screw



CENTER DRIVE PARTS

NI Replacement Parts for:

**Omni Helical Center Drive — 62060, 62040, 62030, 62020**



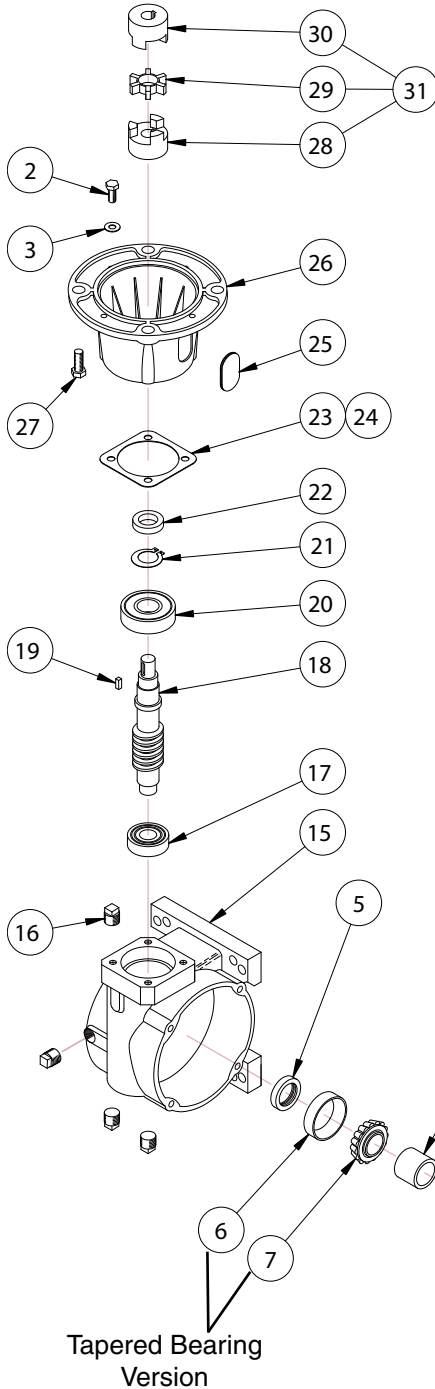
Item	NI Part #	Qty	Description
1	670XX	1	Housing
2	430XX	1	Cover
3	600XX	1	Gear, Low Speed, 65-Tooth for 62030
	600XX	1	Gear, Low Speed, 69-Tooth for 62040, 62020, and 62060
4	600XX	1	Gear, High Speed, 71-Tooth
5	902XX	1	Pinion, Low Speed, 16-Tooth for 62030
	902XX	1	Pinion, Low Speed, 12-Tooth for 62040, 62020, and 62060
6	902XX	1	Shaft, Low Speed
7	170XX	2	Bearing, Ball
8	170XX	2	Bearing, Ball

Item	NI Part #	Qty	Description
9	890XX	2	Plug
10	911XX	4	Seal, Oil – 28 x 40 x 8
11	850XX	2	Pin, Dowel – 5 x 20 (not illustrated)
12	720XX	1	Key – 8 x 7 x 23.5
13	720XX	1	Key – 6 x 6 x 12
14	918XX	1	Spacer
15	972XX	7	Flatwasher – M8
16	200XX	5	Bolt – MI x 1.25 x 30 (Gr. 8.8)
17	911XX	1	Seal, Oil – 25 x 35 x 7
18	790XX	1	Motor, 1 hp, 1800 RPM for 62030
	790XX	1	Motor, 3/4 hp, 1800 RPM for 62040
	790XX	1	Motor, 1-1/2 hp, 3600 RPM for 62020
	790XX	1	Motor, 1/2 hp, 1150 RPM for 62060
19	200XX	3	Hex Head Cap Screw

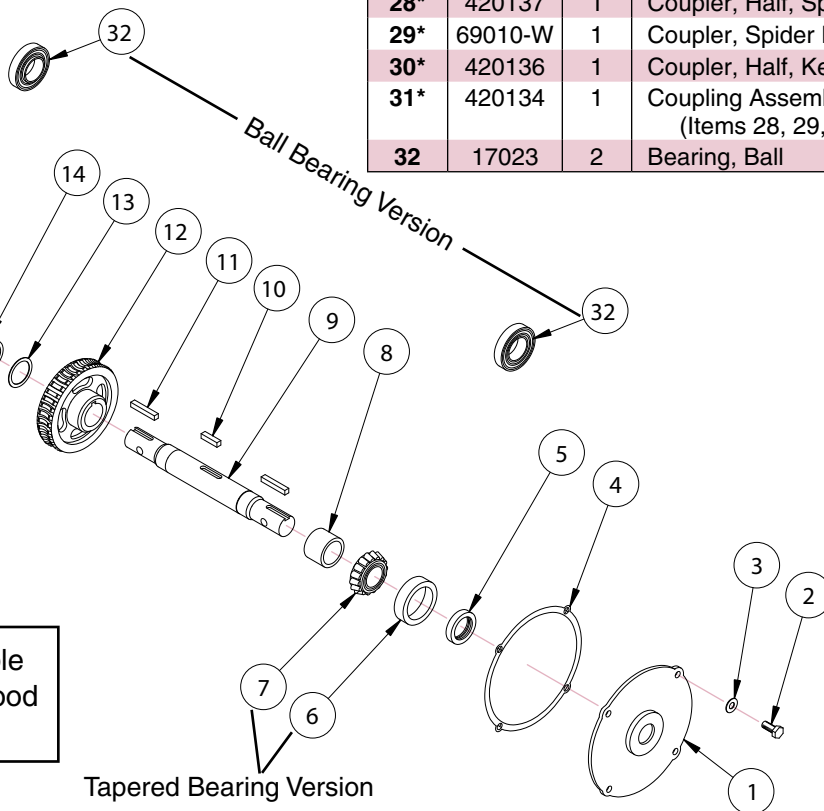
CENTER DRIVE PARTS

**NI Replacement Parts for:**

**NI C-Face Gearbox**



Item	NI Part #	Qty	Description
1	880XX	1	Plate, Side
2	910XX	8	Screw, Cap, 5/16" x 7/8"
3	972XX	8	Washer, Lock, 5/16"
4	570XX	1	Gasket
5	91146	2	Seal, Output Shaft
6	44024	2	Cup, Bearing
7	37012	2	Cone, Bearing
8	918XX	1	Spacer
9	902XX	1	Shaft, Output
10	720XX	1	Key, Output Shaft
11	720XX	2	Key, Output Shaft
12	600XX	1	Gear, Worm
13	898XX	1	Ring, Crush
14	918XX	1	Spacer
15	670XX	1	Housing, Gear
16	890XX	4	Plug, Oil, 3/8" NPT
17	17025	1	Bearing, Ball
18	902XX	1	Shaft, Worm, Splined, 50:1
	902XX	1	Shaft, Worm, Splined, 60:1
19	720XX	1	Key, Input Shaft
20	17006	1	Bearing, Ball
21	898XX	1	Ring, Retainer
22	91145	1	Seal, Input Shaft
23	570XX	1	Gasket
24	570XX	1	Gasket
25	890XX	1	Plug, Access Hole
26	11010	1	Adapter
27	910XX	4	Screw, Cap, 3/8" x 1"
28*	420137	1	Coupler, Half, Splined
29*	69010-W	1	Coupler, Spider Insert
30*	420136	1	Coupler, Half, Keyed
31*	420134	1	Coupling Assembly, Kit (Items 28, 29, & 30)
32	17023	2	Bearing, Ball



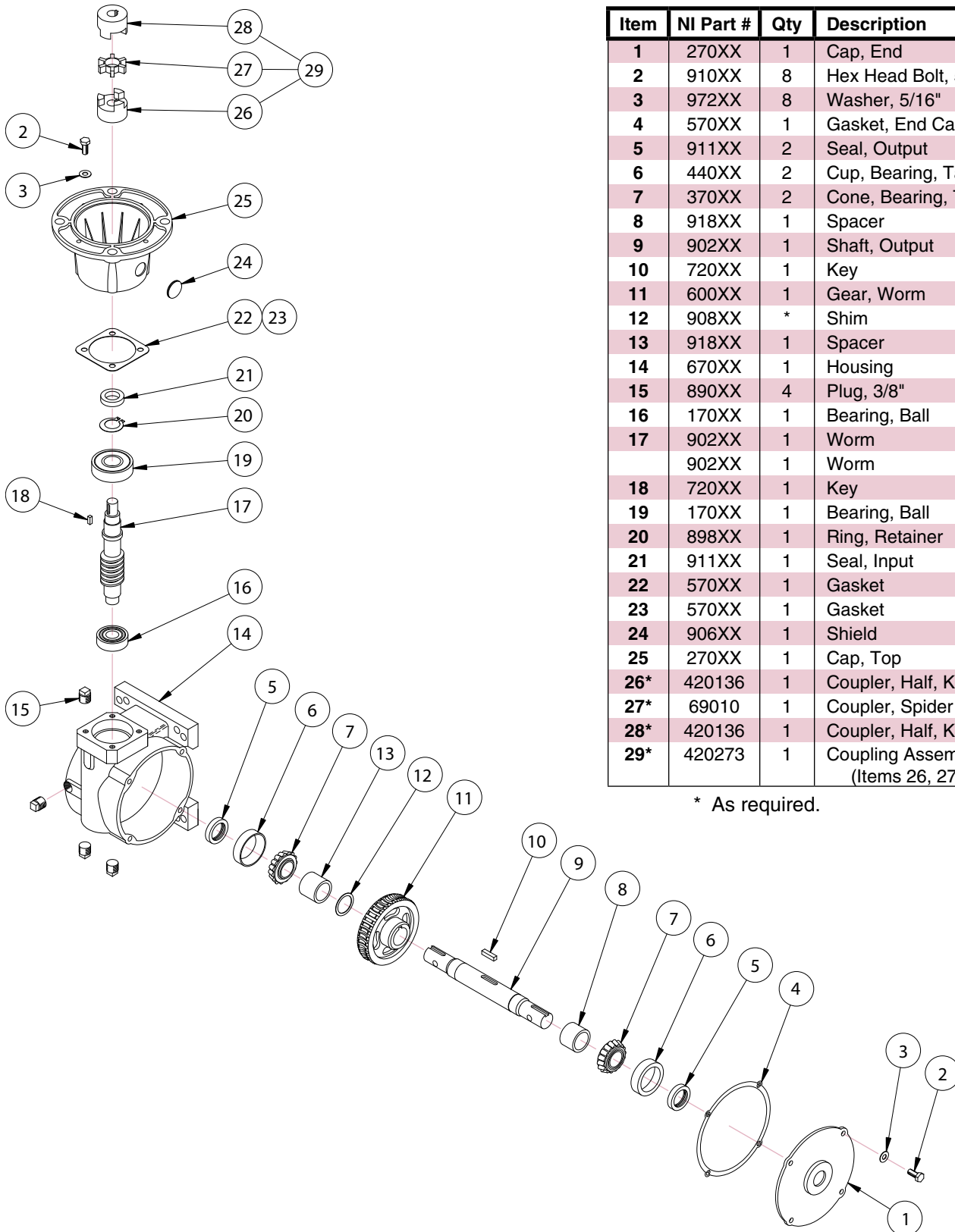
**NOTE:** Parts are interchangeable with Dresser and Lockwood Type units.



CENTER DRIVE PARTS

NI Replacement Parts for:

**NI Universal Gearbox — 610550 & 610530**



Item	NI Part #	Qty	Description
1	270XX	1	Cap, End
2	910XX	8	Hex Head Bolt, 5/16"
3	972XX	8	Washer, 5/16"
4	570XX	1	Gasket, End Cap
5	911XX	2	Seal, Output
6	440XX	2	Cup, Bearing, Tapered
7	370XX	2	Cone, Bearing, Tapered
8	918XX	1	Spacer
9	902XX	1	Shaft, Output
10	720XX	1	Key
11	600XX	1	Gear, Worm
12	908XX	*	Shim
13	918XX	1	Spacer
14	670XX	1	Housing
15	890XX	4	Plug, 3/8"
16	170XX	1	Bearing, Ball
17	902XX	1	Worm
18	902XX	1	Worm
19	720XX	1	Key
20	170XX	1	Bearing, Ball
21	898XX	1	Ring, Retainer
22	911XX	1	Seal, Input
23	570XX	1	Gasket
24	570XX	1	Gasket
25	906XX	1	Shield
26*	270XX	1	Cap, Top
27*	420136	1	Coupler, Half, Keyed
28*	69010	1	Coupler, Spider Insert
29*	420136	1	Coupler, Half, Keyed
29*	420273	1	Coupling Assembly, Kit (Items 26, 27, & 28)

\* As required.



CENTER DRIVE PARTS

**NI Replacement Parts for:**

**US Type Gearbox**

**61009 (58:1)**

**61006 (47:1)**

**61012 (31:1)**

Item	NI Part #	Qty	Description
1	42028	1	Coupler, Splined
2	27020	1	Retainer, Top, Bearing
3	57008	1	Gasket, Input
4	91176	2	Seal, Input
5	898XX	1	Ring, Retaining
6	17024	1	Bearing, Ball, Upper Input
7	90213	1	Shaft, Worm, Splined, 58:1
-	90217	1	Shaft, Worm, Splined, 47:1
-	90202	1	Shaft, Worm, Splined, 31:1
-	90219	1	Shaft, Worm, Tapered, 58:1
-	90214	1	Shaft, Worm, Tapered, 47:1
-	90201	1	Shaft, Worm, Tapered, 31:1
8	17011	1	Bearing, Ball, Lower Input
9	670XX	1	Housing
10*	91138	4	Seal, Output
11	908XX	4	Shim
12	44017	2	Cup Bearing, Output
13	37027	2	Cone Bearing, Output
14	90238	1	Shaft, Output
15	60012	1	Gear, Worm, 58:1
-	60001	1	Gear, Worm, 47:1
-	60005	1	Gear, Worm, 31:1
16*	57015	1	Gasket, Side
17*	27001	1	Cover
18	910XX	4	Hex Head Cap Screw
19	890XX	4	Plug, Hex Socket, NPT
20	17026	1	Bearing, Ball, Motor
21	570111	1	Gasket, Outlet, Box
22*	27004	1	Cap, Side & Seal Assembly (Items 10, 16, 17)

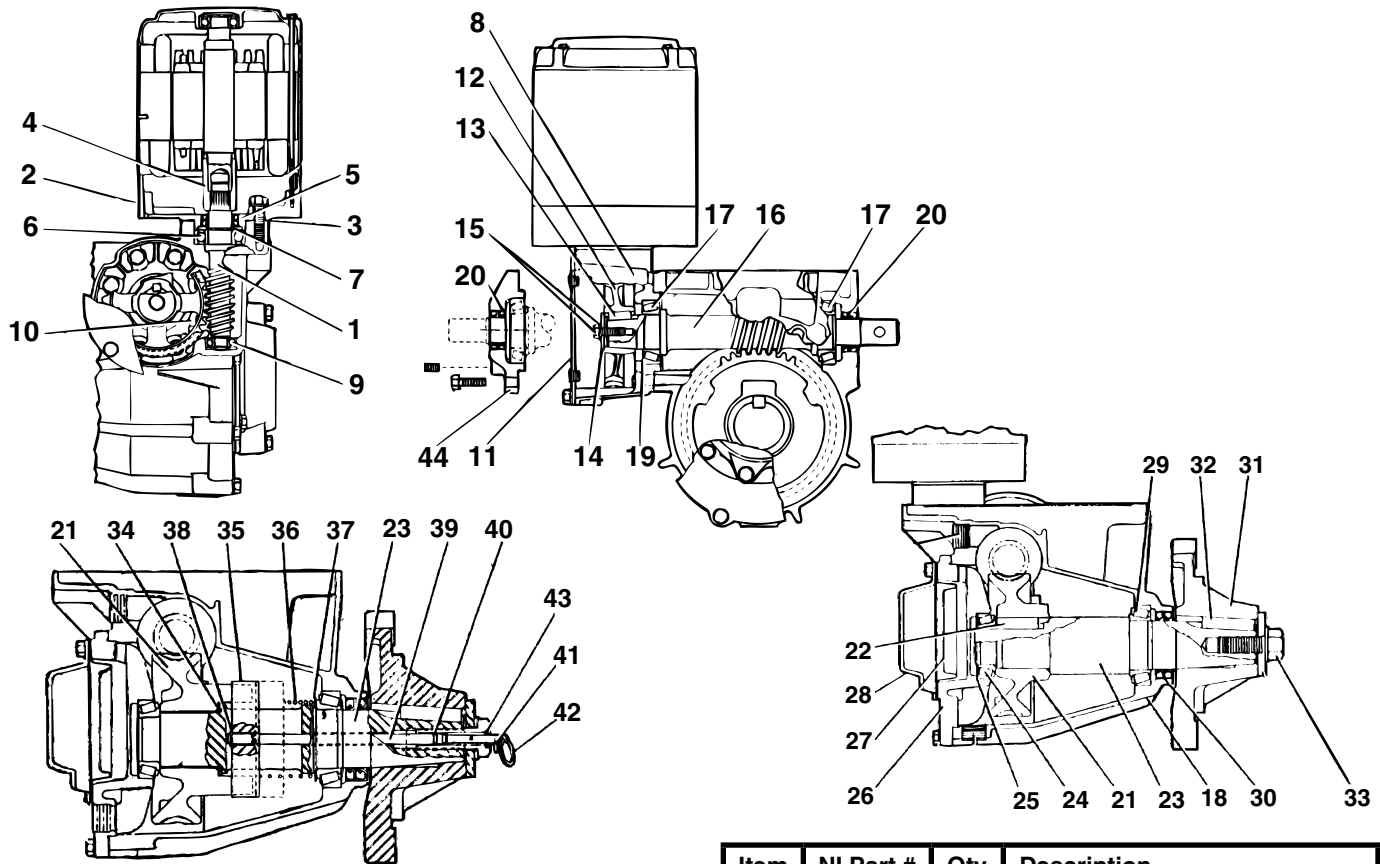
**For Motor**



CENTER DRIVE PARTS

NI Replacement Parts for:

**US 621 Gearmotor, Towable & Non-Towable**



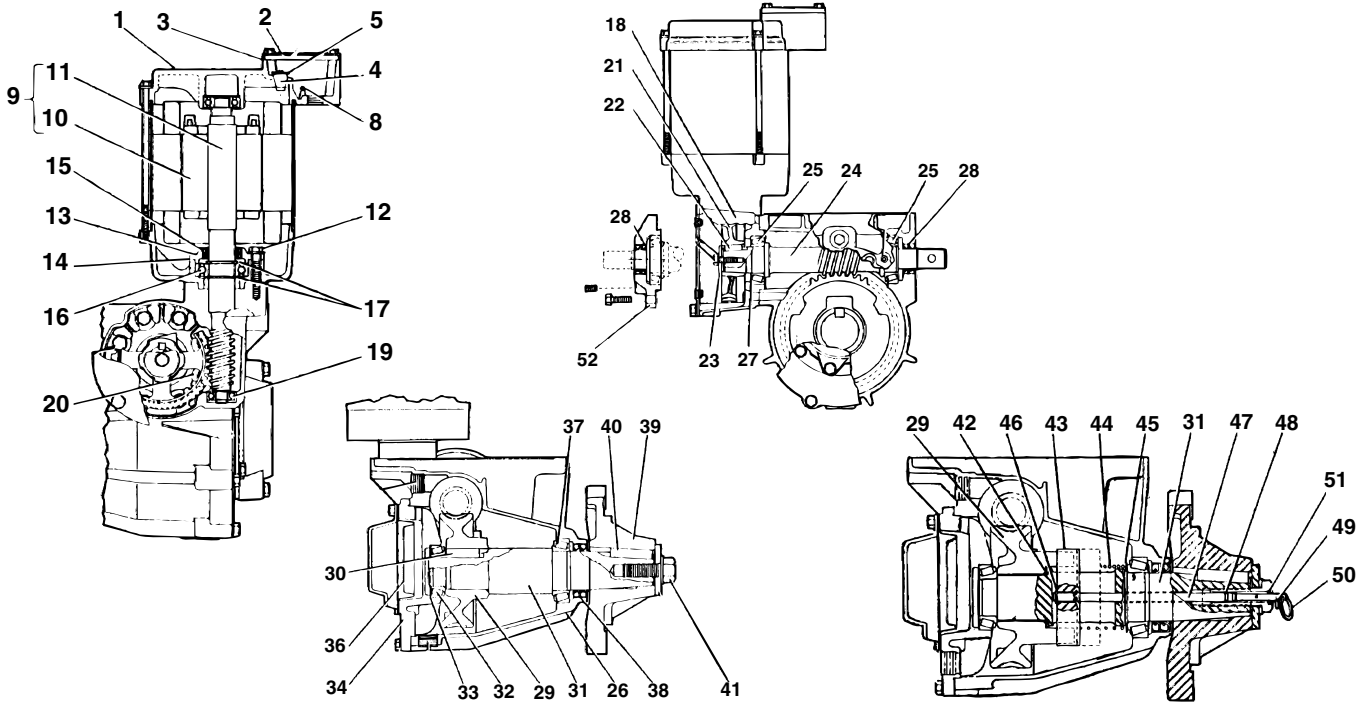
Item	NI Part #	Qty	Description
1	90213	1	Shaft, Worm, Primary, 58:1
2	11009	1	Bracket, Adapter
3	908XX		Shim
4	425XX	1	Coupling, Splined
5	91176	2	Seal, Oil
6	17024	1	Bearing, Ball
7	89803	2	Ring, Snap
8	670XX	1	Case, Gear
9	17011	1	Bearing, Ball
10	880XX	1	Plate, Filler
11	430XX	1	Cover, Special
12	60007	1	Gear, Worm, Primary, 58:1
13	720XX	1	Key, Square
14	88008	1	Plate, Clamping
15	910XX		Cap Screw w/ Lock Washers
16	90220	1	Shaft, Worm, Final: Slave
	90221	1	Shaft, Worm, Final: Motorized
17	37009	1	Cone, Bearing, Tapered Roller
	44005	1	Cup, Bearing, Tapered Roller
18	670XX		Housing, Gear Case
19	908XX		Shim
20	91138	2	Seal, Oil, Output
21	60011	1	Gear, Worm, Final: Non-Towable
	60009	1	Gear, Worm, Final: Towable
22	720XX	2	Key, Square, Last Disconnect

Item	NI Part #	Qty	Description
23	90216	1	Shaft, Output: Non-Towable
	90225	1	Shaft, Output: Towable
24	37001	1	Cone, Bearing, Roller
	44006	1	Cup, Bearing, Roller
25	908XX	1	Shim
26	67002	1	Housing, Bearing
27	46003	1	Diaphragm, Expansion Chamber
	46005	1	Diaphragm only
28	430XX	1	Cover, Special
29	37004	1	Cone, Bearing, Roller
	44007	1	Cup, Bearing, Roller
30	91137	1	Seal, Oil
31	68004	1	Hub, Wheel
32	720XX	1	Key, Square
33	880XX	1	Plate, Clamping
34	908XX		Shim
35	46502	1	Disconnect Bar
36	926XX	1	Spring
37	926XX	1	Spring, Retainer
38	898XX	1	Ring, Snap
39	90207	1	Shaft, Disconnect
40	898XX	2	O-Ring
41	850XX	1	Pin, Special
42	898XX	1	Ring, Special
43	91104	1	Seal, Oil
44	270XX	1	Cap, Bearing (GWC)

CENTER DRIVE PARTS

**NI Replacement Parts for:**

**US 622 Gearmotor, Towable & Non-Towable**



Item	NI Part #	Qty	Description
1	228XX	1	Bracket, Short End
2	228XX	1	Bracket, Cover
3	570XX	1	Gasket
4	635XX	1	Grommet
5	880XX	1	Plate, Clamping
6	972XX	1	Washer, Spring
7	17026	1	Bearing, Ball
8	790XX	1	Stator, Wound Assembly
9	790XX	1	Rotor, Assembly (includes 10 & 11)
10	790XX	1	Rotor Core
11	902XX	1	Shaft, Worm, Primary
12	11001	1	Adapter Bracket
13	17031	1	Bearing Cap
14	570XX	1	Gasket
15	91176	2	Seal, Oil
16	17024	1	Bearing, Ball
17	89803	1	Ring, Snap
18	670XX	1	Case, Gear
19	17011	1	Bearing, Ball
20	880XX	1	Plate, Filler
21	60006	1	Gear, Worm, Primary 47:1
	60007	1	Gear, Worm, Primary: 58:1
22	720XX	1	Key, Square
23	88008	1	Plate, Clamping
24	90220	1	Shaft, Worm, Final: Slave
	90228	1	Shaft, Worm, Final: Motorized
25	37009	2	Cone, Bearing, Roller
	44005	2	Cup, Bearing, Roller
26	670XX	1	Housing, Gear Case

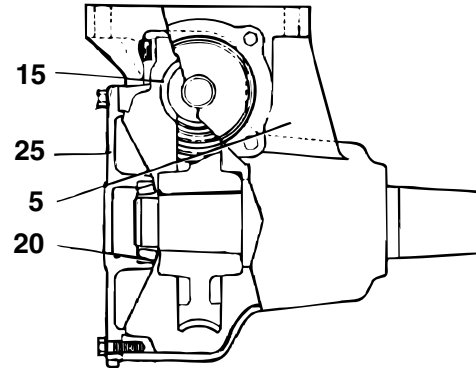
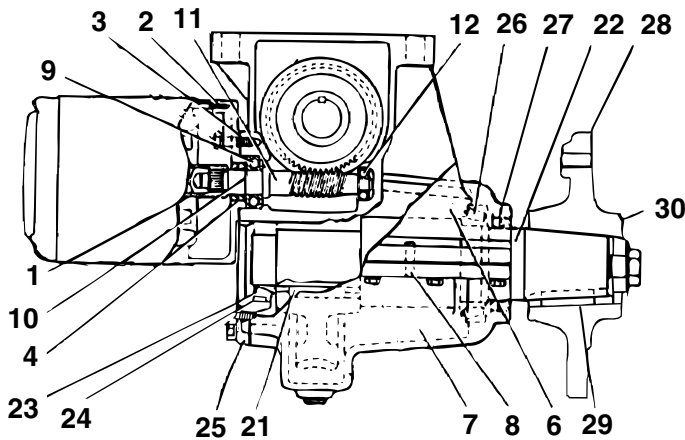
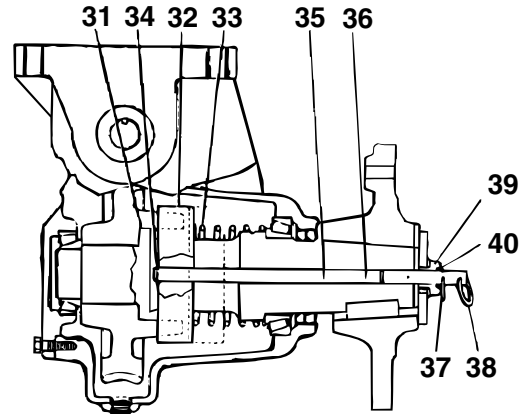
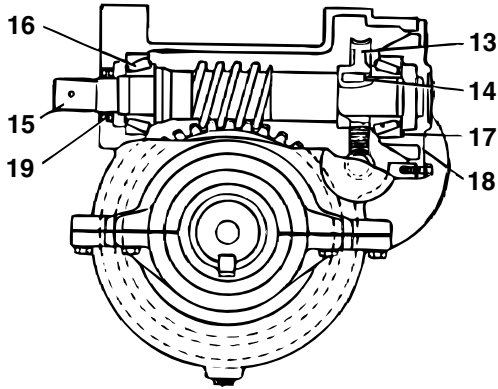
Item	NI Part#	Qty	Description
27	908XX	1	Shim
28	91138	2	Seal, Oil
29	60008	1	Gear, Worm, Final: Non-Towable
	60003	1	Gear, Worm, Final: Towable
30	720XX	2	Key, Square, Last Disconnect
31	90212	1	Shaft, Output: Non-Towable
	90225	1	Shaft, Output: Towable
32	37009	1	Cone, Bearing, Roller
	44006	1	Cup, Bearing, Roller
33	908XX		Shim
34	67002	1	Housing, Bearing
35	46003	1	Diaphragm, Expansion Chamber
36	430XX	1	Cover, Special
37	37004	1	Cone, Roller Bearing
	44007	1	Cup, Roller Bearing
38	91137	2	Seal, Oil
39	68004	1	Hub, Wheel
40	720XX	1	Key, Square
41	880XX	1	Plate, Clamping
42	908XX	1	Shim
43	46502	1	Disconnect
44	926XX	1	Spring
45	926XX	1	Spring, Retainer
46	898XX	1	Ring, Snap
47	90207	1	Shaft, Disconnect
48	898XX	2	O-Ring
49	850XX	1	Pin, Special
50	898XX	1	Ring, Special
51	91104	1	Seal, Oil
52	270XX	1	Cap, Bearing (GWC)



CENTER DRIVE PARTS

NI Replacement Parts for:

**US 632 Gearmotor, Towable & Non-Towable**

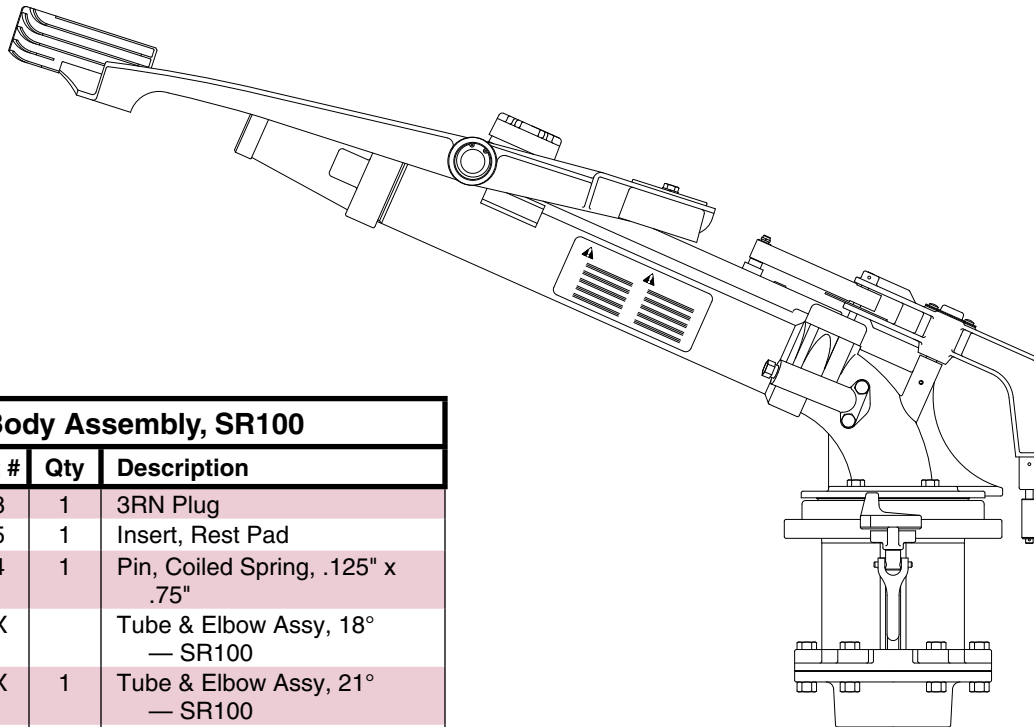


Item	NI Part #	Qty	Description
1	42028	1	Coupling, Splined-on
2	11009	1	Adapter, Bracket, US
3	908XX		Shim
4	91176	2	Seal, Oil, Input, US
5	670XX	1	Housing, Gear Case: GWC
	670XX	1	GWD (including Items 8 & 11)
6	670XX	1	Housing, Gear Case, Upper
7	670XX	1	Housing, Gear Case, Lower
8	850XX	1	Pin, Dowel
9	17024	1	Bearing, Ball
10	89803	1	Ring, Snap, 632
11	90217	1	Shaft, Worm, Primary: 47:1
	90213	1	Shaft, Worm, Primary: 58:1
12	17011	1	Bearing, Ball
13	60010	1	Gear, Worm, Primary: 47:1
	60014	1	Gear, Worm, Primary: 58:1
14	720XX	1	Key, Square
15	90206	1	Shaft, Worm, Final: Slave
	90218	1	Shaft, Worm, Final: Motorized
16	37030	2	Cone, Bearing, Roller
	44022	2	Cup, Bearing, Roller
17	908XX		Shim
18	67003	1	Housing, Bearing, 632
19	91136	2	Seal, Oil

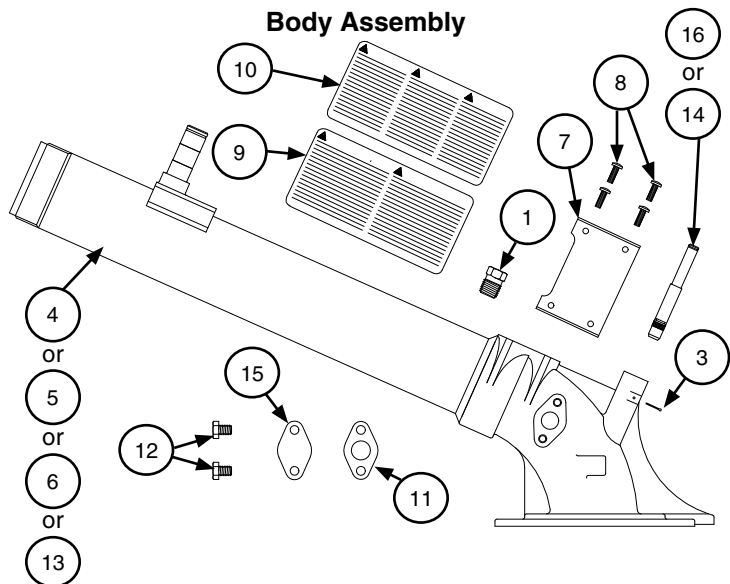
Item	NI Part #	Qty	Description
20	60013	1	Gear, Worm, Final: Non-Towable
	60004	1	Gear, Worm, Final: Towable
21	720XX		Key, 1 Square less disconnect
22	90215	1	Shaft, Output: Non-Towable
	90210	1	Shaft, Output: Towable
23	37006	1	Cone, Bearing, Roller
	44025	1	Cup, Bearing, Roller
24	908XX	1	Shim
25	670XX	1	Housing, Bearing
26	37023	1	Cone, Bearing, Roller
	44013	1	Cup, Bearing, Roller
27	91140	2	Seal, Oil
28	68001	1	Hub, Wheel, Output, Cast
29	720XX	1	Key, Square
30	880XX	1	Plate, Clamping
31	908XX		Shim
32	899XX	1	Disconnect Bar
33	926XX	1	Spring
34	898XX	1	Ring, Snap
35	902XX	1	Shaft, Disconnect
36	898XX	2	O-Ring
37	850XX	1	Pin, Special
38	898XX	1	Ring, Special
39	200XX	1	Bolt, Hollow
40	91104	1	Seal, Oil

**SPRINKLER PARTS**

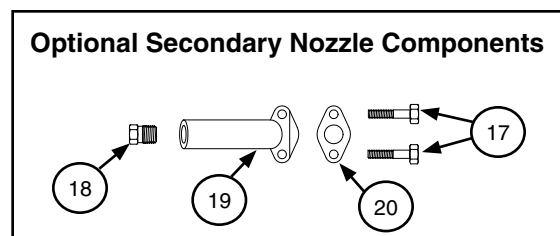
**Nelson SR100 End Gun Parts — 64001, 64009**



<b>Body Assembly, SR100</b>			
<b>Item</b>	<b>NI Part #</b>	<b>Qty</b>	<b>Description</b>
1	89008	1	3RN Plug
2	69005	1	Insert, Rest Pad
3	85034	1	Pin, Coiled Spring, .125" x .75"
4	145XX		Tube & Elbow Assy, 18° — SR100
5	145XX	1	Tube & Elbow Assy, 21° — SR100
6	145XX	1	Tube & Elbow Assy, 24° — SR100
7	93210	1	Stop, Shifter — SR100
8	91014	4	Screw, #8-32 x .375" Self-Tapping Pan Hd.
9	14586	1	Label, Warning — English, Spanish
10	14587	1	Label, Warning — German, French, Swedish
11	57022	1	Gasket
12	91022	2	Screw, 1/4-20 x .375" Hex Hd. Cap
13	145XX	1	Tube & Elbow Assy, 43° — SR100
14	902XX	1	Shaft, Trip Lever — SR100 43°
15	880XX	1	Cover Plate, Sec. Elbow Port
16	902XX	1	Shaft, Trip Lever — SR100 18°, 21°, 24°
	14580	1	Body Assembly — SR100 18°
	14581	1	Body Assembly — SR100 21°
	14582	1	Body Assembly — SR100 24°
	145XX	1	Body Assembly — SR100 43°



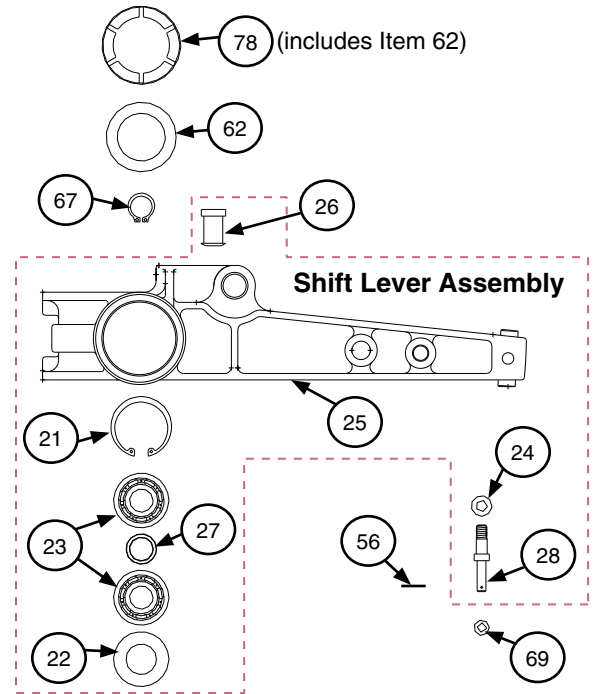
<b>Optional Secondary Nozzle Components</b>			
<b>Item</b>	<b>NI Part #</b>	<b>Qty</b>	<b>Description</b>
17	20020	2	Screw, .25-20 x 1.25" Hex Hd Cap
18	89008	1	3RN Plug
19	79596	1	Elbow, Secondary Nozzle
20	57022	1	Gasket



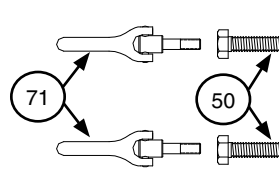
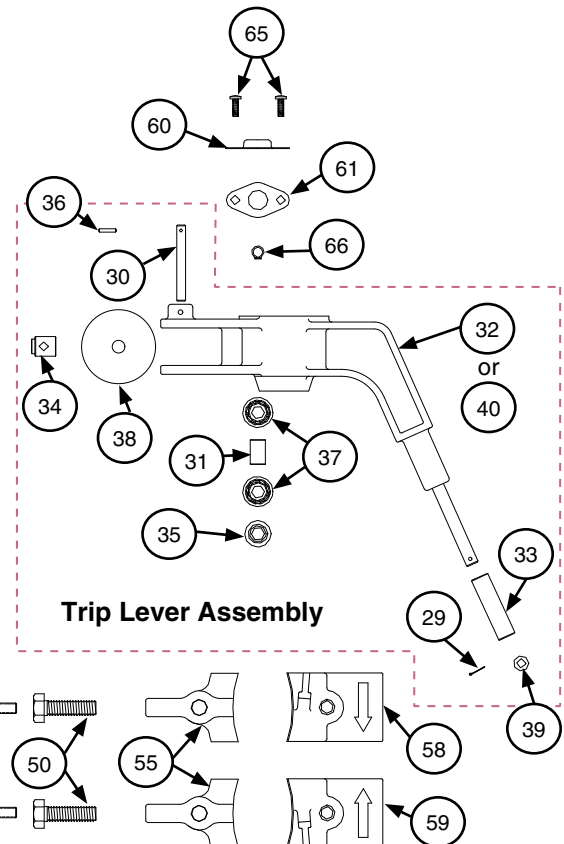
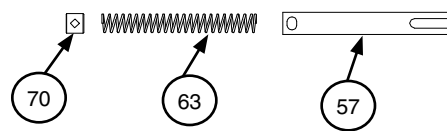
SPRINKLER PARTS

**Nelson SR100 End Gun Parts — 64001, 64009 (continued)**

Shift Lever Assembly			
Item	NI Part #	Qty	Description
21	89846	1	Ring, Retaining, -156 Basic Internal Coated
22	97212	1	Seal, Oil
23	17026	2	Bearing, Ball, 17 x 40 x 12 mm
24	97247	1	Washer, .312" Spring Lock
25	12006	1	Lever, Shift — SR100
26	14578	1	Bumper
27	91811	1	Spacer, Shift Lever — SR100
28	850XX	1	Pin, Shift, Hex Drive — SR100
	14585	1	Shift Lever Assembly



Trip Lever Assembly			
Item	NI Part #	Qty	Description
29	85018	1	Pin, Cotter, .062" x .50"
30	85019	1	Pin, Stop — SR100
31	91819	1	Spacer, Trip Lever — SR100
32	14579	1	Lever, Trip — SR100 18°, 21°, 24°
33	90004	1	Roller, Trip — SR100
34	92629	1	Follower, Trip Spring
35	91199	1	Seal, Oil
36	85022	1	Pin, Coiled Spring, .094" x .50"
37	17042	2	Bearing, Ball, 8 x 22 x 7 mm
38	97221	1	Washer, Spring Guide — SR100
39	97222	1	Washer, Trip Roller — SR100
40	650XX	1	Lever, Trip — SR100 43°
	14584	1	Trip Lever Assembly — SR100 18°, 21°, 24°
	145XX	1	Trip Lever Assembly — SR100 43°

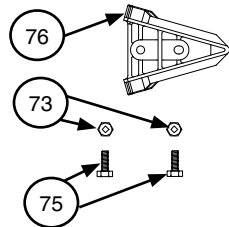
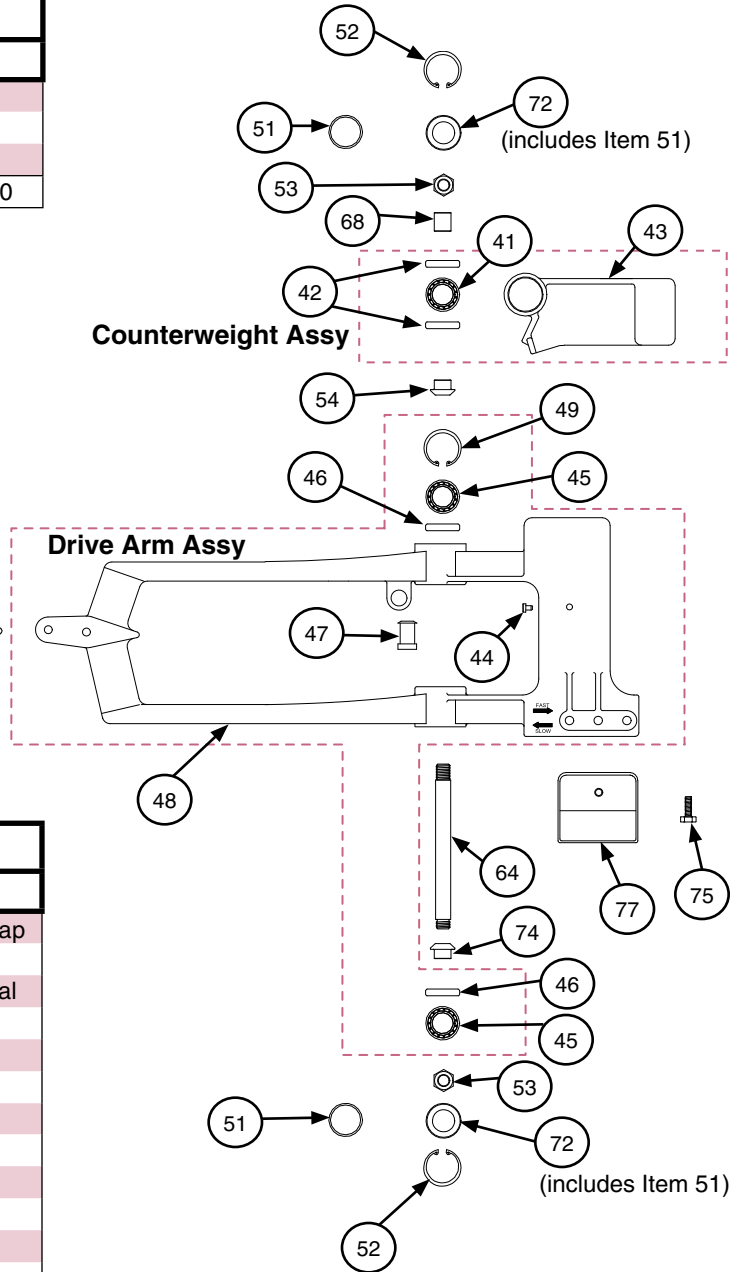


SPRINKLER PARTS

**Nelson SR100 End Gun Parts — 64001, 64009 (continued)**

Counterweight Assembly, SR100			
Item	NI Part #	Qty	Description
41	17011	1	Bearing, Ball, 12 x 32 x 10 mm
42	91178	2	Seal, Oil
43	14577	1	Counterweight — SR100
	14583	1	Counterweight Assembly — SR100

Drive Arm Assembly, SR100			
Item	NI Part #	Qty	Description
44	69005	1	Insert, Rest Pad
45	17011	2	Bearing, Ball, 12 x 32 x 10 mm
46	91178	2	Seal, Oil
47	85019	1	Bumper
48	12005	1	Arm, Drive — SR100
49	898XX	1	Ring, Retaining, -125 Basic Internal, Coated
	12045	1	Drive Arm Assembly — SR100



Final Assembly Components, Part 1			
Item	NI Part #	Qty	Description
50	20023	2	Screw, .312-18 x 1.00", Hex Hd Cap
51	89886	2	O-Ring, -024
52	89857	2	Ring, Retaining, -125 Basic Internal
53	82024	2	Nut, .438-20 Special
54	918XX	1	Spacer, Brkt. to Cwt — F100
55	33025	2	Clamp - SR100
56	85018	1	Pin, Cotter, .062 x .50"
57	92670	1	Guide, Spring — SR100
58	93207	1	Stop, CCW — SR100
59	93209	1	Stop, CW — SR100
60	27036	1	Cap, Trip Lever — SR100
61	570176	1	Gasket, Trip Lever Cap — SR100
62	570177	1	Gasket, Shift Lever Cap — SR100
63	92630	1	Spring, Trip — SR100
64	90256	1	Shaft, Drive Arm — SR100
65	91014	4	Screw, #8-32 x .375", Self-Tapping Pan Head
66	89864	1	Ring, Retaining, -31 Basic External
67	89865	1	Ring, Retaining, -66 Basic External
68	91812	1	Spacer, Drive Arm to Cwt
69	97222	1	Washer, Roller — SR100
70	93211	1	Stop, Trip Spring
71	65005	2	Flex Handle Assembly
72	27033	2	Cap Assy, Arm Bearing — SR100 (Includes Item 51)

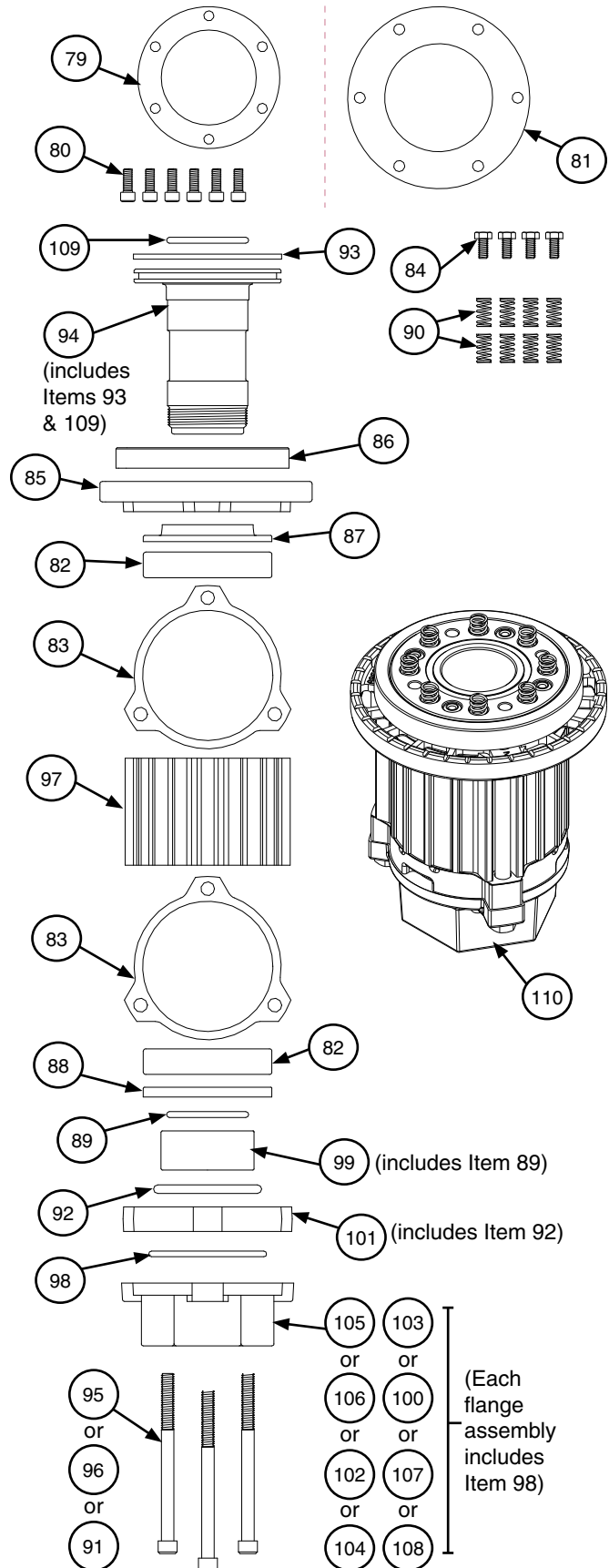
Final Assembly Components, Part 2			
Item	NI Part #	Qty	Description
73	82017	2	Nut, .23-20 Finished Hex
74	91810	1	Spacer, Drive Arm to Shaft Lever — SR100/150
75	20032	3	Screw, .25-20 x .75" Hex Head Cap
76	96803	1	Vane, Drive — SR75/SR100
77	12044	1	Weight, Drive Arm — SR100
78	270XX	1	Cap, Assy, Shift Lever — SR100 (Includes Item 62)

SPRINKLER PARTS

**Nelson SR100 End Gun Parts — 64001, 64009 (continued)**

Mounting Hardware			
Item	NI Part #	Qty	Description
79	570179	1	Gasket, Flange
80	20042	6	Screw, .312-18 x .75" Hex Skt Hd Cap
81	570XX	1	Gasket, Metric Flange

Bearing Assembly HD100			
Item	NI Part #	Qty	Description
82	17003	2	Bearing, Ball, 50 x 80 x 16 mm
83	570168	2	Gasket, Housing - HD100
84	20028	4	Screw, 5/16-18 x 11/16" Hex Hd Cap
85	43006	1	Cover, Part Circle - HD100
86	89838	1	Ring, Brake - HD100
87	91177	1	Seal, Upper - HD100
88	91142	1	Seal, Center - HD100
89	89812	1	O-Ring, -224
90	92656	8	Spring, Brake - HD100
91	20061	3	Screw, .312-18 x 3.50" Hex Skt Hd Cap
92	89840	1	O-Ring, -331, Special w/ Grease & Graphite
93	91198	1	Seal, Dust - HD100
94	90246	1	Shaft Assembly - HD100 (Includes Items 93 & 109)
95	91034	3	Screw, .312-18 x 4.25" Hex Hd Cap
96	91035	3	Screw, .312-18 x 4" Hex Skt Hd Cap
97	67018	1	Housing - HD100
98	89874	1	O-Ring -231, Special
99	14544	1	Retainer Assembly - HD100 (Includes Item 89)
100	540XX	1	Flange Assembly, Nelson (Includes Item 98)
101	918XX	1	Spacer Assembly - HD100 (Includes Item 92)
102	67001	1	Flange Assembly, 2" FNPT (Includes Item 98)
103	670XX	1	Flange Assembly, 2.5" FNPT (Includes Item 98)
104	670XX	1	Flange Assembly, 2" FBSP (Includes Item 98)
105	670XX	1	Flange Assembly, 1.5" FNPT (Includes Item 98)
106	670XX	1	Flange Assembly, 1.5" FBSP (Includes Item 98)
107	670XX	1	Flange Assembly, Metric (Includes Item 98)
108	670XX	1	Flange Assembly, ANSI/DIN (Includes Item 98)
109	898XX	1	O-Ring, -225
110	170134		Bearing Assembly, Complete, HD100 – SR75 / SR100 (Items 82, 83, 85-88, 93-97, 99, 101, 102)
-	170134-1		Bearing Repair Kit – SR75 / SR100 (Items 82, 83, 86-89, 92, 93, 98)





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# Useful Information

## Surveyor's Measure

1 mile = 80 chains = 320 rods  
 1 mile = 1760 yards = 5280 feet  
 1 chain = 4 rods = 22 yards = 66 feet = 100 links  
 1 rod = 5.5 yards = 16.5 feet  
 1 link = 7.92 inches

## Linear

millimeters x 0.03937 = inches  
 centimeters x 0.3937 = inches  
 meters x 39.37 = inches  
 meters x 3.281 = feet  
 meters x 1.0936 = yards  
 inches x 25.4 = millimeters  
 inches x 2.54 = centimeters

inches x 0.0254 = meters  
 feet x 0.3048 = meters  
 yards x 0.9144 = meters

miles x 5280 = feet

## Area

sq. feet x 144 = sq. inches  
 sq. yards x 9 = sq. feet  
 acres x 4840 = sq. yards  
 acres x 160 = sq. rods  
 sq. miles x 640 = acres  
 1 acre = 43560 square feet

## Volume

cu. feet x 1728 = cu. inches  
 gallons (US) x 231 = cu. inches  
 cu. yards x 27 = cu. feet  
 cu. feet x 7.4805 = gallons  
 cu. yards x 202 = gallons  
 quarts x 32 = ounces  
 gallons x 4 = quarts  
 gallons x 3.785 = liters  
 gallons x 0.00379 = cu. meters  
 gallons x 0.833 = imperial gallons  
 acre-inches x 27154 = gallons  
 acre-feet x 325851 = gallons  
 liters x 0.2642 = gallons  
 liters x 1.057 = quarts  
 liters x 2.113 = pints

## Weight

gallons (U.S., water) x 8.3357 = pounds  
 cu. feet (water) x 62.3554 = pounds

## Flow

gallons/min x 0.002228 = cu. ft/sec  
 gallons/min x 0.13368 = cu. ft/min  
 gallons/min x 8.0208 = cu. ft/hour  
 gallons/min x 0.06308 = liters/sec  
 gallons/min x 3.7848 = liters/min

cu. ft/sec x 7.4805 = gallons/sec  
 cu. ft/sec x 448.83 = gallons/min  
 cu. ft/sec x 26929.9 = gallons/hour  
 liters/min x 0.0005886 = cu. ft/sec  
 liters/min x .004403 = gal/sec

## Rule of Thumb

450 gpm x 60 min = 1 acre-inch of water

## Pressure

1 pound/sq. inch = 2.31 feet of head  
 1 foot of head = 0.433 pounds/sq. inch  
 1 foot of water = 62.3554 pounds/sq. foot

## Power

$$\text{horsepower} = \frac{\text{gpm} \times \text{total head (feet)}}{3960 \times \text{pump efficiency}}$$

$$\text{pump efficiency} = \frac{\text{gpm} \times \text{total head (feet)}}{3690 \times \text{BHP to pump}}$$

## Circles

circumference of a circle = 3.1416 x diameter  
 area of a circle = 3.1416 x radius<sup>2</sup>

$$\frac{\text{area of circle (sq. ft)}}{43560 \text{ sq. ft}} = \text{acres within a circle}$$

Doubling pipe diameter quadruples capacity.

$$\text{hours per revolution} = \frac{2\pi LR_1R_2}{60(903.2)rP}$$

$\pi = 3.1416$

L = distance from pivot to last tower (ft)

$R_1$  = center drive gearbox ratio

$R_2$  = wheel drive gearbox ratio

r = tire rolling radius

P = % timer setting in decimal form

**Tire Size**      **r**

11 x 22.5	20.1
11.2 x 24	20.5
14.9 x 24	22.9
16.9 x 24	23.2

## Temperature

$$^{\circ}\text{C} = \frac{5}{9} (^{\circ}\text{F} - 32)$$

$$^{\circ}\text{F} = \frac{9}{5} ^{\circ}\text{C} + 32$$

# Center Pivot Components Irrigation Accessories

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