



PHOENIX
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ENGINEERING AND REFERENCE CATALOG

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Hydraulic/Pneumatic

Cylinders

Greenco
Lehigh
Duramaster
Cabletrol
Tractrol
And many more

Repair Kits

Parker Hannifin
Miller
Hydroline
And many more

Flared U-Cups

Stocked up to 50"

Leather Seals

Up to 90"

Braided Packing

Teflon
Graphite
Flax
Kevlar
And many more

Sheet Packing

Red Rubber
Neoprene
CI
Diaphragm
EPDM
Silicone

Gland Packing

Pulleys & Belts

Berges

Temperature Control Units

Regloplas

Custom Cast Iron Piston Rings

Gaskets

WR
Spiral Wound
Boiler
Metal
Jacket
Die Cut
Metallic

Pumps & Valves

Rexroth
Bosch
Nachi
Northman
Kawasaki
Yuken
Toyo-Oki
And many more

Mechanical Seals

Custom Products

Extruded Rubber
Extruded Plastic
Molded Rubber
Molded Plastic
Leather Seals
Gaskets
Cylinders
Machined Parts

O-Rings

Quad Rings

Oil Seals

Klozure Seals

Compression Seals

Metric Seals

Vee Packing

Valve & Pump Repair

Cylinder Repair

Expansion Joints

Polypaks

Wipers

E-Rings

WV Packing

Piston Cups

Press Repair Parts

Japanese
German
Italian
USA

T-Seals

Flanges

Rotary Shaft Seals

Back-Up Rings



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**Cilindros
Hidraulicos/
Pneumaticos**

Greenco
Lehigh
Duramaster
Cabletrol
Tractrol
Y muchos mas

Kits de Reparacion

Parker Hannifin
Miller
Hydroline
Y muchos mas

Flared U-Cups

Hasta 50"

Sellos de Cuero

Hasta 90"

Empaquetaduras

Trenzadas

Teflon
Grafito
Flax
Kevlar
Y muchos mas

Empaquetaduras en hoja

Goma Roja
Neopreno
CI
Diafragma
EPDM
Silicon

**Empaquetaduras de
Estopero**

Poleas Y Correas
Berges

Unidades de Control

De Temperatura
Regloplas

**Anillos para Piston
de Hierro Fundido**

Juntas

WR
Enrolladas en espiral
Caldera
Metal
Enchaquetadas
Troqueladas
Metalicas

Bombas y Valvulas

Rexroth
Bosch
Nachi
Northman
Kawasaki
Yuken
Toyo-Oki
Y Muchas mas

Sellos Mecanicos

Fabricación por pedido

Goma Extruida
Plastico Extruido
Goma Moldeada
Plastico Moldeado
Sellos de Cuero
Empaquetaduras
Cilindros
Partes Mecanizadas

O-Rings

Anillos Quad

Sellos de Aceite

Sellos Klozure

Sellos de Compresion

Sellos Metricos

Empaquetaduras en V

**Reparacion de Valvulas
y bombas**

Reparacion de Cilindros

Juntas de expansion

Polypaks

Juntas Limpiadoras

Anillos- E

Empaquetaduras WV

**Empaquetaduras copa
para piston**

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Prensas**

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Alemanas
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Estados Unidos

Sellos en T



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Water Seals	Fabreeka Pads	Peephole Glass
Metal Gaskets	Bearing Seals	Fiberglass Rope
Work Roll Plunger Kits	Gland Seals	Bumpers
Cylinder Boots	Lantern Rings	Caster Blankets
Valve Stem Packing	Wedge Steel	Urethane Coated Bolts
Mechanical Seals	Rag Matting	Nylon Guides
Polypaks	Coco Matting	Wooden Guides
O-Rings	Sheet Packing	Stainless Steel Hose
Silicone Valve Gaskets	Lance Packing	Blowstock Gaskets
Fiberglass Valve Stem Packing	Oil Slingers	Work Roll Stand Packings
Grafoil Tape	Oil Seals	Turbine Joints
Silicone Hose Protectors	Expansion Joints	Pumps
Bearing Guards	Spiral Wound Gaskets	Valves
Labyrinth Seals	Braided Packing	Cylinders
Back Up Plate Gaskets	Fey Rings	Sensors
Plunger Kits	Laminar Rings	
Boiler Kits	Cast Iron Piston Rings	
Work Roll Gaskets	Ring Gaskets	
Furnace Bearing Seals	Full Face Gaskets	
Google Valve Seals	Urethane Rollers	
	Sight Gauge Glass	



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PUMPS, VALVES, CYLINDERS, ETC. TRADE NAMES

#		
80/20		
A		
A & A Manufacturing	American Hoist	Atek
ABA	American Industrial	Atex
ABB	American Scissor Lift	Atlanta
Abby Electric	American Variseal	Atlas
Abex	AMK	Atlas Copco
ABM	Amortex	Atlas Cylinders
ABN	AMPEP	Atos Cylinders
ABS Pumps	Anchor	Auburn Gear
Accumulators, Inc.	Anchor Brass	August Heine KG
Ace Interchange	Andantex	Aurelius
AC-Kalmar	Angst + Pfister	Aurora
Actus Power	Anker Holth	Ausco
Acushnet	ANS	Autoblok
Adda Antrieb	Ansaldo	Avit
ADI	Anthony	AVS
Adolf Schindling	Antriebstechnik	Axis
ADR	Anver	AZ Pneumatica
Adsens Technology	Apollo	B
AEG	Applied Motion	B. J. Gear A/S
Aeroquip	Aratron AB	Bachman
Ai-ko	Argo	Bachofen AG
Air Logic	Argus	Baelz & Sohn
Aircom	Aris Chiappa	Baier & Koepfel
Airflow	Armit	Baker
Airmite	Arno Arnold	Balanta
Airtec	Arnold Muller	Baldor
Ajax	ARO	Baldwin
Albright	Aroflex AG	Baler
Alemite	Aron	Ballimont
Alfed Teves	Arpex	Balluf
Allen Bradley	Arrow	Balzers
Allied Signal	Arzener	Bando
Allis-Chalmers	Asco	Bansbach
Allspeeds	Asco-Joucomatic	Bantam
Allweiler	Asea	Barber Green
Almar	ASK	Barko
Alpha Getrieb	Askubal	Barmag
Alpha Laval	ASS AG	Barrington Automation
AMCA	AST	Baruffaldi
American	Astrosyn	Barum
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	ATB	Bauknecht
	Atchley	Baumer
	ATE	Baumuller



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BBC Pump
BD Sensors
BDL
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Beckett Harcum
Beda
Bege
Behringer
BEI
Beinlich
Bell Tree Harvester
BEN
Benden
Bendix
Benzler & Company
Berarma
Berema
Berendsen
Berendsen Pneumatics
Berger Lahr
Berges
Beringer Hydraulics
Berkert
Bernstein
Bertelli
Bertronic
Bettinelli
Bevi
Bianchi
Bibby
Bielomatik
Bieri
Bijur
Bilz
Bimba
Binder
Bipex
Bircher
Bird-Johnson
Birkenbeul
Blackhawk
Blecher Motoren
B-Line Systems
BMB Elettronica
BOA

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Bobcat
Bockwoldt
Boekels
Boge
Bohnenstiel
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Bonesi
Bonfiglioli
Bonora
Bosch
Bosch Hydraulics
Bosch Servo Motors
Boschert
Bostik
Boston
Bothner
Bowex
Boxmag Rapid
Braden Gearmatic
Brahma
Brand
Breco
Breflex
Breher
Bremas
Brembo S.p.A.
Brevetti
Brevini
Brinkmann
British Autoguard
British Filters
Broedrene
Bronzoni
Brook Crompton
Brook Hansen
Brown Boveri
Brown Pestell
Brueninghaus
BSL
BST Servo
Bubenzer
Bucher
Buck & Sohn
Buckeye
Bucyrus-Erie
Buehler
Bula & Fils SA

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Bundy
Burener
Burgess Micro
Burgmann
Burkert
Burkle
Burton
Busak & Luyken
Busak + Shamban
Busch
Buschjost

C

C & C
Cabletrol Cylinders
Caipo
Calpeda
Cameco
Camille Bauer
Camozi
Cannon
Capital Trencher
Carini
Carlo Gavazzi
Carol Stream
Carozzi Italia
Carpanelli
Casappa
Cascade
Catching Cylinders
Catep
Caterpillar
Cavex
CBF
CBI Italia
Cear
CEG
CEI/SLI
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CF
CFR



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Champion
Char-Lynn
Chemntzer Zahn
Chesterton
Chicago Rawhide
Chiorino
Cima
Cime
CIM-Valve
Cincinnati
Cito
CKD
Clark
Clark-Michigan
Clearing-Niagra
Clipper
CO.SI.ME.
Code Champ
Coel
Colasit AG
Colder Products
Colombo Filppetti
Comat
Comau
Comax
Comer
Commercial
Commercial Shearing
Compac
Compact Air Products
Compair
Complete Filtration
Compumotor
Conrad
Continental
Continental Gummi
Continental Hydraulics
Contravis
Control Dynamics
Convum
Coprma
Coremo Ocmea
Costamasnaga
CPOAC

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Crane Carrier
Crane, John
Crofts Engineering, Ltd.
Cross
Crouzet
Crown Lift Truck
Crysteel
Cuno
Custom Fittings
Custom Hoist
Cyclo
Cylinder
Cylinder & Valves, Inc.
Cylinder City

D

Daedal
Dahmer
Daikin
Daimler-Benz
Daman
Daman Manifolds
Dana
Danfoss Fluid Control
Dart
Datalogic
Davall
David Brown
Daybrook-Galion
Dayco
DC Transmission
De Limon
Debu
Delimon
Delta
Deltrol
Demag
Dempster
Denharco
Denis Equipment
Denison
Denison Presses
Densmore
Dentex
Desch
Deschner Kinechecks
Deserti Meccanica
Desoutter
Deublin

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Deussen
Devance
Devco
Dico
Dico Crane
Diel Telco
Diell
Dienes
Dierking
Dietz
Dinamic Oil
Disogrin
DI-Soric
Ditch Witch
Dixie Logger
Doedijns
Dold & Sohn
Dollinger
Domange Jarret
Donaldson
Donzelli
Dosapro
Double A
Douce Hydro
Dow Corning
Dowty
Dowty Industrial
Dowty Polypac
Dr. E. Horn
Draloric
Dresser
Drexel
Drill Tech
Drive Systems
Dropsa
Dropse
Drott
Drumag
Dunker
Duplomatic
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Durbal
Durst
Dusterloh
Dwyer
Dynahoe
Dynamic Fluid
Components



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Dynamic Valves
Dynaper
Dynapower
Dynatork
Dynex Rivett
Dynisco

E

E.W. Bliss
EAO Elektro
Eason
Eaton
Eaton Yale
Ebara
EBM
Eckart
Eckerle
Economy-Snorkel
Edbro
EDI Systems
Edler
Edur
Efector
Efen
EFFBE
EFFEPI
EG & G Sealol
EGI Electronic
EGO
Ehlers
Eich
Eisenbeiss
Eisenwerke
Elan
Elbe
Elbro
Elcis
Electro ABI
Electro Adda
Electro Craft
Electrodrives
Electrol
Electromatic
Electromotoren
Electrotex
Elektra-Faurndau
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Elektor
Elesta
Elges
Elgin Sweeper
Elin
Elli
Elliot
Elliot Hi-Reach
Elmeg
Elmo
Elobau
Elring
Emco
EMF Worm
Emiflex
Emod Motoren
Empire Magnetics
EMU
Endress + Hauser
Energy
Enerpac
ENFM
ENFM-USA
Engel
Enidine
Enots
Ensinger
Entrelec
Eppensteiner
ERBA
Ergotron
Erhardt & Leimer
Eriks
Erma Elektronik
Ernst Siegling
Esco
ESP
Etabloc
ETP Transmission
ETR
Euchner
Euclid
Eugene Schmidt
Eurofarad
Euromotori
Evershed
EW Hof

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EWM
EWO
E-Z Pack
EZ-Grapple

F

Fabco
Facon
Fairchild
Fairey-Arlon
Fairfield
Fairlane
Fanox Electronic
Fanuc
Fastest Devices
Fauver
Fauver-VST
FBO
Federal
Feinpruf
FELDMUHLE
Femag
Femm
Fenner
Fenwal
Fernsteuergerate
Ferraz
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Ferrozell
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FEY
Fey Laminar
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Fibro
Fielding & Platt
Filton, Ltd.
Filtration Products
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Fluid Metering
Fluid Systems Power
Units
Fluid-O-Tech
Fluidrive
Fluiten
Flupak, Ltd.
Flutec
FMC
Fontaine
Force Engineering
Ford
Forkardt
Formsprag
Forsheida
Fossati
Foster
Foxtam
Foxwell
FPS
Fraba
Framan Drive
Franci Schmidt
Franklin
Franz Kessler
Freundenberg
Fruehauf
Frueheuf Bottom Dump
Fuji
Ful Flo
Ful Flo Valves
Furon
Furukawa

G

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Gaco
Gafner
Galbreath
Galion-Dresser

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Gallion-Daybrook
Galvi
Gamet
Garco Packing Tools
Garlock
Garog
Garwood
Gast Manufacturing
Gastechnic
Gates
Gates Europe
GEC
GECO
Gefran
Gelma
Gemue
Generant
Genge
Genie
Gensheimer
George Angus
George Muller
Georgia
Gerotor
Gerwah
Gestra
Gettys
GFC Getrieb
GIB
Girard
Gits
GL Hydraulik
Glacier
Glencoe
Globe
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GMN
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Gossen
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GPA Italiana
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Great Bend
Great Lakes Air
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Grossenbacher
Grouzet
Grove Crane
Grundfos
Grundig
GSC
GSC
Guardmaster
Gudel Lineartec
Gummi-Jager
Gurit-Essex
Gutekunst
GWB

H

Habasit
Hadeflex
Haenni
Hagglunds
Hahn
Hahn + Kolb
Haldex Barnes
Hale Hamilton
Hallite
Halstrup
Halter
Hanchen
Hanesbach
Hanna
Hanning
Hans Holland
Hansa
Hansen Manufacturing
Harmonic Drives
Harricana
Harrington
Harrington (Roanoke)
Harsh
Harting
Hartmann
Haso-Flex
Hausherr
Hawe
Hawk
Hawker Siddeley



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Heid-Antrieb
Heidenbain
Heidenhain
Heidolph
Heil
Heimann
Hein-Warner
Helac
Helios
Helipeds
Helland
Hengstler
Henke-Sass
Hennels
Hennig
Herborner
Hergeth
Herion
HEW
Heynau
Hiab
Hick Hargreaves
Hidroirma
Highfield Gears
Hilma
Hilzinger
Himmel
Himmelwerk
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HMC
HMF Crane
Hoerbiger
Hofmann DMT
Hohner
Holzma
Honeywell

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Horvath Thamas
HPI
HSC
Hub City
Huba Control
Hubner
Hunger
Hunger Hydraulics
Hunkar
Hurth
Husky
Husky-Brute
Hycos
Hycon
Hydac
Hydra-Sol Leak
Detection
Hydraulic Accessories
Hydraulik Ring
Hydraulika
Hydra-Zorb
Hydreco
Hydro-Ax
Hydrocraft
Hydro-Line
Hydrolux
Hydromatik
Hydropa
Hydroperfect
Hydropneu
Hydroservice
Hydro-Sol
Hydrostar
Hydrotechnik
Hydura
Hyflex
Hypercyl
Hypro
Hyster

I.T.A.S.

IBC

iBEX

IDC

Ideacod

Ideal

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Igema
Iigus
IHG
IKO
Ilmberger
ILME
IMAV
IMI
IMO Industries
Inca
Indelec
Indramat
Indur
Industrial Drives
Ingersoll-Rand
Inland
Insley
Intergral
Interlube
Intermot
International Baler
International Harvester
Internorman
Interpump
Interroll
Interstahl
Iowa Mold
Iowa Mold Tooling
ISGVE
Islicker-Magnete
Isoflux
Italfarad
Italvibras
ITAP SPA
IVO
IWIS

J

J. Uhing

J.I. Case

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Jacob

Jaeger

Jahns

James Walker

Jarp

JCB

Jetech

Jiffy



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JM
JM Clipper
John Crane
John Deere
Johnson
Jongia
Joucomatic
Joyner
JRB
JS Barnes
Juchheim M.K.
Jumo
Jung Mitchell
Jurid

K

Kabel Schlepp
Kaibel & Sieber
Kaiser
Kalmar
Kalrez
Kato
Katsa
Katt
Kawasaki
Kay
Kayaba
KD Manitou
KD Pneumatik
KEB
Kelva
Kempchen
Kepner Products
Kewesta
Kinetrol
Kissling
Kitt
Kleentek
Klein
Kleinsmotoren
Kline
Klockner Moeller
Kluber
Knapheide
Knecht
Kniel

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Knodler
Knorr
Knott
Kobelco
Kobo
Kobold
Koebo
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Kollmann Gear
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Komet
Kontak
Koystyrka
Kracht
Kraus & Naimer
Krauss-Maffei
Kreiskott
Krom Schroder
Kronenberg
Krones
KSB
KTR
Kubler
Kubota
Kugelhahn
Kuhnke
Kumera
Kunyama
Kupplungsbau
Kusel
KYB
Kytola

L

L + G Beck
L. E. Stott
La Leonessa
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Lake
Lamborghini
Lamina
Lamons
Landert
Landis & Gyr
Lang
Lantex
Lapauw

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Latty
LB Transmission
Leach
Lechner
Legris
Lehigh
Lehner
Leibfried
Leine & Linde
Leister
Lenze
Leroy Sommer
LHA
Lift All
Llind Jacobsen
Lika
Lin-Act
Lincoln
Lincoln/CTAC
Linde
Lindner
Link Belt
Lintra
Lips
Litton
Loadmaster
Lodal
LOEHR
Log Hog
Logansport
Loher
Lohmann
Long Reach
Longstroke
Lorain
Love Joy
Lowara
Lubriquip-Trabon
Lucifer
Lucky
Lucky Loader
Lueze
Lull
Lutgert
Lutze
Luwa

M

Maag



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Magnetic
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Maier, Christian
Mailhot
Maina
Mallardi
Malmedie
Manastrip
Mann + Hummel
Mapal
Marathon
Marbaise
Marbett
Marion
Marion Manufacturing
Mark HI-Lift
Marrellimotori
Marsh
Martin Merkel
Martonair
Marvel Engineering
Marvin Land Plane
Marzocchi
Marzorati
Mavilor Motors
Maxon
Mayr
MAZ Getriebe
Mazzer
MCC
Mead
Mecman
Megadyne
Megatron
Megliani Luigi &
Company
Meier Hydraulics
Meierling
Melching

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Melroe
Melvin Hydrostatic
Drives
Merkel
Merobel
Metalastik
Metrasal
MGM
Michigan
MICO
Micro-Precision
Mid-Equipment
Midland Pneumatic
Midway
Mighty Tike
Mikipulley
Mikron
Miller
Mills Special Products
Milwaukee Cylinder
Minex
Minimotor
Minnesota Rubber
Mitsubishi
Mobrey
Modicon
Modina Filtri
Moflash
Monarch
Monarch Road
Machinery
Mondial
Monninghoff
Mono
Monsun-Tison
Moog
Morbark
Morgan SRL
Moser
Motin
Motovario
Motox
MP Filtri SPA
MSP Planet Ltd
MTS
Mucon
Muffett
Muhlberger

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Muller Koaxial
Muller Martini
Muller, Jean
Multi-Power
Murrelektronik
Mycalex Motors
Myers Snow Plow
Myson

N

Nachi
Nadella
Nana
Neckar Motoren
Neeter
Neff
Neff Press
Nemo Pumps
Neo-Dyn-ITT
Neri
Neugart
N-Eupex
Neuweg
Never-seez
Newman
Newman/Apex Gaskets
Nexus
Nieaf-Smitt B.V.
Nihon Spindle
Nikki Denso
Nilos
Nissan
Nobel
NOK
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Norco
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Normand
Nor-Mex
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NTN
Numatics



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O

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Oeitiker
Oemer
Ohio Oscillator
Oil-Air
Oildrive
Oiles
Oilgear
OJ Elektronik
Olaer Italiana
Oleodinamica
Oleostar
Olmo
Olmsted
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Omron
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Opperman
Optibelt
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Oriental Motor
Orion
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Ortlieb
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Otto Klein
Otto Stuber
Ottowa
Ovitor
Oxnard
Oxnard Plow

P

P & H

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Pall
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Parablock
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Parco
Parker
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Parvalux
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Pascal
Pathon Cylinders
Paulstra
Pauly
PDF-Pradifa
PDI Gages
Peabody Galion
Pedro Roquet
Peerless
Pegasus
Peiner
Penny & Giles
Pepperl + Fuchs
Perfection
Perfection Coby
Periflex
Perkeo
Permabond
Perma-Drive
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Peter Electric
Pettibone
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Piller
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Pinnacle Systems
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Pneumadyne
Pneumatica
Pneumax SRL
Poclain
Poggi
Pollar
Polypac
Polyseal
Pompe Sartori
Pompetravaini
Portescap
Posiva
Possamai
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Powerdrive PSR
Powertron
Pradler
Precision Chain
Precision Dynamics
Prentice
Pressure Devices, Inc
Prince
Printed Motors
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PUNOS ELECTRONIC



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Purolator/Facet

Q

Quietaire

R

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Radio Energie
Rafi
Rahmer + Jansen
Raja
Ranco
Randers
Rapa
Rapid Rail
Rauman
Rauschert
Raymond
Rayner
Reach-All
Realm
Rechner
Reco
Red Lion
Redex
Redmond
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Regeltechnik
Reggiana
Regina
Regoplas AG
Rehfuss
Reich
Reika
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Reliance
Rembe
Renk
Renold Gear
Republic
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Rexroth
Reynolds
Reynolds Scraper
Rhein
Rheintacho
RHL Hydraulics
RHP
Richard & Cie

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RIV

Riva Calzoni
RMB
RMP
Roanoke
Roanoke (Harrington)

Roba
Robushi
Rochling
Rockwell
Rocol
Rolf
Rollix
Rollon
Rollstar
Rollvis
Rollway
Rome

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Romheld
Ronen
Ropac
Ropex

Rose Bearing
Ross
Rossi
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Rotary Power
Roten
Rotex
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Rual
Rudolf Hausherr
Ruetschi

Ruhrgetriebe
Rupex

S

S & P
Saarloos
Sacemi
Safag
Sahm
SAI
SAI Hydraulics
Saia
Sakagami
Salami
Sam Hydraulik
Sanderson
Sangalli
Santasalo
Sanyo-Denki
Satake Willy
Sauer
Sauer & Sohn
Sauer-Sunstrand
Sauerwald
Sauk Valley
Saunders
Sawa
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Schlegel
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Servomac
Servomech
SEW Eurodrive
SEW Usocome
Seyfert
Sferax S.A.
Sheffer
SHN
Shonbach
Siba
Sibre
Sicar
SICK Optic
SICME
SICOD
Siebe
Siebert & Kuhn
Siegerland
Siegling
Siemen + Hinsch
Siemens
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SIHI
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Silvent
Simirit
Simon
Simon Aerial
Simplabelt
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Sitema
Siti

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Skega-KSA
SKF AB
SKK Gears
Skyworker
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SMC
SNFA
Snorkel
Snorkel-Economy
SNR
SNT
Sodeco
Sofima
Sofrance
Sollich
SOM
Sondermann
Sonzogni
Soprel
SOR (Static O Ring)
Sorcus
Sortimat
Source Fluid Power
Souriau & Cie
SP Cylinders
Spaggiari
Speck
Spectrol
Sperry Vickers
Spicer Glaenzer
Spidex
Spieth
Spirax Jucker
Spitznagel
Spon & Burkart
Sprecher + Schuh
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SRO
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SSP
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Staffa
Stahl
Stahlkontor
Star
Staubli
Stauff

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Stegmann
Steimel
Steinel
STEPHAN
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Sterling
Steuer
Steute
Stiebel
Stieber
STM
Stober
Stork
Stormax
Stroehlein
Stromag
Stromberg
Stroter Antrieb
Suco
Sulzer Pumpen
Sun Hydraulics
Sunstrand
Super Vexta
Svecom
Swan
Swedrive
Sykes-Pikavant
Symkens
Syncroflex
Syncroflow
Synflex
Syntex
System Antrieb
T
T + R Electronic
Takeuchi
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Tanguay
Tatry
Taylor



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Teledyne Republic
Telefrank
Tel-E-Lect
Telemecanique
Telestar
Temco
Terex
Terrell Gear Drives
Texas
Texas Hydraulics
Texrope
Thalheim
Thein
Thermal Dynamics
Thermal Transfer
Systems
Thermold
Thiel
Thoma
Thomas
Thomas Magnete
Thompkins Johnson
Thor Flap
Thrige Scott
Thrige-EMF
Thrige-TITAN
Thuba
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Timberwolf
TJ
T-Lon
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Tokimec
Tokyo Keiki
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Towmotor
Towmotor-Caterpillar
Toyko Keiki
Toyo Oki
Toyota
TR Electronic
Traco
Tractrol
Trak
Transcom
Transilon
Trapo Kueng
Trash Wolf / Weaver
Trasmil
Travaini
Tree Farmer
Trelleborg
Triad Controls
Tricool
Tri-Tec
Trojan
Trojan Loader
Trumeter
Trump-Clyde
Truning
Tschan
Tunkers
Turbo Chip Conveyors
Turck
Turn Act
Twiflex
TWK

U
U.C.C.
UKF Universal
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Ultra Hydraulic
Ultra Pompe
Ultrafilter
Unelec
Uni Oeler
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Unist
Unit Rig
Unitec
Univer
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US Truck Crane
Utex
UVT Lindberg

V
Vagnone & Boeri
Valmet Hydraulic
Valqua
Valvoil
Vander Graaf
Vanel
Vanessa
Vanguard
Varimotor
Varmec
VAR-SPE
Varvel
Vassal
VDO
VEB Robotron
Vector
Veeder Root
VEM
Venco
Verins
Verken CA
Vermeer
Vexta
Vibco
Vibraclamp
Vickers
Video Display
Viler Enerpac
Vimarc B.V.
Visolux
Vividstar
VME
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Voith
Vokes
Volutronic
Volvo Hydraulic
Von Ruden (WSI)



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Vorwald
Voss Hermann
Vossloh - Schwabe
Vremac
Vulcan
Vulkan Power
Vulkoprin

W

W.C. Branham
Wabco
Wabco Chain
Wade Couplings
Waeschle
Wago
Waircom
Walker
Waltco
Walter
Walter ENOR
Walterscheid
Walther Prazision
WAM
Wandfluh
Ward
Warner
Washington Sci.
Waterman
Watt Drive
Watts

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Wayne-Rhino
Weatherhead
Weaver
Weber
Webster
Webtec
Weco
Weidmuller
Weigel
Weka
Wellman Bibby
Wenglor
Werie
Werma
Werner Reimers
Western
Westinghouse
White
Wilkerson
Wilkerson-Rodless
Willi Spee
Williams Air Controls
Willie Glapiak
Wilo
Windham
Winkel
Winkelmann
Winklhofer
Wippermann
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WMB
Woener Eugen
Woerner
Wolftechnik
Worcester
WSI

X

Xycom

Y

Yale
Yaskawa
Yates Industries
Young Grapple
Yuken
Yutani

Z

ZAE
Zahn
Zahnradfabrik
Zambello
Zander
Ziehl-Abegg
Zimmermann
Zinga
Zurrer AG
ZZ Antriebbe

New products and manufacturers are added every month. Please call us if you have a need for something that is not listed.



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HYDRAULIC & PNEUMATIC CYLINDERS

	LEHIGH CYLINDERS NFPA tie-rod type pneumatic and hydraulic cylinders with standard designs, all-stainless steel cylinder, and custom designs.
	DURAMASTER CYLINDERS NFPA Full Duramount Basic Cylinder NFPA Style Cylinders DURA-MOUNTS Series Dura-Tank & Dura-Tube Duramite II Round NFPA Cylinder NFPA Round Style Cylinders Dura E Series Cylinders
	TRAC-TROL CYLINDERS Air or hydraulic for smooth operation & precise control. Nylon-covered, aircraft-type cable for extra-long life. Approximately 1/200th the effective sealing area of competitive models for longer working life. Aluminum hard coated tubes standard or optional steel tube.
	CABLE-TROL CYLINDERS Cadmium plated steel sheaves with needle bearings. Die-cast aluminum heads. Precision aluminum piston with Turcite Slyndring bearing. Aluminum hard-coated tubes or steel tubes. Nylon coated aircraft type steel cable. Air and oil use up to 150 psi. Strokes to 60 feet or more.

Other brands and custom cylinders are available.

Cylinder repair and modification services are also available.



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Standard Pneumatic Cylinder Series

- JHD Series Pneumatic Cylinder
- Brass Tube and Standard Steel Construction
- NFPA Tie Rod Design 1" to 20" bore

Stainless Steel Pneumatic Cylinder Series

- LSSL Series Pneumatic Cylinder
- All-Stainless Steel Construction
- NFPA Tie Rod Design 1" to 20" bore

Small Bore Pneumatic Cylinder Series

- SBA and MSBA Series Pneumatic Cylinders
- Brass Tube and Standard Steel Construction
- Tie Rod Design 3/4" and 1" Bore

Standard Medium Pressure Hydraulic Cylinder

- JHDH Series Pressure Rated Hydraulic Cylinder
- Brass Tube and Standard Steel Construction
- NFPA Tie Rod Design 1-1/2" to 6" bore

Stainless Steel Medium Pressure Hydraulic Cylinders

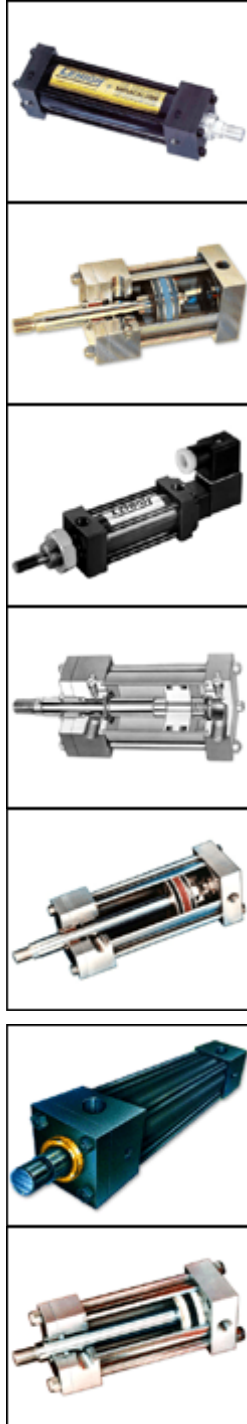
- LSSE Series Medium Pressure Hydraulic Cylinder
- All-Stainless Steel Construction
- NFPA Tie Rod Design 1-1/2" to 6" bore

High Pressure Hydraulic Cylinders

- HP Series High Pressure Hydraulic Cylinder
- Standard Steel Construction
- NFPA Tie Rod Design 1-1/2" to 12" bore

Stainless Steel High Pressure Hydraulic Cylinders

- LSSW Series Stainless Steel High Pressure Hydraulic Cylinder
- All-Stainless Steel Construction
- NFPA Tie Rod Design 1-1/2" to 12" bore





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CABLE-TROL / Model 05 - 07 - 10



- Cadmium plated steel sheaves with needle bearings.
- Die-cast aluminum heads.
- Piston - One piece precision aluminum piston with Turcite Slyndring bearing.
- Aluminum hard-coated tubes or steel tubes (special plating available).
- Nylon coated aircraft type steel cable (heavy duty cable is available).
- Air and oil use up to 150 psi.
- Strokes to 60 feet or more.
- 1/8" NPT Ports.
- Reed switches available.

CABLE-TROL Models 15 thru 80, 20P, 25P



- Exclusive Precision Block provides the strongest possible bridge between sheave bracket and tube.
- Adjustable cushions.
- One piece "C" trolley standard on models 05-40. "H" trolley optional on models 15-40.
- Models 50, 60, 80 - "H" trolley standard.
- Available with hardcoated aluminum tubing or optional steel tubing (special plating available).
- Tube splicing is required for strokes over 24'.
- Aluminum sheaves with needles bearings.
- Nylon coated aircraft type steel cable.
- Available with automatic tensioners.
- Symmetrically attached and sheave bracket can be rotated in 4 directions.
- Air and oil use 150 psi.
- Reed switches available.
- Optional SAE and Metric BSP ports available.



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TRAC-TROL



- Air or hydraulic services for smooth operation and precise control.
- Nylon-covered, aircraft-type cable for extra-long life. Pre-stressed cable optional.
- Optional low-cost rod & cable wipers.
- Approximately 1/200th the effective sealing area of competitive models for longer working life and ideal for use in "dusty" applications.
- Greater bearing surface for large capacities.
- Reed switches available.
- Aluminum hard coated tubes standard or optional steel tube (special plating available).
- Pre-delivery testing and "break-in" to insure customer satisfaction.
- Generally speaking TRAC-TROL trolleys don't need lubrication. To insure maximum life, all pneumatic cylinders should be supplied with filtered and lubricated air.



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BRAIDED PACKING & SHEET MATERIAL

STYLE 49 COPPER SQUARE PLAITED BRAID (MINIMUM 25#)		
PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
	1/4"	
	5/16"	
0049-0.375	3/8"	3.40
0049-0.437	7/16"	2.01
0049-0.500	1/2"	1.53
0049-0.562	9/16"	1.30
0049-0.625	5/8"	1.00
0049-0.750	3/4"	0.80
0049-0.875	7/8"	0.57
0049-1.000	1"	0.43
STYLE 50 CARBON YARN, IMPREGNATED WITH PTFE, INTERLOCK BRAID		
PART #	SIZE	FEET P/#
0050-0.125	1/8"	72.00
0050-0.187	3/16"	43.00
0050-0.250	1/4"	22.00
0050-0.312	5/16"	15.00
0050-0.375	3/8"	10.00
0050-0.437	7/16"	8.00
0050-0.500	1/2"	5.80
0050-0.562	9/16"	5.00
0050-0.625	5/8"	4.00
0050-0.750	3/4"	2.80
0050-0.875	7/8"	2.00
0050-1.000	1"	1.60



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STYLE 90 CARBON YARN, WITH BLOCKING AGENT AND GRAPHITE

PART #	SIZE	FEET P/#
0090-0.125	1/8"	160.00
0090-0.187	3/16"	58.00
0090-0.250	1/4"	39.00
0090-0.312	5/16"	21.00
0090-0.375	3/8"	15.30
0090-0.437	7/16"	11.70
0090-0.500	1/2"	8.80
0090-0.562	9/16"	7.80
0090-0.625	5/8"	6.00
0090-0.750	3/4"	4.10
0090-0.875	7/8"	3.00
0090-1.000	1"	2.20

154 PTFE FILAMENT, INTERLOCK BRAID (HARD, NO LUBRICANT)

PART #	SIZE	FEET P/#
0154-0.125	1/8"	78.00
0154-0.187	3/16"	39.00
0154-0.250	1/4"	20.00
0154-0.312	5/16"	13.70
0154-0.375	3/8"	9.30
0154-0.437	7/16"	7.20
0154-0.500	1/2"	5.30
0154-0.562	9/16"	4.30
0154-0.625	5/8"	3.20
0154-0.750	3/4"	2.40
0154-0.875	7/8"	1.80
0154-1.000	1"	1.40



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154-S PTFE FILAMENT, LUBRICATED, INTERLOCK BRAID (SOFT)

PART #	SIZE	FEET P/#
0154S-0.125	1/8"	78.00
0154S-0.187	3/16"	35.00
0154S-0.250	1/4"	21.00
0154S-0.312	5/16"	13.00
0154S-0.375	3/8"	8.80
0154S-0.437	7/16"	6.80
0154S-0.500	1/2"	5.40
0154S-0.562	9/16"	4.10
0154S-0.625	5/8"	3.40
0154S-0.750	3/4"	2.20
0154S-0.875	7/8"	1.80
0154S-1.000	1"	1.20

154 FDA PTFE FILAMENT, FOOD GRADE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0154FDA-0.125	1/8"	71.00
0154FDA-0.187	3/16"	39.00
0154FDA-0.250	1/4"	19.00
0154FDA-0.312	5/16"	12.90
0154FDA-0.375	3/8"	8.30
0154FDA-0.437	7/16"	6.80
0154FDA-0.500	1/2"	5.00
0154FDA-0.562	9/16"	4.20
0154FDA-0.625	5/8"	3.40
0154FDA-0.750	3/4"	2.40
0154FDA-0.875	7/8"	1.70
0154FDA-1.000	1"	1.40

156 PTFE FILAMENT, BRAIDED GASKET TAPE

PART #	SIZE	FEET P/#
0156-0.500X0.125	1/2" x 1/8"	15.00
0156-1.000X0.125	1" x 1/8"	7.00
0156-0.750X0.250	3/4" x 1/4"	8.00
0156-1.000X0.250	1" x 1/4"	5.00
0156-1.250X0.250	1-1/4" x 1/4"	4.00
0156-1.500X0.250	1-1/2" x 1/4"	3.40
0156-2.000X0.250	2" x 1/4"	2.30



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160 GRAPHITE FILAMENT, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0160-0.125	1/8"	100.00
0160-0.187	3/16"	61.00
0160-0.250	1/4"	29.00
0160-0.312	5/16"	22.00
0160-0.375	3/8"	15.00
0160-0.437	7/16"	12.00
0160-0.500	1/2"	6.20
0160-0.562	9/16"	6.00
0160-0.625	5/8"	4.50
0160-0.750	3/4"	3.30
0160-0.875	7/8"	2.60
0160-1.000	1"	2.20

165 GFO FIBER, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0165-0.125	1/8"	69.00
0165-0.187	3/16"	36.00
0165-0.250	1/4"	21.00
0165-0.312	5/16"	14.00
0165-0.375	3/8"	10.00
0165-0.437	7/16"	7.00
0165-0.500	1/2"	5.70
0165-0.562	9/16"	4.50
0165-0.625	5/8"	3.50
0165-0.750	3/4"	2.50
0165-0.875	7/8"	1.90
0165-1.000	1"	1.50



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165K PTFE/GRAPHITE FIBER, WITH ARAMID CORNERS, INTERLOCK BRAID

PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
0165K-0.250	1/4"	23.00
0165K-0.312	5/16"	16.00
0165K-0.375	3/8"	10.80
0165K-0.437	7/16"	8.50
0165K-0.500	1/2"	5.80
0165K-0.562	9/16"	4.80
0165K-0.625	5/8"	3.90
0165K-0.750	3/4"	2.60
0165K-0.875	7/8"	2.10
0165K-1.000	1"	1.60

165LA PTFE/GRAPHITE FIBER, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0165LA-0.125	1/8"	69.00
0165LA-0.187	3/16"	36.00
0165LA-0.250	1/4"	21.00
0165LA-0.312	5/16"	14.00
0165LA-0.375	3/8"	10.00
0165LA-0.437	7/16"	7.00
0165LA-0.500	1/2"	5.70
0165LA-0.562	9/16"	4.50
0165LA-0.625	5/8"	3.50
0165LA-0.750	3/4"	2.50
0165LA-0.875	7/8"	1.90
0165LA-1.000	1"	1.50



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170 ARAMID FILAMENT, LUBRICATED, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0170-0.125	1/8"	86.00
0170-0.187	3/16"	50.00
0170-0.250	1/4"	24.00
0170-0.312	5/16"	16.00
0170-0.375	3/8"	11.00
0170-0.437	7/16"	8.30
0170-0.500	1/2"	6.20
0170-0.562	9/16"	4.90
0170-0.625	5/8"	4.00
0170-0.750	3/4"	2.90
0170-0.875	7/8"	2.10
0170-1.000	1"	1.60

182 SPUN ARAMID FIBER WITH PTFE & LUBRICATED, INTERLOCK BRAID

PART #	SIZE	FEET P/#
0182-0.125	1/8"	82.00
0182-0.187	3/16"	45.00
0182-0.250	1/4"	23.00
0182-0.312	5/16"	16.60
0182-0.375	3/8"	11.00
0182-0.437	7/16"	9.70
0182-0.500	1/2"	6.20
0182-0.562	9/16"	5.70
0182-0.625	5/8"	5.00
0182-0.750	3/4"	3.20
0182-0.875	7/8"	2.30
0182-1.000	1"	1.80



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525T PREMIUM FLAX WITH PTFE, SQUARE PLAIED

PART #	SIZE	FEET P/#
0525T-0.125	1/8"	120.00
0525T-0.187	3/16"	50.00
0525T-0.250	1/4"	30.00
0525T-0.312	5/16"	20.00
0525T-0.375	3/8"	15.00
0525T-0.437	7/16"	10.00
0525T-0.500	1/2"	8.60
0525T-0.562	9/16"	6.60
0525T-0.625	5/8"	5.00
0525T-0.750	3/4"	3.60
0525T-0.875	7/8"	2.70
0525T-1.000	1"	2.10

528 FLAX, LUBRICATED, SQUARE PLAIED BRAID

PART #	SIZE	FEET P/#
0528-0.125	1/8"	139.00
0528-0.187	3/16"	59.00
0528-0.250	1/4"	28.00
0528-0.312	5/16"	21.00
0528-0.375	3/8"	14.80
0528-0.437	7/16"	10.70
0528-0.500	1/2"	8.60
0528-0.562	9/16"	6.50
0528-0.625	5/8"	5.10
0528-0.750	3/4"	3.60
0528-0.875	7/8"	2.80
0528-1.000	1"	2.30



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531 FLAX, PETROLEUM LUBRICATED & GRAPHITED, SQUARE PLATED

PART #	SIZE	FEET P/#
0531-0.125	1/8"	118.00
0531-0.187	3/16"	58.00
0531-0.250	1/4"	33.00
0531-0.312	5/16"	22.00
0531-0.375	3/8"	15.00
0531-0.437	7/16"	11.00
0531-0.500	1/2"	9.00
0531-0.562	9/16"	7.40
0531-0.625	5/8"	5.70
0531-0.750	3/4"	3.80
0531-0.875	7/8"	2.80
0531-1.000	1"	2.30

1100CR BRAIDED FLEXIBLE GRAPHITE PACKING WITH CARBON REINFORCED CORNERS

PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
1100CR-0.250	1/4"	33.00
1100CR-0.312	5/16"	21.00
1100CR-0.375	3/8"	14.80
1100CR-0.437	7/16"	10.50
1100CR-0.500	1/2"	8.00
1100CR-0.562	9/16"	7.20
1100CR-0.625	5/8"	5.70
1100CR-0.750	3/4"	3.80
1100CR-0.875	7/8"	3.20
1100CR-1.000	1"	2.50



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1100TCP CHEMGRAPH BRAIDED FLEXIBLE GRAPHITE PACKING

PART #	SIZE	FEET P/#
1100TCP-0.125	1/8"	103.00
1100TCP-0.187	3/16"	48.00
1100TCP-0.250	1/4"	33.00
1100TCP-0.312	5/16"	20.00
1100TCP-0.375	3/8"	12.00
1100TCP-0.437	7/16"	10.00
1100TCP-0.500	1/2"	7.00
1100TCP-0.562	9/16"	6.00
1100TCP-0.625	5/8"	5.00
1100TCP-0.750	3/4"	3.30
1100TCP-0.875	7/8"	2.50
1100TCP-1.000	1"	2.00

1100I BRAIDED FLEXIBLE GRAPHITE WITH INCONEL WIRE, API 589 & 607 FIRE TESTED

PART #	SIZE	FEET P/#
1100I-0.125	1/8"	110.00
1100I-0.187	3/16"	50.00
1100I-0.250	1/4"	30.00
1100I-0.312	5/16"	20.00
1100I-0.375	3/8"	13.00
1100I-0.437	7/16"	10.00
1100I-0.500	1/2"	7.00
1100I-0.562	9/16"	6.40
1100I-0.625	5/8"	5.00
1100I-0.750	3/4"	3.30
1100I-0.875	7/8"	2.60
1100I-1.000	1"	2.00



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1152 PREMIUM SYNTEX FIBER END COATED WITH PTFE, BREAK-IN-LUBE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
1152-0.125	1/8"	88.00
1152-0.187	3/16"	48.00
1152-0.250	1/4"	25.00
1152-0.312	5/16"	16.60
1152-0.375	3/8"	12.00
1152-0.437	7/16"	8.50
1152-0.500	1/2"	6.40
1152-0.562	9/16"	5.70
1152-0.625	5/8"	4.20
1152-0.750	3/4"	2.90
1152-0.875	7/8"	2.60
1152-1.000	1"	1.70

1152K SYNTEX FIBER WITH ARAMID CORNERS, BREAK-IN-LUBE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
1152K-0.250	1/4"	25.00
1152K-0.312	5/16"	17.00
1152K-0.375	3/8"	11.70
1152K-0.437	7/16"	8.80
1152K-0.500	1/2"	6.80
1152K-0.562	9/16"	5.70
1152K-0.625	5/8"	4.20
1152K-0.750	3/4"	3.20
1152K-0.875	7/8"	2.10
1152K-1.000	1"	1.60



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1162IB SYNTEx FIBER WITH PTFE, BREAK-IN-LUBE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
1162IB-0.125	1/8"	88.00
1162IB-0.187	3/16"	48.00
1162IB-0.250	1/4"	23.00
1162IB-0.312	5/16"	16.60
1162IB-0.375	3/8"	12.10
1162IB-0.437	7/16"	8.60
1162IB-0.500	1/2"	6.80
1162IB-0.562	9/16"	6.00
1162IB-0.625	5/8"	4.60
1162IB-0.750	3/4"	3.00
1162IB-0.875	7/8"	2.60
1162IB-1.000	1"	1.60

1190 KYNOL/PTFE WITH BREAK-IN-LUBE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
1190-0.125	1/8"	80.00
1190-0.187	3/16"	50.00
1190-0.250	1/4"	26.00
1190-0.312	5/16"	19.00
1190-0.375	3/8"	13.00
1190-0.437	7/16"	10.00
1190-0.500	1/2"	7.40
1190-0.562	9/16"	6.00
1190-0.625	5/8"	4.60
1190-0.750	3/4"	3.20
1190-0.875	7/8"	2.50
1190-1.000	1"	1.90



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1398 SYNTEx FIBER, LUBRICATED & GRAPHITED, INTERLOCK BRAID

PART #	SIZE	FEET P/#
1398-0.125	1/8"	100.00
1398-0.187	3/16"	61.00
1398-0.250	1/4"	33.00
1398-0.312	5/16"	23.00
1398-0.375	3/8"	15.00
1398-0.437	7/16"	10.00
1398-0.500	1/2"	8.80
1398-0.562	9/16"	6.90
1398-0.625	5/8"	5.90
1398-0.750	3/4"	4.00
1398-0.875	7/8"	3.70
1398-1.000	1"	2.70

1398 SYNTEx FIBER, LUBRICATED, NO GRAPHITE, INTERLOCK BRAID

PART #	SIZE	FEET P/#
1398NG-0.125	1/8"	100.00
1398NG-0.187	3/16"	61.00
1398NG-0.250	1/4"	33.00
1398NG-0.312	5/16"	23.00
1398NG-0.375	3/8"	15.00
1398NG-0.437	7/16"	10.00
1398NG-0.500	1/2"	8.80
1398NG-0.562	9/16"	6.90
1398NG-0.625	5/8"	5.90
1398NG-0.750	3/4"	4.00
1398NG-0.875	7/8"	3.70
1398NG-1.000	1"	2.70



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1414 NON-ASBESTOS HI-TEMP FIBER WITH INCONEL OVER CORE

PART #	SIZE	FEET P/#
1414-0.125	1/8"	90.00
1414-0.187	3/16"	46.00
1414-0.250	1/4"	21.00
1414-0.312	5/16"	13.80
1414-0.375	3/8"	9.60
1414-0.437	7/16"	7.00
1414-0.500	1/2"	5.40
1414-0.562	9/16"	4.20
1414-0.625	5/8"	3.40
1414-0.750	3/4"	2.40
1414-0.875	7/8"	1.80
1414-1.000	1"	1.30

1415 SYNTEx FIBER, LUBRICATED & GRAPHITED, TWISTED

PART #	SIZE	FEET P/#
1415-0.062	1/16"	340.00
1415-0.125	1/8"	140.00
1415-0.187	3/16"	70.00
1415-0.250	1/4"	55.00
1415-0.312	5/16"	46.00
1415-0.375	3/8"	13.00
1415-0.437	7/16"	9.40
1415-0.500	1/2"	7.00
	9/16"	
	5/8"	
	3/4"	
	7/8"	
	1"	



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1416 DRY FIBERGLASS, SQUARE PLAITED

PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
1416-0.250	1/4"	30.00
1416-0.312	5/16"	21.00
1416-0.375	3/8"	18.00
1416-0.437	7/16"	12.00
1416-0.500	1/2"	10.60
1416-0.562	9/16"	8.00
1416-0.625	5/8"	6.00
1416-0.750	3/4"	3.30
1416-0.875	7/8"	3.00
1416-1.000	1"	2.50

1416IB DRY FIBERGLASS, INTERLOCK BRAID

PART #	SIZE	FEET P/#
	1/8"	
	3/16"	
	1/4"	
	5/16"	
	3/8"	
	7/16"	
1416IB-0.500	1/2"	7.20
1416IB-0.562	9/16"	5.70
1416IB-0.625	5/8"	4.40
1416IB-0.750	3/4"	3.20
1416IB-0.875	7/8"	2.40
1416IB-1.000	1"	1.90



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1430 SYNTHEX FIBER, LUBRICATED & GRAPHITED, SQUARE PLATED

PART #	SIZE	FEET P/#
1430-0.125	1/8"	100.00
1430-0.187	3/16"	61.00
1430-0.250	1/4"	34.00
1430-0.312	5/16"	22.00
1430-0.375	3/8"	16.00
1430-0.437	7/16"	10.60
1430-0.500	1/2"	9.00
1430-0.562	9/16"	6.00
1430-0.625	5/8"	5.50
1430-0.750	3/4"	3.80
1430-0.875	7/8"	2.60
1430-1.000	1"	2.20

2000 WHITE META-ARAMID WITH PTFE & BREAK-IN-LUBE

PART #	SIZE	FEET P/#
2000-0.125	1/8"	90.00
2000-0.187	3/16"	50.00
2000-0.250	1/4"	26.00
2000-0.312	5/16"	18.00
2000-0.375	3/8"	10.00
2000-0.437	7/16"	8.00
2000-0.500	1/2"	6.20
2000-0.562	9/16"	5.10
2000-0.625	5/8"	4.10
2000-0.750	3/4"	3.20
2000-0.875	7/8"	2.00
2000-1.000	1"	1.60



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3165 PTFE/GRAPHITE FIBER, INTERLOCK BRAID

PART #	SIZE	FEET P/#
3165-0.125	1/8"	62.00
3165-0.187	3/16"	42.00
3165-0.250	1/4"	20.00
3165-0.312	5/16"	12.50
3165-0.375	3/8"	9.30
3165-0.437	7/16"	6.80
3165-0.500	1/2"	5.40
3165-0.562	9/16"	4.00
3165-0.625	5/8"	3.20
3165-0.750	3/4"	2.40
3165-0.875	7/8"	1.70
3165-1.000	1"	1.30

1000 GRT. GRAPHITE FLEXIBLE RIBBON TAPE (.015 TK)

PART #	SIZE	
1000-0.250X025	1/4" X 25'	
1000-0.500X025	1/2" X 25'	
1000-0.750X050	3/4" X 50'	
1000-1.000X050	1" X 50'	

4100 CHEMPAK-PTFE VALVE STEM PACKING

PART #	SIZE	
4100-0.093X050	3/32" X 50'	
4100-0.156X025	5/32" X 25'	
4100-0.218X015	7/32" X 15'	
4100-0.281X009	9/32" X 9'	

4200 CHEMCORD PTFE JOINT SEALANT WITH ADHESIVE STRIP

PART #	SIZE	#
4200-0.125X100	1/8" X 100'	
4200-0.187X075	3/16" X 75'	
4200-0.250X050	1/4" X 50'	
4200-0.375X025	3/8" X 25'	
4200-0.500X015	1/2" X 15'	
4200-0.625X015	5/8" X 15'	
4200-0.750X015	3/4" X 15'	
4200-1.000X015	1" X 15'	



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GMH CHEMGRAPH FLEXIBLE GRAPHITE, STD. INDUSTRIAL GRADE, HOMOGENEOUS

PART #	SIZE	
GMH-0.031X060X060	1/32" X 60" X 60"	
GMH-0.062X060X060	1/16" X 60" X 60"	
GMH-0.125X060X060	1/8" X 60" X 60"	

GMT CHEMGRAPH FLEXIBLE GRAPHITE, CLINCHED TO .005", STAINLESS STEEL TANG CORE

PART #	SIZE	
GMT-0.031X060X060	1/32" X 60" X 60"	
GMT-0.062X060X060	1/16" X 60" X 60"	
GMT-0.125X060X060	1/8" X 60" X 60"	

GMF CHEMGRAPH FLEXIBEL GRAPHITE, BONDED TO .002", STAINLESS STEEL FOIL

PART #	SIZE	
GMF-0.031X060X060	1/32" X 60" X 60"	
GMF-0.062X060X060	1/16" X 60" X 60"	
GMF-0.125X060X060	1/8" X 60" X 60"	

4000 GENERAL SERVICE, NBR BINDER, GREEN

PART #	SIZE	#
4000-0.015X060X060	1/64" X 60" X 60"	4.00
4000-0.031X060X060	1/32" X 60" X 60"	7.50
4000-0.062X060X060	1/16" X 60" X 60"	15.50
4000-0.093X060X060	3/32" X 60" X 60"	23.00
4000-0.125X060X060	1/8" X 60" X 60"	31.00
4000-0.187X060X060	3/16" X 60" X 60"	46.00
4000-0.250X060X060	1/4" X 60" X 60"	62.00

5000 GENERAL SERVICE, NBR BINDER, OFF WHITE

PART #	SIZE	#
5000-0.015X060X060	1/64" X 60" X 60"	4.00
5000-0.031X060X060	1/32" X 60" X 60"	7.50
5000-0.062X060X060	1/16" X 60" X 60"	15.50
5000-0.093X060X060	3/32" X 60" X 60"	23.00
5000-0.125X060X060	1/8" X 60" X 60"	31.00
5000-0.187X060X060	3/16" X 60" X 60"	46.00
5000-0.250X060X060	1/4" X 60" X 60"	62.00



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8750 WIRE INSERTED, NBR BINDER, GRAPHITED, BLACK

PART #	SIZE	#
8750-0.031X060X060	1/32" X 60" X 60"	11.00
8750-0.062X060X060	1/16" X 60" X 60"	18.00
8750-0.093X060X060	3/32" X 60" X 60"	26.00
8750-0.125X060X060	1/8" X 60" X 60"	35.00

8900 CARBON/GRAPHITE STEAM SHEET, NBR BINDER, BLACK

PART #	SIZE	#
8900-0.015X060X060	1/64" X 60" X 60"	4.00
8900-0.031X060X060	1/32" X 60" X 60"	8.00
8900-0.062X060X060	1/16" X 60" X 60"	15.00
8900-0.093X060X060	3/32" X 60" X 60"	24.00
8900-0.125X060X060	1/8" X 60" X 60"	30.00



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Braided Packing Cross Reference

STYLE	AM. BRAIDING	ANCHOR	CHESTERTON	CRANE	GARLOCK
1-T		1320	1729		740
49	895	399	420	550	344
50	4000	1328	1738	1655CF	5000
90	4000G	1332	370/477-1	1650CF	98/88
154	344	1121	1724/324	C1045	5888/PM7
154S	344BIL	1123	328/1728	C1050	5889/PM8
154FDA	344FDA	1165	1725	715/1055	5900
156	344T	1123BT	382	C1050M	620
160	8000/8000G	1342/1343	1/375	1625G	200
165	8000T	1128		C1065	5100
165LA	8200BIL		1750	C1070	PM6
165K	8000TK			C1064	6K
170	300	1335	1740	1730	5200/PM5
182		1334		1760	8904/PM4
525T	345	381	329	867	5413
528	921	380	80	863N	18
531	921G	386	81	866	90/131
531NG					18/31
1100CR	5000C		1400R	G57	
1100I	5000I		1600	G581	1303FEP
1100TCP	5000	815	1400	1656/G58	1300
1152		1326/1334/1338/1339	1710/412W	1335	8922/PM1
1152K	3000TK	1338K			8921K
1162		313T			
1162IB	3000T	1173	1710/1774	1335	PM1
1190	320		1727		
1398	3000G	1337/1333		1340	8913/PM2
1398NG					8917
1398MOLLY					8906
1414	4000I/3030INA	809GL/814	1800	387-1	127AFP/1200PBI
1416					
1416IB					5450
1420		1319			8939B
1430		313			8909/PM3
2000			1730	C1070	
3165	8100BIL		1760		PM6



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STYLE	JM	PALMETTO	RM	SEPCO	TEADIT	UTEX
1-T		1607	524	ML1		
49	280					
50	C44	1588	864	ML4461	2012	228/249
90	5319/C45/C19	1585	861/862	ML4460	2002	226
154	VX1	1367H	847	ML2254	2005	232
154S	CX1	1367S	849	ML2235	2006	231
154FDA	VX2	1367F	848	ML2236FDA	2006FDA	245
156		1367T	846	2210	3070	
160	C1/C2	1555	863	ML4444	2001	229
165	5320/C26	1389	845	ML4002	210	
165LA				ML3600	2007	
165K	C27	1359	844	ML4004 ML8004	2017	214
170	C17/5317	1350	981	ML4800	2004	213
182	C67	1392	951	ML6225	2044	222
525T		1613	523/528T	219	2421	201/206
528	CW2/CW3 CW4	1600	522	2	2138	200
531	C240	1600G	525		2177	204
531NG					155	
1100CR					2202	687
1100I	CW2000		GRAPHA- STAR		2000I	
1100TCP	CW2010	5000	GRAPHA- BRAID	ML2001	2000	686
1152	C47/C49	1347AF	941	ML2225		238
1152K			945	ML2225A		241
1162		1346AF	942			
1162IB	C47/C49	1347AF/100BAF	941	ML2225	2019	237
1190		1392	980	ML2400	2777	248
1398	C51	1007AF 1030AF	943/968	ML402 ML6402	2255	236
1398NG						
1398MOLLY						
1414	333	4062AF	925	ML310	2214	683/684
1416	G39			FG4		132
1416IB		591				
1420						
1430			944			233
2000						
3165			846	ML8002		244



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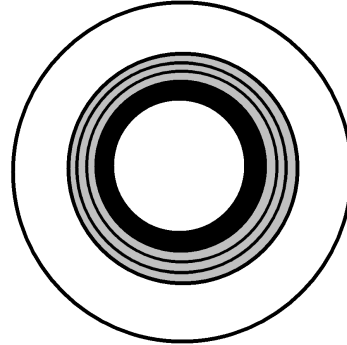
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FAX: 586-795-4767

Spiral Wound WR Gaskets

CS	CARBON STEEL
SS	304 STAINLESS STEEL
S6	316L STAINLESS STEEL
FG	FLEXIBLE GRAPHITE
TF	TEFLON
CR	CERAMIC
MI	MICA



Spiral Wound WR Gaskets (ASME B16.20)				
SIZE	#	OD	ID	FILL
1/2"	150	CS	S6	FG
1/2"	300	CS	S6	FG
1/2"	600	CS	S6	FG
1/2"	900	CS	S6	FG
1/2"	1500	CS	S6	FG
1/2"	2500	CS	S6	FG
3/4"	150	CS	S6	FG
3/4"	300	CS	S6	FG
3/4"	600	CS	S6	FG
3/4"	900	CS	S6	FG
3/4"	1500	CS	S6	FG
3/4"	2500	CS	S6	FG
1"	150	CS	S6	FG
1"	300	CS	S6	FG
1"	600	CS	S6	FG
1"	900	CS	S6	FG
1"	1500	CS	S6	FG
1"	2500	CS	S6	FG
1-1/4"	150	CS	S6	FG
1-1/4"	300	CS	S6	FG
1-1/4"	600	CS	S6	FG
1-1/4"	900	CS	S6	FG
1-1/4"	1500	CS	S6	FG
1-1/4"	2500	CS	S6	FG
1-1/2"	150	CS	S6	FG

SIZE	#	OD	ID	FILL
1-1/2"	300	CS	S6	FG
1-1/2"	600	CS	S6	FG
1-1/2"	900	CS	S6	FG
1-1/2"	1500	CS	S6	FG
1-1/2"	2500	CS	S6	FG
2"	150	CS	S6	FG
2"	300	CS	S6	FG
2"	600	CS	S6	FG
2"	900	CS	S6	FG
2"	1500	CS	S6	FG
2"	2500	CS	S6	FG
2-1/2"	150	CS	S6	FG
2-1/2"	300	CS	S6	FG
2-1/2"	600	CS	S6	FG
2-1/2"	900	CS	S6	FG
2-1/2"	1500	CS	S6	FG
2-1/2"	2500	CS	S6	FG
3"	150	CS	S6	FG
3"	300	CS	S6	FG
3"	600	CS	S6	FG
3"	900	CS	S6	FG
3"	1500	CS	S6	FG
3"	2500	CS	S6	FG
4"	150	CS	S6	FG
4"	300	CS	S6	FG
4"	600	CS	S6	FG



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SIZE	#	OD	ID	FILL
4"	900	CS	S6	FG
4"	1500	CS	S6	FG
4"	2500	CS	S6	FG
5"	150	CS	S6	FG
5"	300	CS	S6	FG
5"	600	CS	S6	FG
5"	900	CS	S6	FG
5"	1500	CS	S6	FG
5"	2500	CS	S6	FG
6"	150	CS	S6	FG
6"	300	CS	S6	FG
6"	600	CS	S6	FG
6"	900	CS	S6	FG
6"	1500	CS	S6	FG
6"	2500	CS	S6	FG
8"	150	CS	S6	FG
8"	300	CS	S6	FG
8"	600	CS	S6	FG
8"	900	CS	S6	FG
8"	1500	CS	S6	FG
8"	2500	CS	S6	FG
10"	150	CS	S6	FG
10"	300	CS	S6	FG
10"	600	CS	S6	FG
10"	900	CS	S6	FG
10"	1500	CS	S6	FG
10"	2500	CS	S6	FG
12"	150	CS	S6	FG
12"	300	CS	S6	FG

SIZE	#	OD	ID	FILL
12"	600	CS	S6	FG
12"	900	CS	S6	FG
12"	1500	CS	S6	FG
12"	2500	CS	S6	FG
14"	150	CS	S6	FG
14"	300	CS	S6	FG
14"	600	CS	S6	FG
14"	900	CS	S6	FG
14"	1500	CS	S6	FG
16"	150	CS	S6	FG
16"	300	CS	S6	FG
16"	600	CS	S6	FG
16"	900	CS	S6	FG
16"	1500	CS	S6	FG
18"	150	CS	S6	FG
18"	300	CS	S6	FG
18"	600	CS	S6	FG
18"	900	CS	S6	FG
18"	1500	CS	S6	FG
20"	150	CS	S6	FG
20"	300	CS	S6	FG
20"	600	CS	S6	FG
20"	900	CS	S6	FG
20"	1500	CS	S6	FG
24"	150	CS	S6	FG
24"	300	CS	S6	FG
24"	600	CS	S6	FG
24"	900	CS	S6	FG
24"	1500	CS	S6	FG



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FULL FACE STYLE GASKETS

125#, 150# STANDARD & LOW PRESSURE

PIPE	NEW		OLD	
	ID	OD	ID	OD
3/4	1 1/16	3 7/8	3/4	3 7/8
1	1 5/16	4 1/4	1	4 1/4
1 1/4	1			
	21/32	4 5/8	1 1/4	4 5/8
1 1/2	1			
	29/32	5	1 1/2	5
2	2 3/8	6	2	6
2 1/2	2 7/8	7	2 1/2	7
3	3 1/2	7 1/2	3	7 1/2
3 1/2	4	8 1/2	3 1/2	8 1/2
4	4 1/2	9	4	9
4 1/2	5	9 1/4	4 1/2	9 1/4
5	5 9/16	10	5	10
6	6 5/8	11	6	11
7	7 5/8	12 1/2	7	12 1/2
8	8 5/8	13 1/2	8	13 1/2
10	10 3/4	16	10	16
12	12 3/4	19	12	19
14	14	21	14	21
15	15	22 1/4	15	22 1/4
16	16	23 1/2	16	23 1/2
18	18	25	18	25
20	20	27 1/2	20	27 1/2
22	22	29 1/2	22	29 1/2
24	24	32	24	32
26	26	34 1/4	26	34 1/4
28	28	36 1/2	28	36 1/2
30	30	38 3/4	30	38 3/4
36	36	46	36	46
42	42	53	42	53
48	48	59 1/2	48	59 1/2



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FAX: 586-795-4767

FULL FACE STYLE GASKETS 250#, 300# MEDIUM & HIGH PRESSURE

PIPE	NEW ID	OD	OLD ID	OD
1	1 5/16	4 7/8	1	4 7/8
1 1/4	1 21/32	5 1/4	1 1/4	5 1/4
1 1/2	1 29/32	6 1/8	1 1/2	6 1/8
2	2 3/8	6 1/2	2	6 1/2
2 1/2	2 7/8	7 1/2	2 1/2	7 1/2
3	3 1/2	8 1/4	3	8 1/4
3 1/2	4	9	3 1/2	9
4	4 1/2	10	4	10
4 1/2	5	10 1/2	4 1/2	10 1/2
5	5 9/16	11	5	11
6	6 5/8	12 1/2	6	12 1/2
7	7 5/8	14	7	14
8	8 5/8	15	8	15
9	9 5/8	16 1/4	9	16 1/4
10	10 3/4	17 1/2	10	17 1/2
12	12 3/4	20 1/2	12	20 1/2
14	14	23	13 1/4	23
15	15	24 1/2	14 1/4	24 1/2
16	16	25 1/2	15 1/4	25 1/2
18	18	28	17	28
20	20	30 1/2	19	30 1/2
22	22	33	21	33
24	24	36	23	36



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SEALING PRODUCTS

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TELEPHONE: 586-498-8540

FAX: 586-795-4767

RING STYLE GASKETS 125#, 150# STANDARD & LOW PRESSURE

PIPE	NEW ID	OD	OLD ID	OD
1/2	27/32	1 7/8		
3/4	1 1/16	2 1/4	3/4	2 1/8
1	1 5/16	2 5/8	1	2 5/8
1 1/4	1 21/32	3	1 1/4	3
1 1/2	1 29/32	3 3/8	1 1/2	3 3/8
2	2 3/8	4 1/8	2	4 1/8
2 1/2	2 7/8	4 7/8	2 1/2	4 7/8
3	3 1/2	5 3/8	3	5 3/8
3 1/2	4	6 3/8	3 1/2	6 3/8
4	4 1/2	6 7/8	4	6 7/8
4 1/2	5	7	4 1/2	7
5	5 9/16	7 3/4	5	7 3/4
6	6 5/8	8 3/4	6	8 3/4
7	7 5/8	10	7	10
8	8 5/8	11	8	11
10	10 3/4	13 3/8	10	13 3/8
12	12 3/4	16 1/8	12	16 1/8
14	14	17 3/4	14	17 3/4
15	15	19	15	19
16	16	20 1/4	16	20 1/4
18	18	21 5/8	18	21 5/8
20	20	23 7/8	20	23 7/8
22	22	26	22	26
24	24	28 1/4	24	28 1/4
26	26	30 1/2	26	30 1/2
28	28	32 3/4	28	32 3/4
30	30	34 3/4	30	34 3/4
36	36	41 1/4	36	41 1/4
42	42	47 7/8	42	47 7/8
48	48	54 3/8	48	54 3/8



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RING STYLE GASKETS 250#, 300# MEDIUM & HIGH PRESSURE

PIPE	NEW ID	OD	OLD ID	OD
1/2	27/32	2 1/8		
3/4	1 1/16	2 5/8		
1	1 5/16	2 7/8	1	2 7/8
1 1/4	1 21/32	3 1/4	1 1/4	3 1/4
1 1/2	1 29/32	3 3/4	1 1/2	3 3/4
2	2 3/8	4 3/8	2	4 3/8
2 1/2	2 7/8	5 1/8	2 1/2	5 1/8
3	3 1/2	5 7/8	3	5 7/8
3 1/2	4	6 1/2	3 1/2	6 1/2
4	4 1/2	7 1/8	4	7 1/8
4 1/2	5	7 5/8	4 1/2	7 5/8
5	5 9/16	8 1/2	5	8 1/2
6	6 5/8	9 7/8	6	9 7/8
7	7 5/8	10 7/8	7	10 7/8
8	8 5/8	12 1/8	8	12 1/8
10	10 3/4	14 1/4	10	14 1/4
12	12 3/4	16 5/8	12	16 5/8
14	14	19 1/8	13 1/4	19 1/8
15	15	20 1/8	14 1/4	20 1/8
16	16	21 1/4	15 1/4	21 1/4
18	18	23 1/2	17	23 1/2
20	20	25 3/4	19	25 3/4
22	22	27 5/8	21	27 5/8
24	24	30 1/2	23	30 1/2
26				
28				
30	30	37 1/2	29	37 1/2
36	36	44	34 1/2	44
42	42	50 3/4	40 1/4	50 3/4
48	48	58 3/4	46	58 3/4



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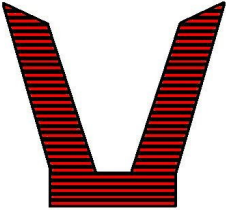
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Flared U-Cups

	Style 800 (Type HOMO) Homogenous material used in low-pressure systems.
	Style 821 (Type 11) Rock hard fabric re-enforced material. Used in high-pressure systems.
	Style 830 (Type 13) Medium hard fabric re-enforced material. Used in medium to high-pressure systems. This is the most commonly used material.
	Style 856 (Type HB) Homogenous lip with a fabric re-enforced heel. Used in low to medium-pressure systems. The soft lip seals at lower pressure and the fabric heel prevents rolling at medium pressure



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Standard Available Sizes

Inner Diameter	Outer Diameter	Height
1	2-1/4	.540
1-3/8	1-7/8	5/16
1-1/4	2	1/2
1-5/16	1-15/16	3/8
1-1/2	2	3/8
1-1/2	2	1/4
1-1/2	2-1/4	3/8
1-1/2	2-1/4	1/2
1-5/8	2-3/8	3/8
1-13/16	2-7/16	1/2
1-3/4	2-1/2	1/2
1-7/8	2.386	1/2
2	2-1/2	7/32
2	2-1/2	3/8
2	2-3/4	1/2
2	3	5/8
2-1/4	3	.350
2-1/4	3	3/8
2-1/4	3	1/2
2-3/8	3	5/16
2-3/8	3	3/8
2-1/2	3-1/4	11/32
2-1/2	3-1/4	1/2
2-5/8	3-3/8	3/8
2-13/16	3-7/16	1/2
2-3/4	3-1/2	3/8
2-3/4	3-1/2	.400
2-3/4	3-1/2	1/2
3	3-3/4	3/8
3	3-3/4	7/16
3	3-3/4	1/2
3	4	1/2
3	4	3/4
3-1/16	3-15/16	3/4
3-1/8	4-1/8	1/2
3-1/4	4	3/8
3-1/4	4	1/2
3-3/8	4-1/8	1/2



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Inner Diameter	Outer Diameter	Height
3-1/2	4	3/8
3-1/2	4-1/4	3/8
3-1/2	4-1/4	1/2
3-1/2	4-1/2	1/2
3-1/2	4-1/2	1/2
3-9/16	4-7/16	1/2
3-3/4	4-1/2	1/2
4	4-3/4	1/2
4	5	7/16
4	5	13/16
4	5	1
4-1/16	4-15/16	27/32
4-3/16	5	1/2
4-7/32	4-31/32	1/2
4-1/4	5	3/8
4-1/4	5	1/2
4-1/4	5	9/16
4-1/2	5-1/4	1/2
4-3/4	5-1/2	1/2
4-3/4	5-3/4	1/2
4-7/8	5-7/8	1/2
5	5-3/4	1/2
5	6	1/2
5	6	3/4
5-3/16	5-15/16	1/2
5-7/32	5-31/32	1/2
5-1/4	6	1/2
5-1/2	6-1/4	1/2
5-3/4	6-1/2	1/2
6	6-3/4	1/2
6	7	1/2
6	7	7/8
6	7	1
6-3/16	6-15/16	1/2
6-7/32	6-31/32	1/2
6-1/4	7	1/2
6-1/2	7-1/4	1/2
6-1/2	8-1/2	1
7	7-3/4	1/2
7	8	1/2
7	8	3/4



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Inner Diameter	Outer Diameter	Height
7-3/16	8	1/2
7-1/4	8	1/2
7-3/4	8-1/2	1/2
8	8-3/4	1/2
8	8-3/4	9/16
8	9	1/2
8	9-1/2	3/4
8-7/32	8-31/32	1/2
8-1/4	9	1/2
8-1/2	9-1/2	3/4
8-3/4	9-1/2	1/2
9	9-3/4	1/2
9	10	1/2
9-3/16	9-15/16	1/2
9-3/16	10	1/2
9-1/4	10	1/2
9-1/2	10-1/4	1/2
9-3/4	10-3/4	3/4
10	10-3/4	1/2
10	11	5/8
10	11-1/2	1
10-1/16	10-13/16	1/2
10-1/8	10-7/8	1/2
10-1/2	11	1/2
10-3/16	10-15/16	1/2
10-1/4	11	1/2
10-5/8	11-5/8	3/4
10-3/4	11-1/2	1/2
11	12	3/4
11-1/8	11-7/8	1/2
11-1/8	12	1/2
11-3/16	12	1/2
11-1/4	12	1/2
11-1/4	13-3/4	1-3/16
11-1/2	12-1/2	1
11-1/2	13-1/2	1-3/16
11-5/8	12-5/8	1
11-3/4	12-1/2	1/2
12	13-1/4	1-1/4
12	13-1/2	1
12	14	1-1/4



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Inner Diameter	Outer Diameter	Height
12-1/16	12-13/16	1/2
12-1/8	12-7/8	1/2
12-1/2	13-1/2	3/4
13-1/8	13-7/8	1/2
13-3/16	14	1/2
13-1/4	14	1/2
13-3/8	14-3/8	3/4
14	14-7/8	1/2
14	16	1
14-1/16	14-13/16	1/2
14-1/8	14-7/8	1/2
14-1/2	15-1/2	3/4
14-3/4	16	1-1/8
15	15-3/4	1/2
15-1/8	15-7/8	1/2
15-1/8	16	1/2
15-3/16	16	1/2
15-1/4	16	1/2
15-3/8	16-3/8	3/4
15-7/8	16-7/8	3/4
16	17-1/2	1-1/4
16	17-3/4	1
16	18	1-1/4
16-1/16	16-13/16	3/4
16-7/8	17-7/8	3/4
17-1/4	18	1/2
17-1/2	18-1/2	3/4
17-7/8	18-7/8	3/4
18	19-1/2	1
18-3/4	20	1-1/8
18-7/8	19-7/8	3/4
19-7/8	20-7/8	3/4
20	21	3/4
20	21-1/2	1-3/8
20	21-3/4	1-1/8
20-1/16	21-1/16	3/4
20-7/8	21-7/8	3/4
22	23	1/2
22	23	3/4
22-7/8	23-7/8	3/4
23	24	3/4



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Inner Diameter	Outer Diameter	Height
23-3/8	24-3/8	3/4
23-7/8	24-7/8	3/4
24-1/16	25-1/16	3/4
24-7/8	25-7/8	3/4
26	27	3/4
26	27-3/4	1-1/4
26-7/8	27-7/8	3/4
27	28	3/4
27-1/2	28-1/2	1/2
27-7/8	28-7/8	3/4
28-3/4	29-1/2	1/2
28-7/8	29-7/8	3/4
29	30	3/4
29-7/8	30-7/8	3/4
30-7/8	31-7/8	3/4
32-7/8	33-7/8	3/4
33-7/8	34-7/8	3/4
34-7/8	35-7/8	3/4
35	36	3/4
35-1/2	36-1/2	1/2
36-1/16	37-1/16	3/4
36-7/8	37-7/8	3/4
38-7/8	39-7/8	3/4
40-1/16	41-1/16	3/4
40-7/8	41-7/8	7/8
42-7/8	43-7/8	3/4
44-7/8	45-7/8	3/4
45-3/8	46-3/8	3/4
46-1/32	47-9/32	13/16
46-7/8	47-7/8	3/4
48-7/8	49-7/8	3/4

Custom and non-standard sizes available.



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SEALING PRODUCTS

TOLL FREE: 1-800-245-3307

TELEPHONE: 586-498-8540
Garlock 432 Spiral Vee Set

FAX: 586-795-4767

CROSS SECTION	VEE HEIGHT	ADAPTER HEIGHT MALE + FEMALE
1-1/8"	0.453	1.250
1"	0.406	1.125
7/8"	0.375	1.000
3/4"	0.328	0.844
5/8"	0.281	0.718
9/16"	0.234	0.656
1/2"	0.234	0.594
7/16"	0.234	0.500
3/8"	0.188	0.438

CHEVRON® Packings for High Pressure Service

In unusually high pressure applications, CHEVRON® packing might need to be reinforced to prevent undue distortion from this extreme pressure. The following are examples of some design considerations that can be used to overcome problems experienced with standard components (such as 432, 433, etc.).

"D" filler rings can be installed in the groove of the hinge-type CHEVRON® Vee Rings to prevent distortion of the packing without interfering with the automatic hinge action of the rings. If the CHEVRON® Vee Rings still tend to telescope into each other, metal separators (lead or bronze) can be installed between the CHEVRON® Vee Rings.

When pressure ranges exceed those normally satisfied with standard Style 432, 433 or 532 adapters, the stronger rockhard adapters such as 260RH, 261RH and 7857RH should be considered.

When a problem relates to excessive clearances, a close tolerance phenolic (Style 155) or bronze bushing installed behind the female adapter will act as additional support and reduce the extrusion gap. A phenolic or bronze female adapter will serve the same purpose.

These configurations have been used successfully to extend the life of CHEVRON® packing sets. However, specific applications should be considered on an individual basis, taking into account the type of equipment, size, temperature, media being sealed, pressure, surface speed, condition of equipment and any other contributing factors.

Min. Temperature:	-40 (°F)
Max. Temperature:	275 (°F)
Max. Pressure:	2000 (PSI)
Min. Shaft Diameter:	0.25 (°F x PSIG)
Max. Shaft Diameter	90 (°F x PSIG)



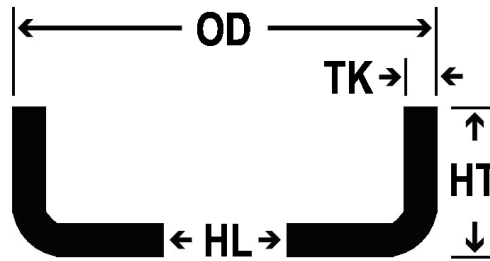
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Neoprene with fabric reinforcement

STANDARD PISTON CUP SIZES – NEO/FAB

OD	HOLE	HT	MATERIAL
1/2	3/16	1/4	N/F
3/4	0	7/16	N/F
13/16	0	3/8	N/F
7/8	0	7/16	N/F
15/16	0	3/8	N/F
1	1/4	5/16	N/F
1	1/4	1/2	N/F
1	7/16	1/4	N/F
1-1/8	7/16	7/16	N/F
1-1/4	0	1/2	N/F
1-3/8	0	3/8	N/F
1-1/2	1/2	5/16	N/F
1-1/2	13/16	13/32	N/F
1-1/2	0	7/16	N/F
1-9/16	1/2	7/16	N/F
1-9/16	7/8	3/8	N/F
1-5/8	0	3/8	N/F
1-5/8	0	1/2	N/F
1-5/8	5/8	3/4	N/F
1.650	1/2	1/2	N/F
1-11/16	0	7/16	N/F
1-7/8	0	1/2	N/F
1-15/16	5/8	1/2	N/F
2	0	3/8	N/F
2	0	1/2	N/F
2	0	5/8	N/F

OD	HOLE	HT	MATERIAL
2-1/8	0	9/16	N/F
2-1/8	0	1/2	N/F
2-3/16	0	1/2	N/F
2-3/16	5/8	5/8	N/F
2-1/4	0	1/2	N/F
2-5/16	5/8	5/8	N/F
2-3/8	0	5/16	N/F
2-3/8	0	3/8	N/F
2-1/2	0	1/2	N/F
2-1/2	0	13/32	N/F
2-1/2	1/2	1/2	N/F
2-1/2	1-1/16	1/2	N/F
2-5/8	0	1/2	N/F
2-3/4	1/8	1/2	N/F
2-3/4	3/8	1/2	N/F
2-3/4	0	5/8	N/F
2-7/8	0	5/16	N/F
2-7/8	5/8	5/8	N/F
2-15/16	5/8	5/8	N/F
3	1/2	1/2	N/F
3	0	1/2	N/F
3	5/8	9/16	N/F
3	0	9/16	N/F
3-1/4	5/8	5/8	N/F
3-1/4	1-3/8	1/2	N/F
3-5/16	5/8	5/8	N/F



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OD	HOLE	HT	MATERIAL
3-3/8	0	9/16	N/F
3-1/2	0	1/2	N/F
3-1/2	1/2	1/2	N/F
3-1/2	0	9/16	N/F
3-1/2	2-1/4	1/2	N/F
3-1/2	2-1/4	9/16	N/F
3-9/16	5/8	5/8	N/F
3-5/8	0	1/2	N/F
3-3/4	0	5/8	N/F
3-3/4	1/2	5/8	N/F
3-7/8	1/2	5/8	N/F
4	0	3/4	N/F
4	1/2	1/2	N/F
4-1/4	0	5/8	N/F
4-1/2	0	3/4	N/F
4-1/2	1/2	3/4	N/F
4-3/4	0	5/8	N/F
5	0	3/4	N/F
5	2-3/4	3/4	N/F
5	3	1/2	N/F
5-1/8	0	1	N/F
5-1/4	0	3/4	N/F
5-1/2	0	9/16	N/F
5-1/2	0	3/4	N/F
5-3/4	0	3/4	N/F
6	0	5/8	N/F
6	0	3/4	N/F
6	0	1	N/F
6	2-3/4	3/4	N/F
6	3-5/8	3/4	N/F
6	4-1/4	1	N/F
6-1/2	0	3/4	N/F
6-1/2	0	1	N/F
6-3/4	4-1/2	3/4	N/F
7	1-1/4	3/4	N/F
7	5	1	N/F
7-3/4	5	3/4	N/F
8	0	13/16	N/F
8	1-1/4	1-1/2	N/F
8	5-1/4	7/8	N/F

OD	HOLE	HT	MATERIAL
8	6	1	N/F
9	1-1/2	1	N/F
9	6-1/2	1	N/F
9	7	1	N/F
10	1	1	N/F
10	5-1/2	1	N/F
10	7-3/8	3/4	N/F
10	7-3/8	7/8	N/F
10	8	1	N/F
11	5	1	N/F
11-1/4	9-1/4	1-1/4	N/F
12	9-3/8	3/4	N/F
12	9-1/2	1	N/F
12	10	1	N/F
13	11	1	N/F
14	11	1-1/4	N/F
14	11-3/8	3/4	N/F
14	12	1	N/F
14-1/2	7	3/4	N/F
15	5	7/8	N/F
15	13	1	N/F
16	13-3/8	3/4	N/F
16	14	1	N/F
16-1/2	14-1/2	3/4	N/F
17	5	1	N/F
17	15	1	N/F
18	14-5/8	7/8	N/F
18	15-1/2	1-1/4	N/F
18	15-3/8	3/4	N/F
18	16-1/2	3/4	N/F
19	16-1/8	3/4	N/F
19	16-1/2	1	N/F
19	16-5/8	7/8	N/F
20	15	7/8	N/F
20	17-1/4	3/4	N/F
20	17-1/2	1-1/4	N/F
20-1/4	18-1/4	3/4	N/F
21	19	3/4	N/F
22	17-1/16	1-1/4	N/F
22	19-1/4	7/8	N/F



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OD	HOLE	HT	MATERIAL
22	19-1/2	1-1/4	N/F
22	19-3/4	3/4	N/F
23	19-5/8	3/4	N/F
23	19-5/8	7/8	N/F
23	20-5/16	1-3/4	N/F
23	21	3/4	N/F
24	20-3/4	3/4	N/F
24	21-1/2	3/4	N/F
24	21-1/2	1-1/4	N/F
25	20	1	N/F
26	22-5/8	7/8	N/F
26	23-1/2	1-1/4	N/F
26	23-5/8	1	N/F
26-1/2	24-1/2	3/4	N/F
27	24-1/2	3/4	N/F
27	24-1/2	1-1/4	N/F
28	25	7/8	N/F
28	25-1/2	1-1/4	N/F
29	26-1/2	1-1/4	N/F

OD	HOLE	HT	MATERIAL
30	27-1/2	3/4	N/F
30	27-1/2	1-1/4	N/F
32	29-3/4	3/4	N/F
32	29-1/2	1-1/4	N/F
34	31-1/2	1-1/4	N/F
35	32-1/2	1	N/F
36	33-1/2	1-1/4	N/F
38	35	1-1/4	N/F
40	37	1-1/2	N/F
42	39	1-1/2	N/F
44	41	1-1/2	N/F
46	43	1-1/2	N/F
48	45	1-1/2	N/F
49	46	1-1/2	N/F
50	47	1-1/2	N/F
54	51	1-1/2	N/F
56	53	1-1/2	N/F
64	61	1-1/2	N/F

Many cups are also available with no center hole.

Custom holes can be cut in solid cups.



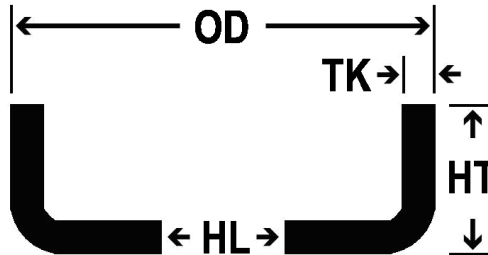
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STANDARD PISTON CUP SIZES – URETHANE

OD	HOLE	HT	MATERIAL
7/16	0	1/4	UR
1/2	0	1/4	UR
3/4	0	1/4	UR
3/4	0	3/8	UR
7/8	0	1/4	UR
7/8	0	3/8	UR
1	0	1/2	UR
1-1/16	0	1/2	UR
1-1/8	0	1/2	UR
1-1/4	0	1/2	UR
1-3/8	0	7/16	UR
1-3/8	0	1/2	UR
1-7/16	0	1/2	UR
1-1/2	0	1/2	UR
1-5/8	0	3/8	UR
1-5/8	0	1/2	UR
1-3/4	0	1/2	UR
1-7/8	0	1/2	UR
1-15/16	0	1/2	UR
2	0	1/2	UR
2-1/8	0	1/2	UR
2-1/4	0	1/2	UR
2-5/16	0	1/2	UR
2-3/8	0	1/2	UR
2-1/2	0	1/2	UR
2-9/16	0	5/8	UR
2-5/8	0	1/2	UR
2-3/4	0	5/8	UR
2-7/8	0	1/2	UR

OD	HOLE	HT	MATERIAL
2-7/8	0	5/8	UR
3	0	5/8	UR
3-1/4	0	1/2	UR
3-1/4	0	5/8	UR
3-3/8	0	5/8	UR
3-1/2	0	5/8	UR
3-3/4	0	5/8	UR
4	0	5/8	UR
4-1/8	0	5/8	UR
4-1/4	0	1/2	UR
4-1/4	0	5/8	UR
4-1/2	0	5/8	UR
4-3/4	0	3/4	UR
5	0	5/8	UR
5	0	3/4	UR
5-1/4	0	3/4	UR
5-1/2	0	3/4	UR
5-3/4	0	3/4	UR
6	0	5/8	UR
6	0	3/4	UR
6	0	1	UR
6-1/2	0	3/4	UR
6-3/4	0	3/4	UR
7	0	3/4	UR
7-1/2	0	1	UR
8	0	3/4	UR
8	0	1	UR
8-1/2	0	1	UR
9	0	1	UR



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OD	HOLE	HT	MATERIAL
9-1/2	0	1	UR
10	0	3/4	UR
10	0	1	UR
10	0	1-1/2	UR
10-1/4	0	1-1/4	UR

OD	HOLE	HT	MATERIAL
11	0	1-1/4	UR
12	0	1-1/4	UR
13	0	1	UR
13	0	1-1/4	UR
16	0	1-1/4	UR

Custom sizes are also available.

Custom holes can be cut in solid cups.



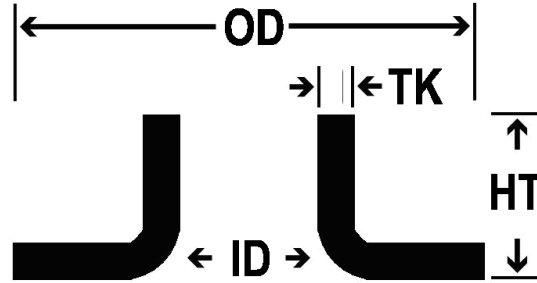
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Neoprene with fabric reinforcement

STANDARD FLANGE SIZES – NEO/FAB

ID	OD	HT	MATERIAL
1/2	7/8	1/4	N/F
5/8	1-1/8	5/16	N/F
5/8	1-1/8	7/16	N/F
5/8	1	5/8	N/F
3/4	1-1/2	5/16	N/F
3/4	2-1/8	3/8	N/F
3/4	1-1/2	19/32	N/F
3/4	1-1/2	1/2	N/F
1	1-3/4	7/16	N/F
1-1/8	1-7/8	3/8	N/F
1-1/8	3-1/8	1/2	N/F
1-1/4	2-3/4	5/8	N/F
1-5/16	2-1/16	9/16	N/F
1-3/8	2-1/4	3/4	N/F
1-3/8	2-1/2	5/8	N/F
1-5/8	2-9/16	1/2	N/F
1-11/16	3-1/4	5/8	N/F
1-3/4	3-5/16	1/2	N/F
1-29/32	3-1/2	5/8	N/F
2	2-7/8	1/2	N/F
2-1/4	3-1/4	5/8	N/F
2-7/16	3-1/2	9/16	N/F
2-1/2	3	5/8	N/F
2-1/2	3-3/4	5/8	N/F
2-1/2	4	5/8	N/F
2-9/16	3-1/2	1/2	N/F
2-5/8	3-3/4	1/2	N/F

ID	OD	HT	MATERIAL
2-5/8	4-1/8	5/8	N/F
3	4-1/2	5/8	N/F
3-1/4	4-5/8	5/8	N/F
3-1/4	4-3/4	5/8	N/F
3-1/2	5	5/8	N/F
3-3/4	5-1/4	5/8	N/F
4	5-3/8	5/8	N/F
4	5-1/2	5/8	N/F
4-1/4	5-3/4	5/8	N/F
4-3/8	5-5/8	5/8	N/F
4-3/8	5-7/8	5/8	N/F
4-1/2	6	5/8	N/F
4.597	4.996	7/16	N/F
4-3/4	6	5/8	N/F
4-3/4	6-1/4	5/8	N/F
4-7/8	6-3/8	5/8	N/F
5	6-1/2	5/8	N/F
5-1/4	6-3/4	5/8	N/F
5-7/16	6-1/2	5/8	N/F
5-1/2	7	5/8	N/F
5-5/8	7-1/8	5/8	N/F
5-3/4	7-1/4	5/8	N/F
5-3/4	7-3/4	3/4	N/F
5-7/8	7-3/8	5/8	N/F
6	7-1/2	5/8	N/F
6-1/2	8	5/8	N/F
6-1/2	8-1/2	3/4	N/F



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ID	OD	HT	MATERIAL
6-1/2	9-1/8	1	N/F
6-3/4	8-1/4	3/4	N/F
6-3/4	10	7/8	N/F
7	8-1/2	5/8	N/F
7-1/4	8-3/4	5/8	N/F
7-1/4	9-1/4	3/4	N/F
7-1/4	10-1/2	7/8	N/F
7-5/16	9-7/8	7/8	N/F
7-1/2	8-9/16	5/8	N/F
7-1/2	10-1/2	3/4	N/F
7-3/4	10-3/4	5/8	N/F
8	11-1/8	7/8	N/F
8-3/8	10-1/2	3/4	N/F
8-1/2	9-9/16	5/8	N/F
8-1/2	10-1/2	3/4	N/F
8-1/2	11-3/4	3/4	N/F
9	10-1/2	5/8	N/F
9	11-1/4	3/4	N/F
9	12	7/8	N/F
9-1/2	12-3/4	7/8	N/F

ID	OD	HT	MATERIAL
10	11-1/2	5/8	N/F
10	11-1/2	3/4	N/F
10	12	1	N/F
10-5/8	12-1/8	5/8	N/F
11	13-1/4	3/4	N/F
12	14-1/4	3/4	N/F
14	16-1/2	3/4	N/F
16	18-1/2	3/4	N/F
18	20-1/2	1	N/F
24	26-1/2	1-1/4	N/F
26	28-1/2	1-1/4	N/F
26	31-3/8	1-1/2	N/F
30	35-3/8	1-1/2	N/F
32	35	1-1/4	N/F
36	41-3/8	1-1/2	N/F
33-1/4	41-3/8	1-1/2	N/F
38	43-3/8	1-1/2	N/F
44	49-3/8	1-1/2	N/F
46	51-3/8	1-1/2	N/F



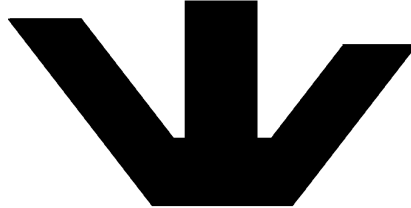
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E-Rings

AVAILABLE BORE SIZES:

4-1/2	5	5-1/2	5-5/8
6	6-1/2	7	8
8-1/2	9-1/2	10	10-3/4
12	12-1/4	14	14-1/2
15-1/4	16	16-3/16	17-1/4
18	18-1/2	19	19-1/4
20	22	23	23-1/4
24	25-1/4	25-1/2	26
26-1/4	27	28	29
30	32	34	35
36	38	40	42
44	46	47	48



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Single Cartridge

The Delta single cartridge product family offers a range of designs that targets 85% of the non-cartridge world population by adapting to U.S. ANSI and European DIN standards for pump seals without pump modifications.

Delta's cartridge single seals provide value laden design features with superior leading edge technologies, such as narrow face technology and finite element analysis, at competitive price levels to set the standard for all other cartridge seal manufacturers to attempt to achieve.

End users can benefit from dramatic seal maintenance cost reductions on two levels. First, an affordable high technology cartridge seal for conversion of packed stuffing boxes without modification, non-cartridge seals and old high cost / low technology design cartridge seals. Second, the use of design features with benefits that provide maximized seal performance in 90% of all seal applications with resulting long term seal maintenance cost control and reduction.

Double Cartridge

Double seals and Tandem seals are required for process fluids containing abrasive slurries or hazardous / toxic chemicals and require an externally supplied barrier buffer fluids to pressurize, lubricate and cool the Inboard and Outboard seal faces.

The Delta double cartridge product family targets 85% of the non-cartridge world population by adapting to U.S. ANSI and European DIN standards for pump seals without pump modifications. Delta's double cartridge seals provide value laden design features with superior leading edge technologies, such as advanced pumping feature designs and finite element analysis, at competitive price levels to set the standard for all other cartridge seal manufacturers to attempt to achieve.

End users can benefit from dramatic seal maintenance cost reductions on two levels. First, an affordable high technology cartridge seal for conversion of packed stuffing boxes without modification, non-cartridge seals and old high cost / low technology design cartridge seals. Second, the use of design features with benefits that provide maximized performance in 90% of all seal applications with resulting long term seal maintenance control and reduction.



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Split

Only two major components assemble and install in three easy steps setting a new standard for split seal ease of installation. New design eliminates installation problems commonly associated with current designs! The gland and rotary unit come preassembled; seal installation takes minutes! The gland has all components, including the stationary seal face, preinstalled. The rotating unit has all components, including: the rotary seal face, preinstalled.

Seal available in off the shelf rugged heavy duty gland casting with robust face and rotary construction in sizes from 1.437" to 5.250".

Provides reliable operation and eliminates assembly and installation related failures.
Accommodates the widest range of applications with cost effective availability

Other manufacturers are also available.



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Leather Seals

Before there were elastomers, there was leather. The ancient Egyptians used leather for sealing by necessity.

Why is it still being used today for presses, cylinders, valves, etc.? The main reason is flexibility. Here are a few examples:

Leather has an extremely large sealing tolerance that conforms to and polishes the surface it is sealing.

Leather through chemical impregnation or fillers can fulfill a wide range of needs.

Leather can replace seals no longer manufactured or replace current seals that are unattainable due to lead-time, expense, etc.

Leather, from us, can be formed from 1/2 to 96 inches outer diameter; custom made to your specifications.

Leather, from us, can be ready to ship in 24 hours or less if needed.

Give us a call and we will be happy to go in depth with you on how your application can benefit from the use of leather.

Please see the leather worksheet for instructions on how to order.



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Garlock Klosure Seals

Single Lip - Spring Loaded - General Purpose Lubricant Retention Seals

	Model #	Features
	26	• General purpose, non-metallic seal. • Molded one piece construction.
	53	• Heavy duty case. • General purpose, standard seal. • Assembled design.
	59	• Moderate to severe operating conditions. • Heavy duty metal case. • Assembled design.
	63	• Equivalent to Model 53. • Assembled design.
	64	• Severe service seal in steel mills and heavy equipment industry • Assembled design.
	66	• Equivalent to Model 76 with heavy duty case. • Assembled design.
	67	• General purpose. • Strong sealing element. • Assembled design.



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	76	• General purpose. • Fits minimum space. • Bonded design.
	88	• Moderately severe service seal with rubber outside diameter to ease installation. • Molded design.
	92	• Equivalent to Model 76 with rubber outside diameter for non-ferrous housings. • Bonded design.

Single Lip - No Spring - Retains Heavy Lubricants - Excludes Contaminants with Reverse Installation

	Model #	Features
	71	• General Purpose, standard seal • Bonded design
	91	• Equivalent to Model 71 with rubber outside diameter for non-ferrous housings. • Bonded design.



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Dual Opposed Lips - Both Lips with Spring - Separates Lubricant from a Dissimilar Fluid

	Model #	Features
	53R2	• Heavy duty case. • Assembled design.
	63R2	• Equivalent to Model 53R2. • Assembled design.

Dual Opposed Lips - One Lip with Spring - Sprung Lip Retains Lubricants, Un-Sprung Lip

Excludes Contaminants

	Model #	Features
	3	• General purpose standard design. • Bonded design.
	53R1	• Heavy duty case. • Equivalent to Model 63R1. • Assembled design.
	53F1	• Felt element excludes contaminants. • Assembled design.



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	57	• Slow speed applications. • Caster applications. • Available with single and dual lips.
	63F1	• Equivalent to Model 53F1. • Assembled design.
	78	• Similar to Model 3. • Fits minimum space. • Bonded design.
	94	• Equivalent to Model 3 with rubber outside diameter for non-ferrous housings. • Bonded design.

Dual Tandem Lips Retain Lubricants

	Model #	Features
	53TB	• Non spring front lip serves as a baffle. • Sprung back lip for effective sealing. • Assembled design.
	63TB	• Non spring front lip serves as a baffle. • Sprung back lip for effective sealing. • Assembled design.



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Dual Tandem Lips Retain Lubricants - Offers Extra Sealing Assurance

	Model #	Features
	53T2	- Both lips have spring for effective sealing. - Assembled design.
	63T2	- Both lips have spring for effective sealing. - Assembled design.

Single Lip Split - Retains Lubricants - Eliminates Costly Equipment Tear Down

	Model #	Features
	21	- Low speed service seal. - Cover plate required for sealing installation.
	23	- General purpose service seal. - Cover plate required for sealing installation.
	24	- Low speed service seal. - Tapered outside diameter fits in tapered groove housing. - Improved replacement for felt rings.
	25	- PTFE element for extremely severe chemicals. - Cover plate required for sealing installation.



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	26	• General purpose non-metallic seal. • Molded one piece construction. • No cover plate required. • Reinforced heel.
---	-----------	--

External Lip Seals

	Model #	Features
	111	• External lip seal. • Low speed service. • Assembled design.
	113	• External lip seal. • Moderate speed service. • Assembled design.
	123	• External lip seal. • Moderate speed service. • Assembled design.



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Special Purpose

	Model #	Features
	54	• Seals spherical surface on self-aligning or spherical bearing. • Excludes contaminants or fluids from bearing. • Assembled design.
	62	• PTFE element. • Excellent chemical resistance. • Recommended for small quantity requirements. • Assembled design.
	142	• Seals on plane surface perpendicular to axis or shaft. • Developed for steel mill service to shield bearing oil seals from contaminants. • Assembled design.
	145	• Face type seal. • High speed service.

For more information, please call us or refer to the

Klozure Oil Seals Master Catalog from Garlock, Inc.



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PRESS PARTS

Do you have an American, European, or Japanese press that you need to repair? We can supply you with all the seals you need. We have a huge inventory of standard press seals to ensure you a fast delivery (usually next day delivery). Even if your part is not standard, with our custom capabilities we can significantly reduce the lead-time on your parts. Give us a call!

FLARED U-CUPS in stock up to 60"+

PISTON CUPS available up to 90" +

FLANGES available up to 90" +

VEE/CHEVRON SETS in any size stocked up to 1-1/8" cross section

CAST IRON PISTON RINGS custom made up to 90"+

KLOZURE SEALS stocked in many sizes

LEATHER SEALS custom made up to 90"+

POLYPAKS stocked up to 40"+

GASKETS custom made to your specifications

BRAIDED PACKING stocked in many styles and cross sections

FELT PACKING

O-RINGS

E-RINGS

And any other parts that you may need.

We have supplied parts for:

Baldwin	Hamilton	Lake Erie
Danly	Verson	Bliss
Clearing	Niagara	LCM
Minster	Komatsu	And many others



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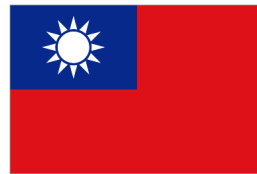
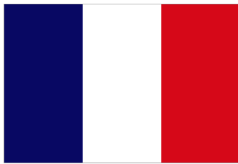
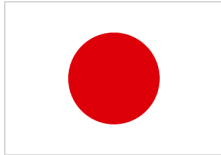
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FAX: 586-795-4767

METRIC SEALS



MANUFACTURERS:

HALLITE

SIMRIT

DICHTOMATIK

SKYY

HUNGER

MERKEL

FREUNDENBERG

NOK

SKF

BUSAK

SHAMBAN

PRADIFA

KACO

JOSEF FEY

SAKAGAMI

VALQUA

INA

DISOGRIN

BURGMANN

FORSHEDA

T-LON

CFW

PDF

DOWTY

FEY

SEALMAC

More manufacturers available.



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BERGES VARIABLE SPEED PULLEYS & BELTS



Obtaining the desired speed in the simplest way while maintaining the constant optimum efficiency of the motor, is what makes mechanical control technology from BERGES so economic.

With their modular construction our variable pulley systems are logical in their symmetrical design and mechanically simple in the way they

work. The use of high-grade materials makes the variable pulleys virtually indestructible and maintenance-free. And that is not the only reason why BERGES variable pulleys have been at home in many varied mechanical applications for more than 50 years.





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SEALING PRODUCTS

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FAX: 586-795-4767

WELDING SUPPLIES



EQUIPMENT

Miller Welders, Lincoln Welders, Thermal Arc Welders, ESAB Welders,
Plasma Cutters, Cutting Machines, Robotics, Torches, Regulators, Manifolds,
Piping, Line Burners, MIG & TIG Machines, Torches, Guns, Power Tools,
Grinders,
Fume Extractors, Air Moving Blowers & Fans, Carbon Arc Gouging, Hard Facing,
Pre/Post Heating, Replacement Parts, Tips, Liners, Nozzles,
Equipment Rentals and Repairs

MATERIALS

Carbon/Stainless Steel/Tool & Die/Maintenance Electrodes,
Mig Welding Wire, Tig Welding Rods, Solders, Silver Solders,
Fluxes, Spools, Drums, Pay-Off Paks, Carbon Rods, Oxygen Lances

SUPPLIES

Safety Supplies, Mill Supplies, Industrial Supplies, Hose,
Fittings, Cable, Cable Fittings, Holders, Ground Clamps,
Personal Protective Equipment, Auto Darkening Welder Hoods,
Replacement lens and parts.



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MAINTENANCE SUPPLIES



Steel & Plastic Grating
Oil Absorbent Materials
Rubber Matting
Coco Matting
Specialty Hand Tools
Safety Supplies
Mill Supplies
Industrial Supplies
Hoses

Fittings
Sealants & Lubricants
Cables
Cable Fittings
Holders
Ground Clamps
Personal Protective Equipment
Auto Darkening Welder Hoods
Replacement Lens & Parts



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PRINTING INDUSTRY PRODUCTS

BLANKETS

DYC Supply (Kynyo)
Day International

VARNISH (UV, WATER-BASED, OIL BASED)

Kellstar International, Algan, Noveon

SUNPAK PAPER

CROMWELL PAPER

LITHPAK

LAMINA INC (BUSHINGS, RETAINERS, ETC)

F&H NOZZLE SP. (NOZZLES AND NEEDLES)

NORTON WHEELS (GRINDING WHEELS)

MG ELECTRIC LIMITED (FILTER BAGS)

FENNER DRIVES (EAGLE BELTS)

DOVEY AMERICAS (BENTON PRODUCTS)

MSC INDUSTRIAL (PARTS IN GENERAL)

3M

ELECTRO-CHEMICAL DEVICES

KODAK (PLATES)

BERGES (PULLEYS AND BELTS)

GRAPHITE METTALIZING CORP. (CARBON BUSHINGS)

TEXTILE INDUSTRIES (FILTERS)

COLE PARMER (INSTRUMENTATION)

SUCTION CUPS

PAUL AND GARDNER (LAB EQUIPMENT)

BULBTRONICS (U.V. LAMPS)

LINCOLN PUMPS

ERIEZ MANUFACTURING (MAGNETS)

SILGAN CORPORATION

GALCO INDUSTRIAL (ELECTRONICS)

DAMPENING COVERS



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SEALING PRODUCTS

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FAX: 586-795-4767

PRINTING INDUSTRY PRODUCTS

MANTILLAS LITOGRAFICAS

DYC Supply (Kynyo)
Day International

BARNICES (UV, ACUOSOS, ACEITE)

Kellstar International, Algan, Noveon

PAPEL SUNPAK

PAPEL CROMWELL

PAPEL LITHPAK

LAMINA INC

(BUJES, RETENEDORES, ETC)
F&H NOZZLE SP. (BOQUILLAS)

NORTON WHEELS (PIEDRAS DE RECTIFICADO)

MG ELECTRIC LIMITED (BOLSAS DE FILTRO)

FENNER DRIVES (CORREAS)

DOVEY AMERICAS (PRODUCTOS BENTON)

MSC INDUSTRIAL (REPUESTOS EN GENERAL)

3M

ARTEFACTOS ELECTRO-QUIMICOS

KODAK

(PLANCHAS LITOGRAFICAS)

BERGES (POLEAS Y CORREAS)

GRAPHITE METALIZING CORP.
(BOCINAS DE CARBON)

TEXTILE INDUSTRIES (FILTROS)

COLE PARMER

(INSTRUMENTACION)

COPAS DE SUCCION

PAUL AND GARDNER
(EQUIPOS DE LAB)

BULBTRONICS (LAMPARAS UV)

BOMBAS LINCOLN

ERIEZ MANUFACTURING (IMANES)

SILGAN CORPORATION

GALCO INDUSTRIAL
(ELECTRONICOS)

DAMPENING COVERS



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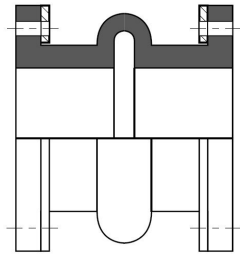
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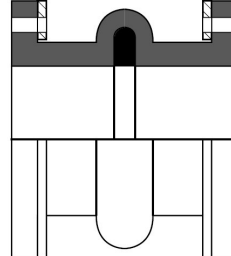
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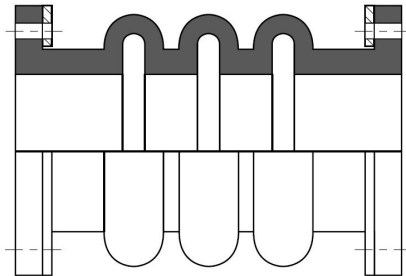
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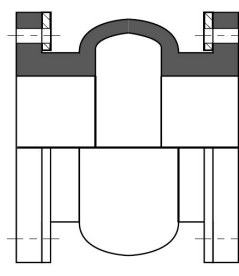
SINGLE ARCH



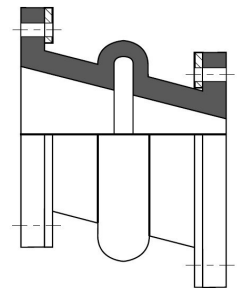
FILLED ARCH



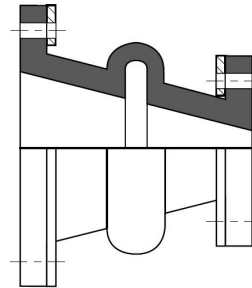
MULTIPLE ARCH



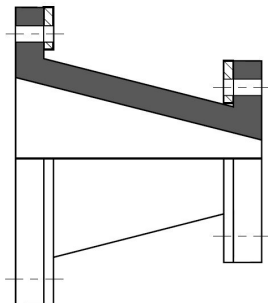
WIDE ARCH



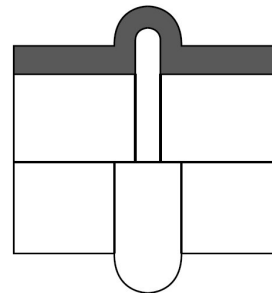
OFFSET



TAPERED



REDUCER



SLIP-ON



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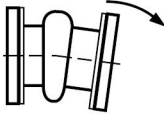
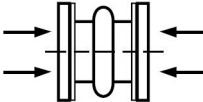
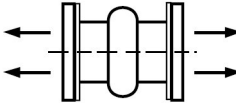
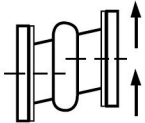
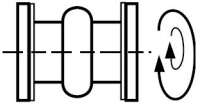
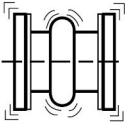
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EXPANSION JOINT DEFINITIONS

	Angular Movement - The angular displacement of the longitudinal axis of the expansion joint from its initial straight line position, measured in degrees. This is a combination of axial elongation and axial compression.
	Axial Compression - The dimensional reduction or shortening in the face-to-face parallel length of the joint measured along the longitudinal axis.
	Axial Elongation - The dimensional increase or lengthening of face-to-face parallel length of the joint measured along the longitudinal axis.
	Lateral or Transverse Deflection - The movement or relating displacement of the two ends of the joint perpendicular to its longitudinal axis.
	Torsional Movement - The twisting of one end of an expansion joint with respect to the other end about its longitudinal axis. Such movement is measured in degrees.
	Vibration - The ability of a flexible connector to absorb mechanical oscillations in the system, usually high frequency.



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EXPANSION JOINT WORKSHEET

TYPE:
INNER DIAMETER OR PIPE SIZE:
FACE TO FACE DIMENSION:
OUTSIDE DIAMETER:
HOLE SIZE:
NUMBER OF HOLES:
BOLT CIRCLE:
MEDIUM CONVEYED (GAS, LIQUID, ETC.):
PRESSURE/VACUUM RANGE:
TEMPERATURE RANGE:
MIN. / MAX. ANGULAR MOVEMENT:
MIN. / MAX. AXIAL COMPRESSION:
MIN. / MAX. AXIAL ELONGATION:
MIN. / MAX. LATERAL / TRANSVERSE DEFLECTION:
MIN. / MAX. TORSIONAL MOVEMENT:
VIBRATION:
DUCT MATERIAL:
DUCT MATERIAL THICKNESS:
DO YOU NEED REPLACEMENT RETAINING RINGS:
ADDITIONAL NOTES:



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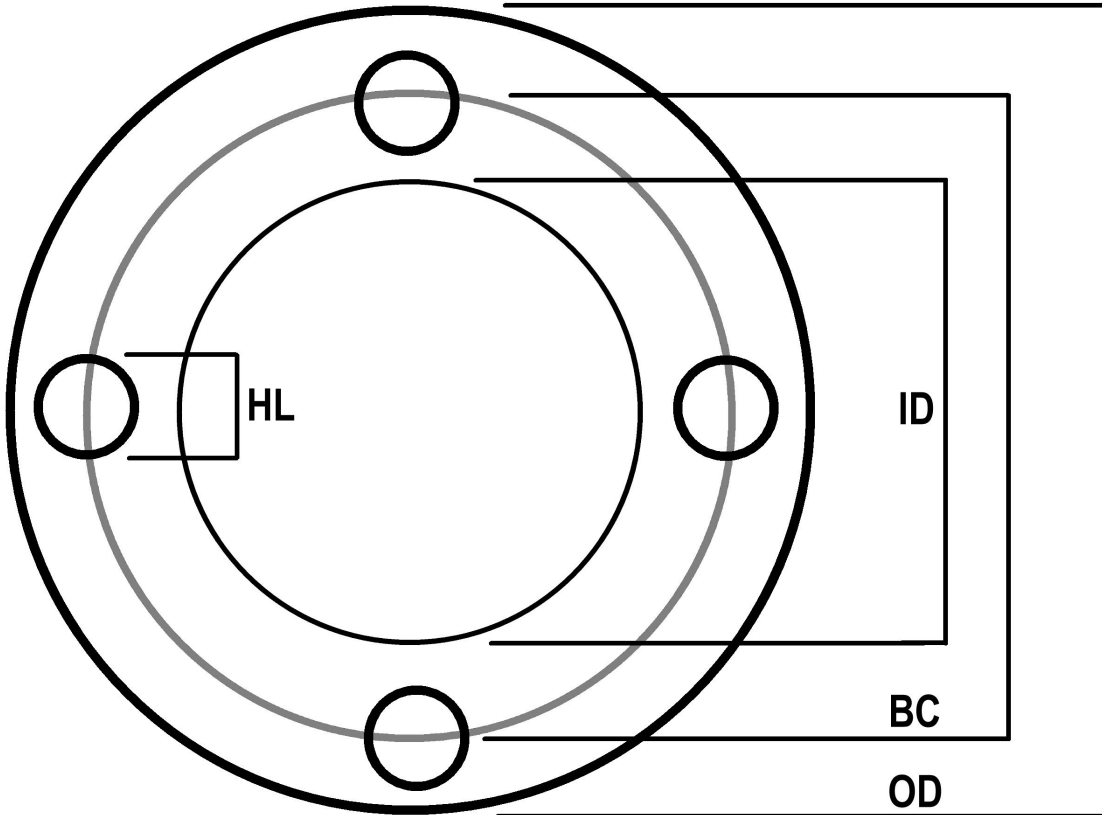
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CIRCULAR GASKET WORKSHEET



OUTER DIAMETER (OD)	
INNER DIAMETER (ID)	
BOLT CIRCLE (BC)	
HOLE DIAMETER (HL)	
NUMBER OF HOLES	
THICKNESS OF MATERIAL	
MATERIAL TYPE	
OPERATING TEMPRATURE	
NOTES:	



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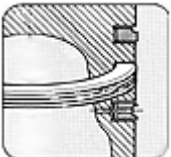
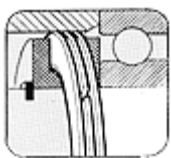
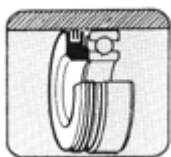
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FAX: 586-795-4767

LAMINAR SEALING RINGS

Laminar Sealing Rings are non-contacting (labyrinth) seals, ranging from 15 - 1300mm in diameter (0.6 - 51 inches) and are produced as single and double wound versions; several grades of spring-steel are available (including stainless steel up to $\varnothing$ 850mm (33.5 inches)).

FK2: 	Laminar Sealing Rings for pistons of internal combustion engines, compressors, pneumatics and hydraulics, shock absorbers etc.
FK3: 	Single wound Laminar Rings as grease seals for plain and roller bearings.
FK4: 	Laminar Sealing Rings for pistons in freeform and drop forging machines, presses, hydraulic controls and distributors.
FK5 / FK5-HFL: 	"FK5-HFL": Double wound Laminar Sealing Rings for compensators in exhaust-pipe systems of combustion engines, turbines, continuous casting equipment etc.
FK6: 	Double wound Laminar Sealing Rings as seals for grease lubricated ball and roller bearings in especially demanding applications; also for very high speeds.
FK8: 	Complete seal unit with plastic ring carrier for grease lubricated axle bearing.



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LAMINAR SEALING RINGS WORKSHEET

PROJECT ID:	PART #:
-------------	---------

THE LAMINAR RINGS ARE USED TO SEAL AGAINST:

- | | | |
|--|---|--|
| ☐ SPLASH WATER | ☐ LOSS OF OIL | ☐ DUST |
| ☐ CUTTING FLUID | ☐ LOSS OF GREASE | ☐ CONTAMINATION |
| ☐ OTHER: | | |

DO THE LAMINAR RINGS PROTECT OTHERS SEALS?

☐ YES

☐ NO

IF YES, WHAT KIND OF SEAL? :

HOUSING

RPM:	BORE DIAMETER:	☐ INCHES	☐ MM
------	----------------	---------------------------------	-----------------------------

SHAFT

RPM:	SHAFT DIAMETER:	☐ INCHES	☐ MM
------	-----------------	---------------------------------	-----------------------------

OPERATING TEMPRATURE

MINIMUM:	MAXIMUM:	☐ CELSIUS	☐ FARENHEIT
----------	----------	----------------------------------	------------------------------------

MOVEMENT

AXIAL:	☐ INCHES	☐ MM
RADIAL:	☐ INCHES	☐ MM

FREQUENCY:

FREQUENCY:

PRESSURE

MINIMUM:	MAXIMUM:	☐ BAR	☐ PSI
----------	----------	------------------------------	------------------------------

RELUBRICATION

- ☐ NO ☐ YES, VIA:

CORROSIVE ENVIROMENT

- ☐ NO ☐ YES:

MATERIAL

HOUSING:	HARDNESS:
SHAFT:	HARDNESS:

NOTES



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SEALING PRODUCTS

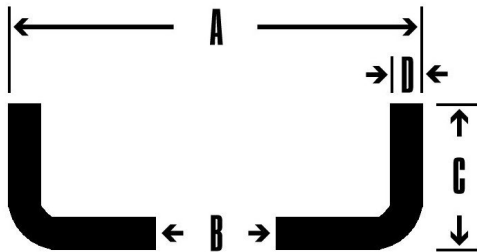
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TELEPHONE: 586-498-8540

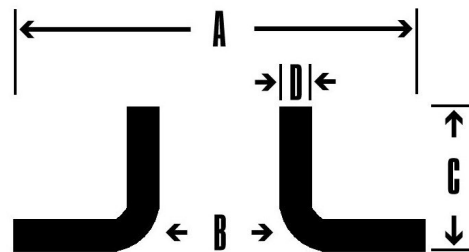
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LEATHER SEAL WORKSHEET

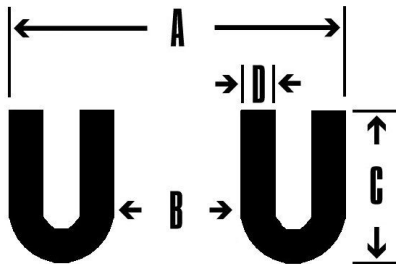
Piston Cup (P)



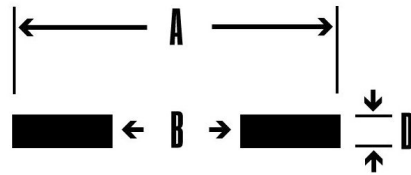
Flange (F)



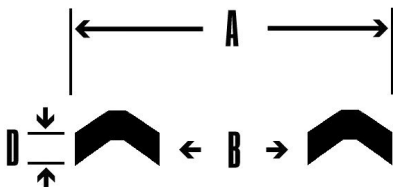
U-Cup (U)



Washer (W)



Vee (V)





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FAX: 586-795-4767

Quantity	Seal Type	A	B	C	D	Service *

* For service please specify Air (A), Hydraulic (H), Water (W), or Other (O)

Notes:



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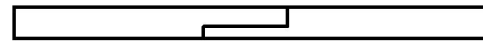
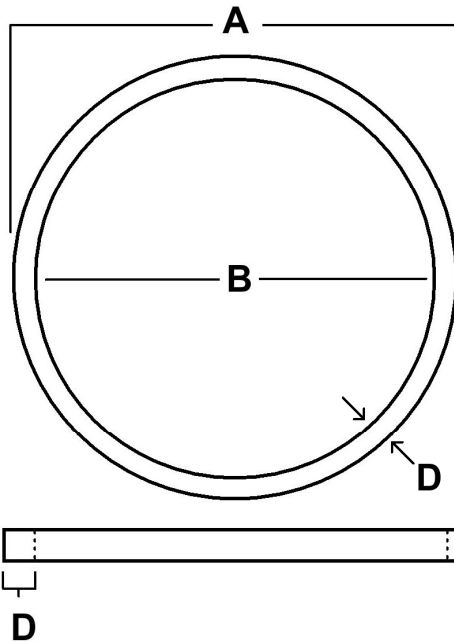
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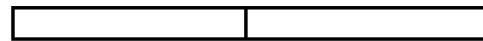
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CAST IRON PISTON RING WORKSHEET



(SC) STEP CUT



(BC) BUTT CUT



(AC) ANGLE CUT

QTY	A	B	C	D	CUT

ADDITIONAL INFORMATION

BORE SIZE		PISTON SIZE	
GROOVE HEIGHT		GROOVE DEPTH	

NOTES



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O-RING

AS568 DASH NUMBERS

I.D.	CROSS SECTION (W)				
	1/16	3/32	1/8	3/16	1/4
1/32	001*				
3/64	002*				
1/16	003	102			
5/64	004				
3/32	005	103			
1/8	006	104			
5/32	007	105			
3/16	008	106	201		
7/32	009	107			
1/4	010	108	202		
5/16	011	109	203		
3/8	012	110	204		
7/16	013	111	205	309	
1/2	014	112	206	310	
9/16	015	113	207	311	
5/8	016	114	208	312	
11/16	017	115	209	313	
3/4	018	116	210	314	
13/16	019	117	211	315	
7/8	020	118	212	316	
15/16	021	119	213	317	
1	022	120	214	318	
1-1/16	023	121	215	319	
1-1/8	024	122	216	320	
1-3/16	025	123	217	321	
1-1/4	026	124	218	322	
1-5/16	027	125	219	323	
1-1/8	028	126	220	324	
1-7/16	029	127	221		
1-1/2	029	128	222	325	
1-9/16		129			
1-5/8	030	130	223	326	
1-11/16		131			
1-3/4	031	132	224	327	
1-13/16		133			
1-7/8	032	134	225	328	
1-15/16		135			
2	033	136	226	329	
2-1/16		137			
2-1/8	034	138	227	330	
2-3/16		139			
2-1/4	035	140	228	331	
2-5/16		141			
2-3/8	036	142	229	332	
2-7/16		143			
2-1/2	037	144	230	333	
2-9/16		145			
2-5/8	038	146	231	334	
2-11/16		147			
2-3/4	039	148	232	335	
2-13/16		149			
2-7/8	040	150	233	336	
3	041	151	234	337	
3-1/8			235	338	
3-1/4	042	152	236	339	
3-3/8			237	340	
3-1/2	043	153	238	341	
3-5/8			239	342	
3-3/4	044	154	240	343	
3-7/8			241	344	
4	045	155	242	345	
4-1/8			243	346	
4-1/4	046	156	244	347	
4-3/8			245	348	
4-1/2	047	157	246	349	425

I.D.	CROSS SECTION (W)				
	1/16	3/32	1/8	3/16	1/4
4-5/8			247	350	426
4-3/4	048	158	248	351	427
4-7/8			249	352	428
5	049	159	250	353	429
5-1/8			251	354	430
5-1/4	050	160	252	355	431
5-3/8			253	356	432
5-1/2		161	254	357	433
5-5/8			255	358	434
5-3/4		162	256	359	435
5-7/8			257	360	436
6		163	258	361	437
6-1/4		164	259	362	438
6-1/2		165	260	363	439
6-3/4		166	261	364	440
7		167	262	365	441
7-1/4		168	263	366	442
7-1/2		169	264	367	443
7-3/4		170	265	368	444
8		171	266	369	445
8-1/4		172	267	370	
8-1/2		173	268	371	446
8-3/4		174	269	372	
9		175	270	373	447
9-1/4		176	271	374	
9-1/2		177	272	375	448
9-3/4		178	273	376	
10			274	377	449
10-1/2			275	378	450
11			276	379	451
11-1/2			277	380	452
12			278	381	453
12-1/2					454
13			279	382	455
13-1/2					456
14			280	383	457
14-1/2					458
15			281	384	459
15-1/2					460
16			282	385	461
16-1/2					462
17			283	386	463
17-1/2					464
18			284	387	465
18-1/2					466
19				388	467
19-1/2					468
20				389	469
21				390	470
22				391	471
23				392	472
24				393	473
25				394	474
26				395	475

Fractional inch sizes shown are for reference only.

*Cross section (W) diameter of AS568-001 is 1/32.

Cross section (W) diameter of AS568-002 is 3/64.

**Metric and Military Spec
O-Rings are available.**

BASIC O-RING ELASTOMERS

NITRILE/BUNA-N:

Temp range of -65 to +275 F (-54 to +135 C), recommended for general purpose sealing, petroleum oils and fluids, water, silicone greases and oils, di-ester base lubricants and ethylene glycol base fluids.

NEOPRENE:

Temp range of -65 to +300 F (-54 to +150 C), recommended for refrigerants (freons, ammonia), high aniline point petroleum oils, mild acid resistance and silicate ester lubricants.

ETHYLENE PROPYLENE:

Temp range of -65 to +300 F (-54 to +150 C), recommended for phosphate ester base hydraulic fluids, steam (to 500 F (260 C), water, silicone oils and greases, dilute acids, dilute alkalis, ketones, alcohols and automotive brake fluids.

BUTYL:

Temp range of -65 to +250 F (-54 to +120 C), recommended for phosphate ester type hydraulic fluids, ketone, silicone fluids and greases.

FLUOROCARBON/VITON:

Temp range of -20 to +400 F (-29 to +204 C), recommended for petroleum oils, di-ester base lubricants, silicate ester base lubricants, silicone fluids and greases, halogenated hydrocarbons, selected phosphate ester fluids and acids.

POLYACRYLATE:

Temp range of 0 to +350 F (-18 to +177 C), recommended for petroleum oils, automatic transmission fluids.

SILICONE:

Temp range of -175 to +450 F (-114 to +232 C), recommended for high-aniline point oils, dry heat and chlorinated di-phenyls.

FLUROSILICONE:

Temp range of up to +350 F (+177 C), recommended for petroleum oils and fuels.



PHOENIX

SEALING PRODUCTS

TOLL FREE: 1-800-245-3307

TELEPHONE: 586-498-8540

FAX: 586-795-4767

	INCH	MM
1/64	.0156	0.396
1/32	.0312	.0.793
	.0394	1.000
3/64	.0468	1.190
1/16	.0625	1.587
5/64	.0781	1.984
	.0787	2.000
3/32	.0937	2.381
7/64	.1093	2.778
	.1181	3.000
1/8	.1250	3.175
9/64	.1406	3.571
5/32	.1562	3.968
	.1575	4.000
11/64	.1718	4.365
3/16	.1875	4.762
	.1969	5.000
13/64	.2031	5.159
7/32	.2187	5.556
15/64	.2343	5.953
	.2363	6.000
1/4	.2500	6.350
17/64	.2656	6.746
	.2756	7.000
9/32	.2812	7.143
19/64	.2968	7.540
5/16	.3125	7.937
	.3150	8.000
21/64	.3281	8.334
11/32	.3437	8.731

	INCH	MM
	.3543	9.000
23/64	.3593	9.128
3/8	.3750	9.525
25/64	.3906	9.921
	.3937	10.000
13/32	.4062	10.318
27/64	.4218	10.715
	.4331	11.000
7/16	.4375	11.112
29/64	.4531	11.509
15/32	.4687	11.906
	.4724	12.000
31/64	.4843	12.303
1/2	.5000	12.700
	.5118	13.000
33/64	.5156	13.096
17/32	.5312	13.493
35/64	.5468	13.890
	.5512	14.000
9/16	.5625	14.287
37/64	.5781	14.684
	.5906	15.000
19/32	.5937	15.081
39/64	.6093	15.478
5/8	.6250	15.875
	.6299	16.000
41/64	.6406	16.271
21/32	.6562	16.668
	.6693	17.000
43/64	.6718	17.065

	INCH	MM
11/16	.6875	17.462
45/64	.7031	17.859
	.7087	18.000
23/32	.7187	18.256
47/64	.7343	18.653
	.7480	19.000
3/4	.7500	19.050
49/64	.7656	19.446
25/32	.7812	19.843
	.7874	20.000
51/64	.7968	20.240
13/16	.8125	20.637
	.8268	21.000
53/64	.8281	21.034
27/32	.8437	21.431
55/64	.8593	21.828
	.8661	22.000
7/8	.8750	22.225
57/64	.8906	22.621
	.9055	23.000
29/32	.9062	23.018
59/64	.9218	23.415
15/16	.9375	23.812
	.9449	24.000
61/64	.9531	24.209
31/32	.9687	24.606
	.9843	25.000
63/64	.9843	25.003
1	1.000	25.400



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