Parker Lubrication Products

Parflex Hose and Fittings For Remote Grease Lines

ENGINEERING YOUR SUCCESS.

Parker Lubrication Products

The Importance of Lubrication

Lubrication is more than simply an additive to a machine; it is an **integral component** of that machine and therefore should be closely monitored to ensure it maintains its quality.

Bearing problems caused by inadequate lubrication have many forms, including roller end scoring from metal-to-metal contact and excessive wear on rollers and raceways. Excessive heat can cause rib face scoring or "welding" damage, and/or deformation. In extreme cases, inadequate lubrication causes rollers to skew or slide sideways, leading to bearing lockup.

There are signs that indicate when bearing lubrication is inadequate or in excess. If these signs are detected soon enough, conditions can be corrected before catastrophic damage occurs.

With inadequate lubrication, gauges and operating temperatures will show the bearing is running hot, and it will become noisy from metal-to-metal contact. With excess lubrication, the lubricant can break down due to increased operating temperatures, as indicated by a dark brownish-black color.

With proper lubricant application and a regular maintenance schedule, bearing damage from lubrication problems can be avoided. Here are some tips to ensure proper bearing lubrication:

- Follow lubrication guidelines established by the equipment builder.
- When grease packing a bearing, force the grease between the rollers and cage to ensure the bearing is packed completely full.
- Watch equipment gauges for early indications of a problem, such as unusually high temperatures.
- Listen for noise or unusual vibration.
- Watch for lubricant leaks.

Lubrication is **essential** to all the moving parts, especially bearings, and it also serves to carry away heat and **protect bearing** surfaces from corrosion and wear.

The products in this brochure are designed to handle the harsh environment associated with lubrication. Parker engineers have designed these hoses, fittings and accessories based on safety and ease of use.

HLB/HLBD Remote Grease & Lubrication Hose

Don't let 5¢ of grease shut down a $75,000 piece of equipment.

Plant Services magazine estimates that 90% of all bearings are lubricated with grease, and 80% of bearing failures are lubrication related. Proper lubrication is essential to extending the life of a bearing. Grease serves three main purposes: providing lubrication, preventing wear (or damage) from contaminants and inhibiting corrosion.

Compact 1/8" hoses **save hundreds** of dollars in operation waste by eliminating gallons of **unnecessary 'in-line' grease** versus larger bore rubber hose

Rule of thumb:
If a grease fitting is not visible, it is likely not being properly lubricated!

Excessive Downtime

Grease zerk nipples are often inaccessible on today's crowded equipment. As a result, preventive maintenance takes too long to complete or is not completed at all. A maintenance person can easily spend 5 to 7 minutes reaching an inaccessible grease zerk and still not inject enough grease into the bearing. Poor lubrication and bearing selection account for approximately 34% of premature bearing failures and contamination accounts for another 16% of premature bearing failures. This results in excessive downtime, costly replacement of damaged components and lost productivity. Awkward positioning of grease fittings also creates the dynamics to induce a high-pressure grease injection injury.

Parker's Solution

Parker's HLB remote grease hose makes it easy to properly perform quick and effective preventive maintenance on all types of industrial, mobile, and transportation equipment. These lines connect grease port locations to a convenient service access panel where grease can be manually distributed throughout the machine. HLB hose utilizes a panel mounted hose fitting with integral zerk fitting port. Locknuts, zerk nipples, and caps can also be sub-assembled.

HLB Lubrication System vs. 1/4" Rubber Hose

- reduced component / labor costs..... save $10 to $20 per line
- unnecessary adapter costs..... save $5 to $10 per zerk connection
- light weight reduces freight cost..... up to 60% lighter
- general lubrication issues..... 50% - 80% potential reduction
- properly lubricate multiple points in less time..... up to 80% time reduction

HLB/HLBD – Remote Lubrication Hose

Copolyester Core Tube/Nylon Core Tube

Compact 1/8" I.D. hoses save hundreds of dollars of waste.

Features

- HLB/HLBD remote lubrication system versus 1/4" rubber hoses can save money per line in reduced component and installation labor costs
- Unique GK bulkhead hose fittings with integrated nipple can save money per zerk connection in unnecessary adapter costs
- Compact 1/8" hoses save hundreds of dollars of waste in your operation by eliminating gallons of unnecessary "in-line" grease versus larger bore rubber hoses

Compliance

- Meets/Exceeds SAE J517 100R7 - HLBD02
- MSHA compliant cover

Construction

- Tube: HLBD02 - Nylon
  HLB03 - Copolyester
- Reinforcement: Fiber
- Cover: Polyurethane

Fittings

- CY Series – pg. E-62 BU Series - pg. E-31
- For most Parker products, Crimp Die Selection charts are found online at www.parker.com/crimpsource
- Access instructions are on pg. G-3

Operating Parameters

- Temperature Range:
  - Petroleum based hydraulic fluids and lubricating oils within a temperature range -40°F (-40°C) to 212°F (100°C)
  - Synthetic, synthetic blend, water, and water/oil emulsion hydraulic fluids limited to 135°F (57°C) (HLB03 only)
  - BU Series Field Attachable Fitting limited to 120°F (48°C)
- Vacuum Rating: 28 inch Hg
- Change in length at Max. Working Pressure: +/-3%
- Min. Burst Pressure is 4x Max. Working Pressure at 73°F (23°C)

Notes

- Perforated cover - HLBD02
- Non-perforated cover - HLB03

Color

- ● Black

Series HLB/HLBD

Visit the webpage

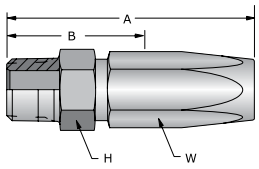
Part Number	Nominal I.D.		Maximum O.D.		Maximum Working Pressure		Minimum Bend Radius		Weight		Permanent Fitting Series	Field Attachable Series
	inch	mm	inch	mm	psi	MPa	inch	mm	lbs./ft.	kg/mtr		
HLBD02	1/8	3.2	0.32	8.1	3,000	20.7	1/2	13.0	0.03	0.04	CY	BU
HLB03	3/16	5	0.41	10.4	3,000	20.7	3/4	19.0	0.06	0.08	CY	BU

Accessories	
Part Number	Description
NA-6520	Grease Zerk Fitting
2GK-Nut	Bulkhead Nut
CY02-652317	HLB02 Spring Guard
3PSG-4	HLB03 Spring Guard

See these parts on page 9.

BU Series Fittings - Field Attachable

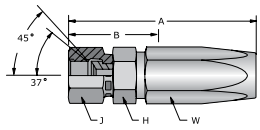
201BU Male Taper Pipe Rigid



Construction: Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex	W Hex
		inch	mm	inch	mm	inch	mm	inch	inch
201BU-2-2	1/8-27	1/8	3	1.50	38	1	25	7/16	7/16

206BU Female SAE (JIC) 37° Swivel

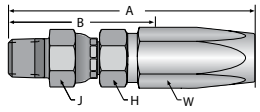


Construction: Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex	J Hex	W Hex
		inch	mm	inch	mm	inch	mm	inch	inch	inch
206BU-3-2	3/8-24	1/8	3	1.72	44	1-3/16	30	1/2	9/16	7/16
206BU-4-2	7/16-20	1/8	3	1.77	45	1-3/16	30	9/16	9/16	7/16
206BU-4-3	7/16-20	3/16	5	1.89	48	1-1/16	27	9/16	9/16	7/16

NOTE: Size -4 incorporates a dual seat.

213BU Male Taper Pipe Swivel

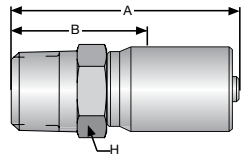


Construction: Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex	J Hex	W Hex
		inch	mm	inch	mm	inch	mm	inch	inch	inch
213BU-2-2	1/8-27	1/8	3	2.07	53	1-1/2	38	1/2	1/2	7/16

CY Series Fittings - Permanent

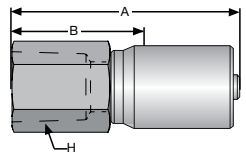
101CY Male Taper Pipe Rigid



Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex
		inch	mm	inch	mm	inch	mm	inch
101CY-2-2	1/8-27	1/8	3	1.31	33	13/16	21	7/16
101CY-2-3	1/8-27	3/16	5	1.74	44	7/8	22	1/2
101CY-4-2	1/4-18	1/8	3	1.51	38	1	25	9/16
101CY-4-3	1/4-18	3/16	5	1.97	50	1-1/8	28	9/16

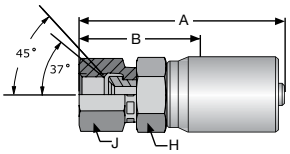
102CY Female Pipe Thread



Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex
		inch	mm	inch	mm	inch	mm	inch
102CY-2-3	1/8-27	3/16	5	1.97	50	1-1/16	27	1/2

106CY Female SAE (JIC) 37° Swivel

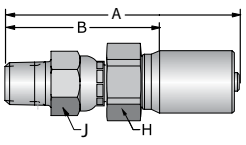


Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex	J Hex
		inch	mm	inch	mm	inch	mm	inch	inch
106CY-2-2	5/16-24	1/8	3	1.52	39	15/16	24	7/16	7/16
106CY-3-2	3/8-24	1/8	3	1.53	39	1	25	1/2	1/2
106CY-4-2	7/16-20	1/8	3	1.59	40	1	25	9/16	9/16
106CY-4-3	7/16-20	3/16	5	1.99	50	1-1/8	29	9/16	9/16

NOTE: Size -4 incorporates a dual seat.

113CY Male Pipe Swivel*



Construction: Steel. Add “C” for Stainless Steel.

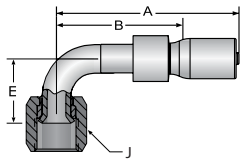
Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex	J Hex
		inch	mm	inch	mm	inch	mm	inch	inch
113CY-2-2	1/8-27	1/8	3	1.89	48	1-5/16	33	1/2	1/2
113CY-2-3	1/8-27	3/16	3	2.29	58	1-7/16	36	1/2	1/2

NOTE: *Nitrile O-ring. See O-ring Material Selection section, pg. G-43.

WARNING: Fittings allow minor movement to relieve stress on hose but are not recommended for continued or extensive swiveling.

CY Series Fittings - Permanent

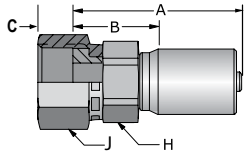
139CY Female JIC 37° Swivel 90° Elbow



Construction: Steel. Add "C" for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		E		J Hex
		inch	mm	inch	mm	inch	mm	inch	mm	inch
139CY-4-2	7/16-20	1/8	3	1.61	41	1-1/8	29	0.83	21	9/16
139CY-4-3	7/16-20	3/16	5	1.90	48	1	25	0.83	21	9/16

1JCCY Female Seal-Lok™ Swivel Straight Short

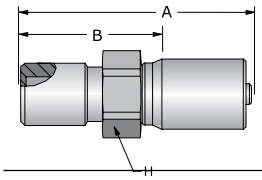


Construction: Steel. Add "C" for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		C		H Hex	J Hex
		inch	mm	inch	mm	inch	mm	inch	mm	inch	inch
1JCCY-4-2	9/16-18	1/8	3	1.29	33	3/4	19	0.32	8	9/16	11/16

NOTE: When measuring overall length to the end of the nut, B+C dimensions must be used to calculate cut-off allowance.

1GKCY Bulkhead with Integrated Zerk Port Bulkhead Nut and Grease Zerk

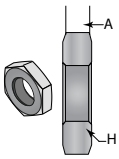


Construction: Steel. Add "C" for Stainless Steel.

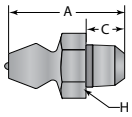
Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex
		inch	mm	inch	mm	inch	mm	inch
1GKCY-2-2*	1/8-27 NPSM Male with 1/4-28 UNF Female	1/8	3	1.45	37	7/8	22	1/2
1GKCY-2-3*	1/8-27 NPSM Male with 1/4-28 UNF Female	3/16	5	1.86	47	1	25	1/2
1GKCY-2-L77**	1/8-27 NPSM Male with 1/4-28 UNF Female	1/8	3	1.71	43	1-1/4	32	1/2

NOTE: *Standard bulkhead for use with plates up to 1/4" thick. Uses 2GK-NUT, sold separately.

**Long bulkhead for use with plates under 3/4" thick. Uses 2GK-NUT, sold separately.



2GK-Nut

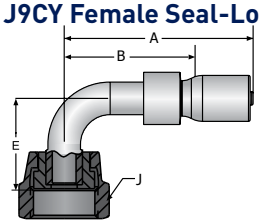


NA-6520

Part Number	Description	Thread Size	A		C		H Hex
			inch	mm	inch	mm	inch
2GK-Nut	Bulk-head Nut	1/8-27 NPSM	0.188	4.8	na	na	11/16
NA-6520	Grease Zerk Fit-ting	1/4-28 UNF	0.540	13.7	0.18	4.6	5/16
CY02-652317	HLB02 Spring Guard	-	-	-	-	-	-
3PSG-4	HLB03 Spring Guard	-	-	-	-	-	-

CY Series Fittings - Permanent

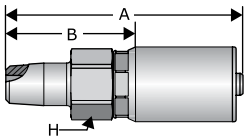
1J9CY Female Seal-Lok™ 90° Elbow Short Drop



Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		E		H Hex	J Hex
		inch	mm	inch	mm	inch	mm	inch	mm	inch	inch
1J9CY-4-2	9/16-18	1/8	3	1.81	46	1-1/4	32	.83	21	11/16	9/16

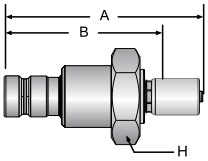
1LMCY Male Grease



Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex
		inch	mm	inch	mm	inch	mm	inch
1LMCY-2-2	1/4-28	1/8	3	1.26	32	11/16	17	3/8

1PDCY Integrated Bulkhead Diagnostic Nipple



Construction: Steel. Add “C” for Stainless Steel.

Part Number	Thread Size	Hose I.D.		A		Cutoff Allow. B		H Hex
		inch	mm	inch	mm	inch	mm	inch
1PDCY-2-2	3/4"-16 UNF	1/8	3	2.40	61	1.875	48	1

919/919B PTFE Hose
PTFE Core Tube

Best chemical resistance with high operating temperature (+450°F/232°C).

Features
- Excellent chemical compatibility
- Handles extreme temperatures to +450°F
- Environmentally safe
- Resists moisture
- Low friction minimizes pressure drops and deposits

Compliance
- Meets/Exceeds SAE 100R14A - 919
- Meets/Exceeds SAE 100R14B - 919B
- FDA 21 CFR 177.1550 (Natural tube)

Construction
- Tube: 919 - Natural FDA Compliant PTFE
  919B - Black Static-Dissipative PTFE
- Reinforcement: 304 Stainless Steel Braid

Fittings
- 90 Series 91N Series
- For most Parker products, Crimp Die Selection charts are found online at www.parker.com/crimpsource

Operating Parameters
- Temperature Range:
  -100°F (-73°C) to +450°F (232°C)
- Change in length at Max. Working Pressure: +2% to -4%
- Min. Burst Pressure is 4x Max. Working Pressure at 73°F (23°C)

Notes
- Use hose type 919B with static-dissipative core tube when conveying non-conducting fluids such as oils, paints, fuels, steam, etc.
- Constructed with minimum .030" PTFE tube wall thickness

Color
- Silver

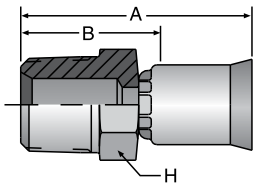
Series 919/919B

Visit the webpage

Part Number		Nominal I.D.		Maximum O.D.		Max. Working Pressure 73°F/ 23°C		Minimum Bend Radius		Vacuum Rating	Weight		Permanent Fitting Series	Field Attachable Series
Natural	Static-Dissipative	inch	mm	inch	mm	psi	MPa	inch	mm	Hg/73F	lbs./ft.	kg/mtr		
919-4	919B-4	3/16	4.8	.33	8.2	3,000	20.7	2	51	28	.06	.09	91N	90

High Temperature Fittings - 91N Series

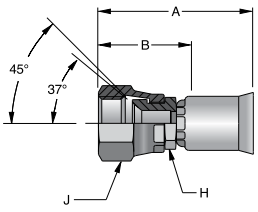
10191N Male Taper Pipe Rigid



Part Number	Thread Size	Hose Size	A		Cutoff Allow. B		H Hex
		inch	inch	mm	inch	mm	inch
10191N-2-4	1/8-27	-4	1.27	32	3/4	19	7/16
10191N-4-4	1/4-18	-4	1.50	38	15/16	24	9/16

Construction: Brass nipple, steel shell. Add “C” for Stainless Steel.

10691N Female SAE (JIC) 37° Swivel



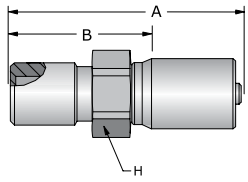
Part Number	Thread Size	Hose Size	A		Cutoff Allow. B		H Hex	J Hex
		inch	inch	mm	inch	mm	inch	inch
10691N-4-4	7/16-20	-4	1.47	37	7/8	22	3/8	9/16

NOTE: Incorporates a dual seat.

Construction: Brass nipple, steel nut and shell. Add “S” for Steel nipple, nut and shell. Add “C” for Stainless Steel.

Add "B" for Brass. Some sizes may not be available in every material. Contact Customer Service.

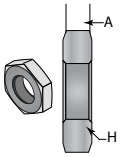
1GK91N Bulkhead with Integrated Zerk Port -Bulkhead Nut and Grease Zerk



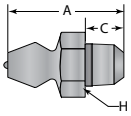
Part Number	Thread Size	Hose Size	A		Cutoff Allow. B		H Hex
		inch	inch	mm	inch	mm	inch
1GK91N-2-4*	1/8-27 NPSM Male with 1/4-28 UNF Female	-3	1.46	37	15/16	24	1/2

NOTE: *Long bulkhead for use with plates under 3/4" thick. Uses 2GK-NUT, sold separately.

Construction: Steel nipple, tube, nut and shell. Add “C” for Stainless Steel.



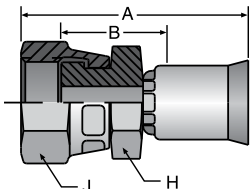
2GK-Nut



NA-6520

Part Number	Description	Thread Size	A		C		H Hex
			inch	mm	inch	mm	inch
2GK-Nut	Bulkhead Nut	1/8-27 NPSM	0.188	4.8	na	na	11/16
NA-6520	Grease Zerk Fitting	1/4-28 UNF	0.540	13.7	0.18	4.6	5/16

1JC91N Female Seal-Lok™ Swivel Straight



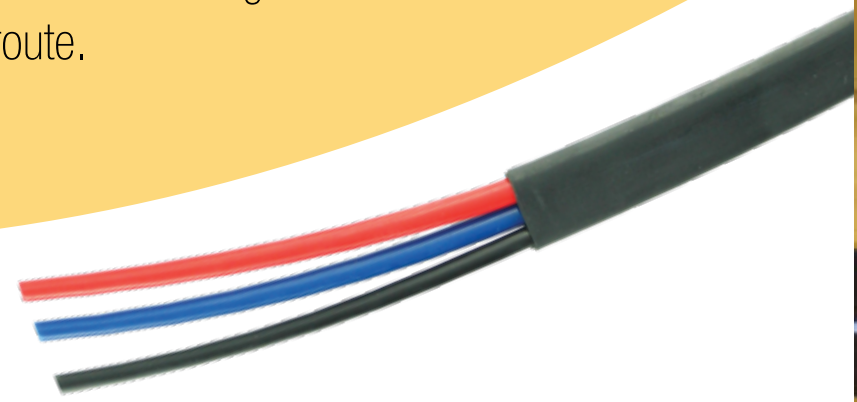
Part Number	Thread Size	Hose Size	A		Cutoff Allow. B		E		H Hex	J Hex
		inch	inch	mm	inch	mm	inch	mm	inch	inch
1JC91N-4-4	9/16-18	-4	1.46	37	5/8	16	.32	8	9/16	7/16

Construction: Steel nipple, tube, nut and shell. Add “C” for Stainless Steel.

Multitube® Pre-Assembled Bundles

Tube Lines for Automatic Lubricators

Customers are looking for their equipment to be designed to provide a relatively simple and inexpensive method to automate the lubrication process. It is key to be able to reduce the installation time and material costs. Installing lubrication lines on a piece of equipment can be a time consuming and tedious task. The technician working on the installation will have various lubrication lines to route.



Parker's Solution

Tubing provides the ability to meter small amounts of grease on systems. By utilizing the jacketed tube design, end customers and users will be able to simplify routings and reduce start time. There are opportunities to lower the amount of scrap and order quantities, as well as the advantage of inventorying only one part number.

Bundled Tubing vs. Single Tubing

- installation simplicity.....up to 33% quicker to install
- low profile bundled tubing.....quicker routing
- jacketing tubing.....additional abrasion protection
- general lubrication issues.....less grease is required for lube fill

Let Parker help you reduce costs $$$

Employing **tube bundles** to meet specific application requirements **ensures consistency,** improves productivity, and time installation.

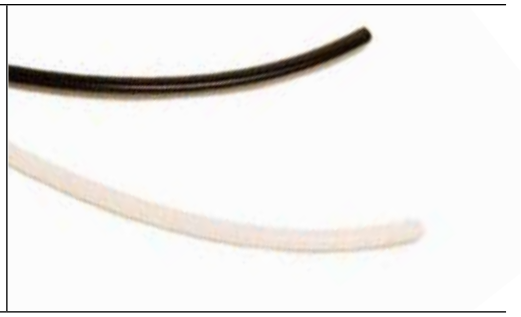
More Savings Bulkhead Zerk Fitting

Remote lubrication

Nylon Tubing

Series NR: Semi-Rigid High Strength

High tensile strength yielding excellent coupling retention.



Features

- High grade nylon resins without plasticizers for higher pressure tubing applications
- High tensile strength and excellent coupling retention
- Produced from abrasion resistant, heat and light stabilized nylon resin
- Low moisture absorption
- Chemically resistant

Notes

- Black (Series NBR) tubing suggested for use in sunlit areas and in proximity to high UV light sources
- Suggested operating temperature range is -60°F (-51°C) to 200°F (93°C) - reference Pressure vs. Temperature charts as pressures are lower at elevated temperatures
- Working pressure and burst pressure are at 73°F (23°C)

Order Information

Example: NBR-2-017-0100

NBR-2-017-0100 – **Nylon**

NBR-2-017-0100 – **Black**

NBR-2-017-0100 – **Rigid**

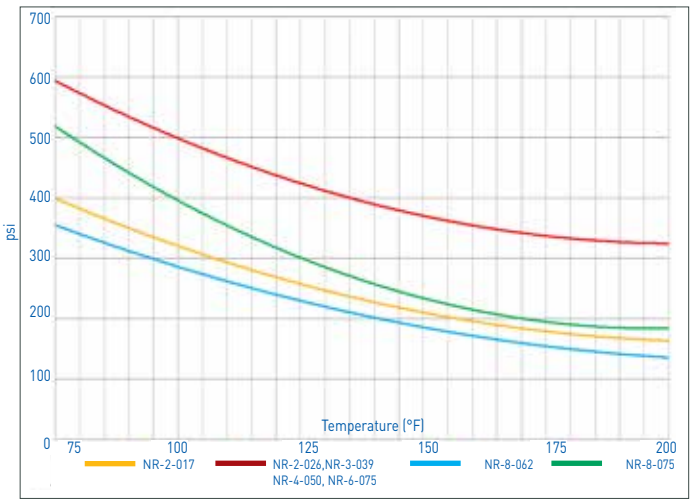
NBR-2-017-0100 – **Tube O.D.** in sixteenths of an Inch **(1/8")**

NBR-2-017-0100 – **Wall Thickness** in inches **(.017")**

NBR-2-017-0100 – **Package Quantity** in feet **(100')**

Nylon Tubing (Series NR)

Maximum Working Pressure (psi)



Fittings

Parker Fittings available from:
Fluid System Connectors Division
Otsego, MI

(269) 692-6555
(269) 692-6634 FAX
parker.com/fsc

For approved fittings and/or suggested use of tube supports, reference contact Parker Fluid Systems Connectors Division. 269 692-6555

Nylon Tubing

Series NR/NBR: Semi-Rigid High Strength

Series NR/NBR - Semi-Rigid High Strenth Nylon Tubing - Natural and Black

Part Number	Nominal O.D.		Nominal I.D.		Average Wall Thickness		Working Pressure 73°F (23°C)		Minimum Burst Pressure		Minimum Bend Radius		Weight		Color
	inch	mm	inch	mm	inch	mm	psi	bar	psi	bar	mm	inch	lbs./ft.	kg/mtr	
NNR-2-017-0500 NBR-2-017-0500	1/8	3.2	.091	2.3	.017	0.4	425	29.3	1700	117.2	1/2	12	.003	.004	○ ●
NNR-2-026-0500 NBR-2-026-0500	1/8	3.2	.073	1.9	.026	0.7	625	43.1	2500	172.4	3/8	9	.004	.006	○ ●
NNR-3-024-0250 NBR-3-024-0250	3/16	4.8	.140	3.6	.024	0.6	425	29.3	1700	117.2	3/4	19	.006	.009	○ ●
NNR-3-039-0500 NBR-3-039-0500	3/16	4.8	.110	2.8	.039	1.0	625	43.1	2500	172.4	5/8	15	.008	.012	○ ●
NNR-4-035-0250 NBR-4-035-0250	1/4	6.4	.180	4.6	.035	0.9	425	29.3	1700	117.2	1	25	.011	.016	○ ●
NNR-4-050-0250 NBR-4-050-0250	1/4	6.4	.150	3.8	.050	1.3	625	43.1	2500	172.4	7/8	22	.014	.021	○ ●
NNR-5-040-0250 NBR-5-040-0250	3/8	7.9	.233	5.9	.040	1.0	425	29.3	1700	117.2	1-1/2	38	.015	.022	○ ●
NNR-6-048-0250 NBR-6-048-0250	3/8	9.5	.279	7.1	.048	1.2	425	29.3	1700	117.2	1-3/4	44	.022	.033	○ ●
NNR-6-075-0250 NBR-6-075-0250	3/8	9.5	.225	5.7	.075	1.9	625	43.1	2500	172.4	1-1/2	38	.032	.048	○ ●
NNR-8-062-0250 NBR-8-062-0250	1/2	12.7	.375	9.5	.062	1.6	375	25.9	1500	103.4	2-3/8	60	.038	.057	○ ●
NNR-8-075-0250 NBR-8-075-0250	1/2	12.7	.350	8.9	.075	1.9	625	43.1	2500	172.4	2-1/2	63	.045	.067	○ ●

Colors

Color Code		
○	NNR	Natural
●	NBR	Black

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