

THERMOPLASTIC HOSES FOR THE OIL & GAS INDUSTRY

**Oil & Gas Catalogue 4465 –
Global Edition 2026**

Parker

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INDEX OF PART NUMBERS

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The content contained in this catalogue has been compiled with the greatest care and corresponds to the information currently available to us.

However, we would like to point out that we reserve the right to make technical changes and we kindly request you to contact us should you have any special questions.

HOW TO USE THE CATALOGUE

OVERALL STRUCTURE OF THE CATALOGUE:

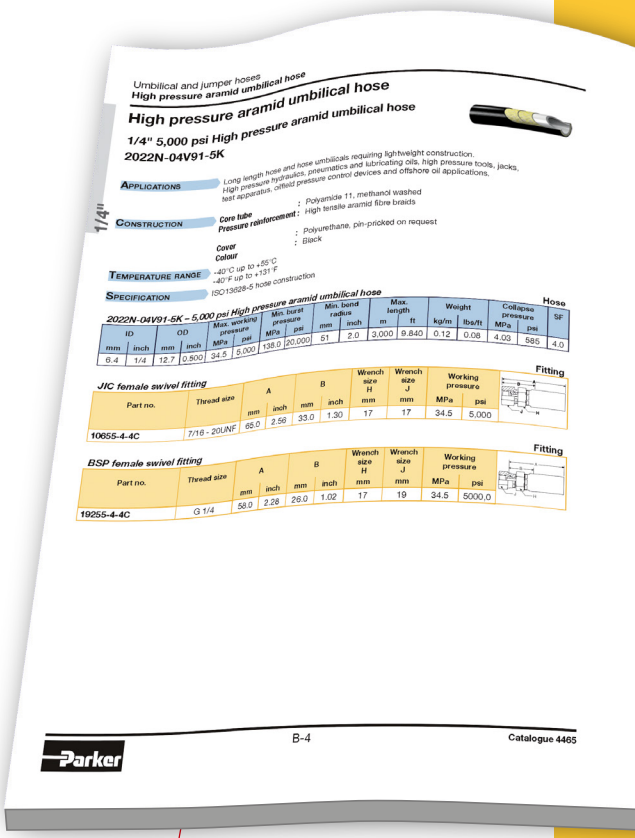


General Info

Products

Detailed Technical Info

Index



Umbilical and jumper hoses
High pressure aramid umbilical hose

High pressure aramid umbilical hose

1/4" 5,000 psi High pressure aramid umbilical hose
2022N-04V91-5K

1/4"

APPLICATIONS : Long length hose and hose umbilicals requiring lightweight construction. High pressure hydraulics, pneumatics and lubricating oils, high pressure tools, jacks, test apparatus, offfield pressure control devices and offshore oil applications.

CONSTRUCTION
Core tube : Polyamide 11, methanol washed
Pressure reinforcement : High tensile aramid fibre braids
Cover : Polyurethane, pin-pricked on request
Colour : Black

TEMPERATURE RANGE -40°C up to +55°C / -40° F up to +131° F

SPECIFICATION ISO13628-5 hose construction

2022N-04V91-5K – 5,000 psi High pressure aramid umbilical hose — Hose

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		SF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.7	0.500	34.5	5,000	138.0	20,000	51	2.0	3,000	9,840	0.12	0.08	4.03	585	4.0

JIC female swivel fitting — Fitting

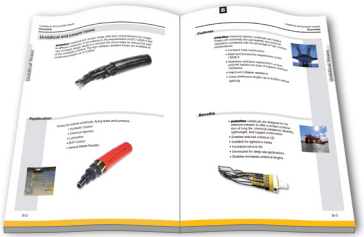
Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	mm	MPa	psi
10655-4-4C	7/16 - 20UNF	65.0	2.56	33.0	1.30	17	17	34.5	5,000

BSP female swivel fitting — Fitting

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	mm	MPa	psi
19255-4-4C	G 1/4	58.0	2.28	26.0	1.02	17	19	34.5	5000,0

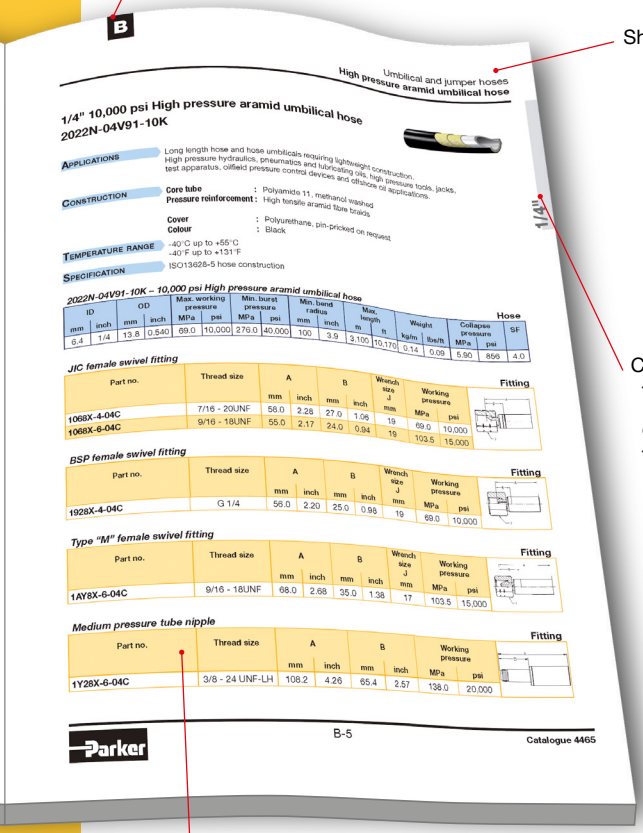
Parker B-4 Catalogue 4465

Hose data is always colored in blue



For general information please refer also to the overview pages at the beginning of the individual chapters

Chapter selector
if you know the chapter you are looking for – this is the quickest way to get there

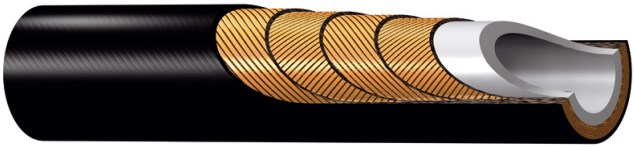


Shows the current chapter

Category selector
– superordinates chapters into product groups
or
– indicates hose sizes on data pages

Fitting data is always colored in yellow

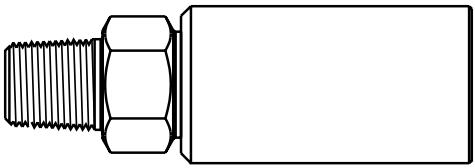
PART NUMBER SYSTEM



2440 N - 16 V91

Hose type	Core tube material	Hose I.D. in 1/16"	Design variation

FITTINGS



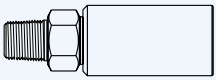
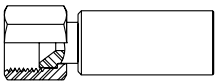
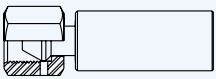
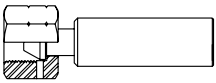
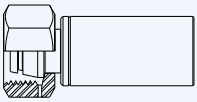
6 01 LX - 8 - 8 C

Manufacturing location	Connec-tion code	Parker fitting series	Connection size thread/tube	Hose inner diameter (Dash size)	Material

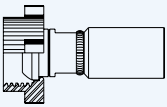
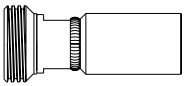
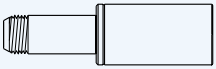
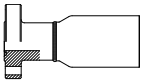
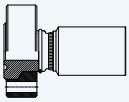
EXPLANATION OF SYMBOLS

SYMBOL	DESCRIPTION
	Part number
	Nominal inner diameter
	Nominal outer diameter
	Working pressure
	Burst pressure
	Bend radius
	Weight
	Fittings
	Thread size
	Wrench size
	Thickness

HOSE FITTING CHART

Fitting	Fitting description	Fitting designation
	National Pipe Tapered (NPT) Male Fitting	01
	JIC Female Swivel Fitting	06
	Type “M” Female Swivel Fitting	AY
	BSP Female Swivel Fitting	92
	Metric Female Swivel Fitting with O-ring	C9

HOSE FITTING CHART

Fitting	Fitting description	Fitting designation
	Hammer Union (Male) Cone with Wing Nut End Fitting	HE
	Hammer Union (Female) Cone Threaded End with Seal	HN
	Medium Pressure Tube Nipple	Y2
	API Flange rigid	8K
	API Flange swivel	8K

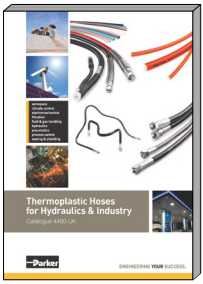
PARKER HANNIFIN - POLYMER HOSE DIVISION EUROPE

Parker Hannifin offers an extensive programme of systems and components for fluid technology. Parker is structured by sales offices and manufacturing divisions to guarantee optimum focus on our customers' demands and market interests at any time.

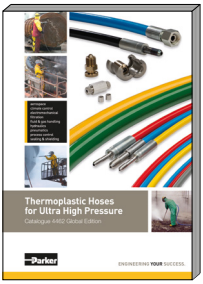
The PHDE Polyflex division, with headquarters located in Hüttenfeld, Germany, provides thermoplastic hoses and tubes. These are applied in a variety of different markets such as standard hydraulics, ultra high pressure applications, and oil & gas industry. As a market leader in many areas and with a unique product range we are pleased to assist you with all your queries.

This catalogue includes hoses and fittings for the Oil&Gas industry. The indicated fittings are always adapted to the correspondent hose and offer optimum performance.

OTHER CATALOGUES WITH THERMOPLASTIC HOSES



Catalogue 4460-UK



Catalogue 4462-UK



Catalogue 4466-UK

ADVANTAGES OF PARKER OIL & GAS HOSES

Parker thermoplastic hose is the right answer for many technical challenges. With unique features and performance characteristics thermoplastic hose outrivals even established alternatives. Whether the task requires extreme temperatures, pressures, robustness or special custom designs, these hoses will not disappoint you.

See below the features offered by our hose range – in comparison to other standard hose types:

COMPACT OD



- Space saving due to very small diameters
- More hoses can be installed in the same situation
- Use hoses as small as you need them



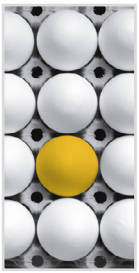
LOW WEIGHT



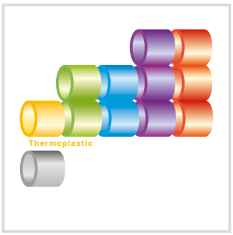
- Major weight savings
- Energy savings as less mass needs to be moved



CUSTOMIZATION



- Multiple colors
- Multiple lines
- Bundles
- Customer specific designs



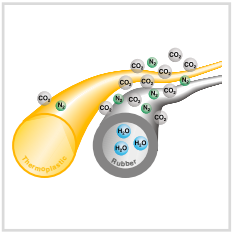
CLEANLINESS



- Less abrasion and contamination inside the hose
- Reduced residue build up
- Extended lifetime for filters, valves and hydraulic systems



PERMEATION RESISTANCE



- Highly limited gas egression
- Reduced ingression reduced risk of media contamination



LONG LENGTH



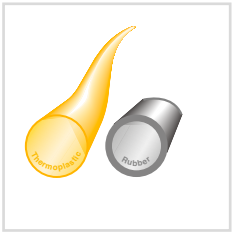
- Up to 5,000 m and more continuous length
- Less joints & fittings needed
- Easy winching and handling offer fast deployment of long length



HIGHEST PRESSURE



- Up to 4,000 bar working pressure
- Highest technical standards and production controls assure safety



VALUE ADDED SERVICES

Parker PHDE Polyflex and the Parker Sales Companies offer value added services that compliment our production capabilities and product portfolio. These services are in place to meet the increasing customization and system criteria that our customers expect from a world-class supplier.The value added services detailed below are typical of the products and secondary services that we provide to our customers. If you have additional service needs that we have not detailed below please contact us. We are happy to discuss all potential solutions for your requirements.

PARKERSTORE™

At Parker Hannifin, we're continually looking for ways to deliver more products, more efficiently.



The Global ParkerStore™ network enables Parker to provide:

- Prompt, efficient, professional in-store services while you wait
- Expert local services and support
- A safe, friendly and convenient shopping environment
- A greater range of parts options so you get exactly what you're looking for.

Customers trust ParkerStores to provide OEM and MRO customers with direct access to:

- Custom-made hydraulic hose assemblies and complementary products to support their applications and decrease their downtime
- Expert technical support
- Professional, personalized services, including 24/7/365 support
- The convenience, comfort and amenities of a local service provider.

HOSEFINDER



Parker is committed to delivering customer service options to help you work smarter, faster, and better.

Need the latest? Go online. From complete product information on hose, to 3D-CAD models of our complete fitting line, you'll find everything you need at ***www.parker.com/gb/en/divisions/polymer-hose-division-europe.html***

And HoseFinder, our mobile app, makes it fast and convenient to search for hydraulic hose products and information on the go. The app features an abbreviated STAMP selection process to help you find what you need quickly and easily. Download yours today at ***www.hosefinder.com.***

1 Browse it.
It's easy to use.

2 STAMP it.
Use the STAMP search or browse the catalog to find the product you are looking for.

3 Search it.
Results include all the details you need to make an informed decision.

4 Find it.
Choose the "Find It" link and you'll be directed to one of Parker's 12,000 worldwide distributor locations. HoseFinder is currently available for iPhone®, Blackberry® and AndroidTM mobile phones.

THE PARKER® TRACKING SYSTEM ENTERPRISE (PTS)

is designed to help customers reduce vehicle or asset down-time through increases in the speed, timing and accuracy of necessary repairs. PTS provides a unique 8 digit identification code and bar code printed on a durable label for each hose assembly. PTS labels are specifically engineered to withstand harsh chemicals, temperatures, UV exposure and other challenging conditions.

- PTS captures, records and recalls unique hose assembly information – on demand
- Provides fast and accurate product indentification to speed up replacement regardless of where the original assembly was made.
- Assembly can be replaced with only the 8 digit PTS ID number/ bar code eliminating the need to remove hoses prior to replacement. This can provide critical machine uptime and enable more conveniently scheduled repair.
- PTS includes additional reporting tools to assist in continuous improvement programmes and preventative maintenance initiatives.

PARKER HOSE DOCTORS



are a network of independently-owned, mobile service technicians built around the commitment to identify and replace hose assemblies wherever their customers need them, with the fastest response times possible. HOSE DOCTORS® are an extension of the worldwide Parker distribution network, coupling their service commitment with Parker products – the highest quality hoses and fittings available in the market today.

PARKER STORE CONTAINER SERVICE



The ParkerStore container is a transportable workshop, providing on-site maintenance and product support for large construction projects such as roadworks, tunnels, railways, underground systems, etc. Provides an on-site product and hose replacement service. With this service on your site, you can reduce your downtime keeping your project on time and on budget!

TECH SERVICES

Optimises the performance of your hydraulic and pneumatic circuits

- With Parker Tech Services involved, your time to market is shorter, which saves on development costs
- The 3 year no-leak guarantee enhances your reputation and lowers your warranty costs
- More reliable operation lowers your customer's operating costs
- More efficient performance and no-leak guarantee is beneficial to the environment
- Parker worldwide coverage ensures you can use the service and save costs wherever you are

BREADMAN

Lean logistics and delivery of Parker products and kits directly to the customer's assembly line, work stations or warehouse

- 100 % parts availability minimises downtime, increases production and reduces costs
- Elimination of stock checking reduces manpower and maintains production levels
- Daily delivery reduces inventory and overheads
- Electronic order processing eliminates paperwork and reduces administration costs

KITTING

Multiple components are supplied under a single part number

- Reduced number of suppliers
- Reduced stocks and no obsolete items
- Optimized management (stock and supplies)
- Simplified and optimised order handling
- Reduced assembly costs
- Greater productivity

NOTES

A

Chapter A

Hose and Fitting Overview

Pressure and size overview A-2
Hose fitting chart A-6

Safety Note The working pressure of the hose assembly is defined by the weakest element, either the hose or the fitting.

A

Pressure and size overview

Dimension D	inch	1/4		5/16		
	size	-04		-05		
pressure	mm	6.4		7.9		
rating psi B	DN	6		8		
3,000						
4,000						
5,000		2022N-04V91-5K-PA	B-4			
6,000		2240N-04V91 2240M-04V38	C-4 C-24			
7,000		2390N-04Vxy	D-4			
8,000				2380M-05V38	C-30	
10,000		2022N-04V91-10K-PA 2340N-04V91 2380N-04V91 2340M-04V38 2380M-04V38	B-5 C-5 C-6 C-25 C-26	2440M-05V38	C-31	
12,500		2440N-04V91 2440M-04V38	C-7 C-27			
15,000		2448N-04V91 2448M-04V38 2022N-04V91-15K-PA	C-8 C-28 B-6	2448M-05V38	C-32	
20,000		2448P-04V30 2449M-04V38	C-41 C-29			

	3/8		1/2		3/4	
	-06		-08		-12	
	9.5		12.7		19	
	10		12		20	
3,000						
4,000						
5,000	2022N-06V91-5K-PA	B-6	2022N-08V91-5K-PA HCRV-8	B-8 B-10	2390N-12V91 2390M-12V38 2390N-12Vxy	C-18 C-37 D-7
6,000	2370N-06V91 2390N-06V91 2370M-06V38 2390N-06Vxy	C-9 C-10 C-33 D-5	2390N-08V91 2390N-08Vxy	C-13 D-6		
7,000	2380N-06V91	C-11	2380N-08V91	C-14		
8,000						
10,000	2022N-06V91-10K-PA 2440M-06V38	B-7 C-34	2022N-08V91-10K-PA 2440N-08V91-10K 2440M-08V38	B-10 C-15 C-36	2440N-12V91 2440M-12V38	C-19 C-38
12,500	2440N-06V91	C-12	2448N-08V91	C-16	2640N-12V91	C-20
15,000	2448M-06V38	C-35	2640N-08V91	C-17		
20,000			2448P-08V30	C-42		

A

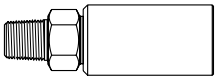
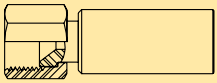
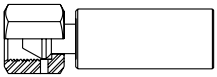
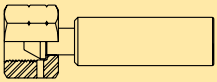
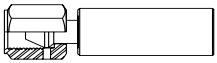
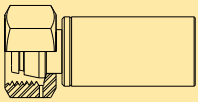
Pressure and size overview (continued)

Dimension D	inch	1		1 1/4		1 1/2		
	size	-16		-20		-24		
pressure	mm	25.4		32.2		38.1		
rating psi B	DN	25		32		40		
3,000								
4,000		2390N-16V91 2390M-16V38	C-21 C-39					
5,000		2440M-16V38-5K HCRV-16 2380N-16Vxy	C-40 B-11 D-8			2340N-24Vxy	D-9	
6,000								
7,000								
8,000		2440N-16V91	C-21					
10,000		2440N-16V91-10K	C-23	2440N-20V80	F-11	2640N-24V80	F-12	
12,500								
15,000						2640N-24V80-15K	F-13	

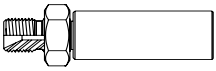
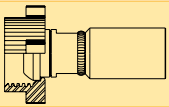
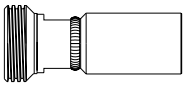
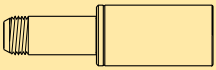
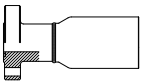
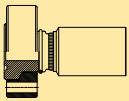
	2		3	
	-32		-48	
	50.8		76.0	
	50		78	
3,000	2240N-32V10	F-6		
4,000				
5,000	2248N-32V10 2448N-32V80	F-8 F-14	2240N-48V80	F-19
6,000				
7,000				
8,000				
10,000	2580N-32V80	F-16	2440N-48V80	F-20
12,500				
15,000	2648N-32V80	F-18	2640N-48V80	F-21

A

Hose fitting chart

Fitting	Fitting description	Fitting designation
	National Pipe Tapered (NPT) Male Fitting	01
	JIC Female Swivel Fitting	06
	Type “M” Female Swivel Fitting	AY
	BSP Female Swivel Fitting	92
	Metric Female Swivel Fitting	C3
	Metric Female Swivel Fitting with O-ring	C9

Hose fitting chart

Fitting	Fitting description	Fitting designation
	BSP Male Fitting	D9 or 3B
	Hammer Union (Male) Cone with Wing Nut End Fitting	HE
	Hammer Union (Female) Cone Threaded End with Seal	HN
	Medium Pressure Tube Nipple	Y2
	API Flange rigid	8K
	API Flange swivel	8K

NOTES

CHAPTER B

ARAMID HOSES

High pressure aramid hoses 2022N B-4
HCR Hoses B-10

HIGH PRESSURE ARAMID HOSES

B

polyflex high pressure aramid hoses are available in different designs and configurations for a wide range of applications.

- Hose series 2022N, available in long continuous lengths are designed and qualified acc. ISO 13628-5 / API 17E. They are often used in umbilicals for hydraulic control or MEG / methanol injection
- Hose type HCRV is especially designed as HCR hose for applications where collapse resistance is required

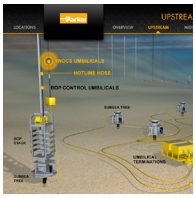




APPLICATION

2022N are often used in umbilicals, Hydraulic Flying Leads (HFL) and Jumpers for hydraulic control lines or MEG / methanol injection lines. SeaWolf is used as BOP stack hose and in subsea applications where collapse pressure is a critical value.

- Hydraulic Control
- Chemical Injection
- Methanol Injection
- Lubrication
- BOP Control
- Subsea BOP hose





B

FEATURES



polyflex high pressure aramid hoses fulfill the design requirements of ISO 13628-5 / API 17E and combine the most required features to form unique products for the Oil&Gas market:

- Seamless Polyamide core tubes in different grades (PA11 and methanol washed PA11)
- Unique designs to increase collapse resistance
- High strength aramid fibers for high working pressures
- Long continuous lengths

BENEFITS



Customers worldwide benefit from the products in different ways:

- The compact designs helps to reduce OD of umbilicals, and therefore to reduce the size of equipment
- The increased service life of hoses supports the reduction of life cycle costs
- Developed for subsea and/or deep sea applications
- Enables increased umbilical lengths



HIGH PRESSURE ARAMID HOSES

B

1/4" 5,000 psi High pressure aramid hose
2022N-04V91-5K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

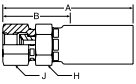
Fully compliant with ISO 13628-5 / API 17E

2022N-04V91-5K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.3	1/4	11.8	0.46	34.5	5,000	138.0	20,000	51	2.0	0.10	0.08	3.0	435	4.0

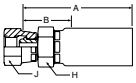
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106AH-4-4C	7/16 - 20 UNF	60.0	2.37	31.0	1.22	9/16	5/8	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	mm	mm	MPa	psi
192AH-4-4C	PF 1/4-19	55.9	2.2	27.0	1.06	17	19	34.5	5,000



B

1/4" 10,000 psi High pressure aramid hose
2022N-04V91-10K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

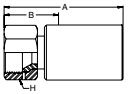
Fully compliant with ISO 13628-5 / API 17E

2022N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	69	10,000	276.0	40,000	100	3.9	0.13	0.080	8.6	1.247	4.0

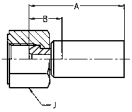
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-4-04C	7/16 - 20 UNF	57.0	26.0	19	69.0	10,000
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



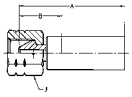
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	25.0	19	80.0	11,600



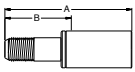
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



HIGH PRESSURE ARAMID HOSES

B

1/4" 15,000 psi High pressure aramid hose
2022N-04V91-15K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

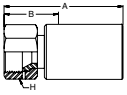
Fully compliant with ISO 13628-5 / API 17E

2022N-04V91-15K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	103.5	15.000	344.8	50,000	140	5.5	0.13	0.080	6.6	810.0	3.33

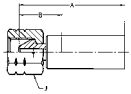
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
106AM-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



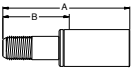
Type M female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYAM-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2AM-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



B

3/8" 5,000 psi High pressure aramid hose
2022N-06V91-5K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

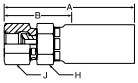
Fully compliant with ISO 13628-5 / API 17E

2022N-06V91-5K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.78	3/8	15.3	0.6	34.5	5,000	138.0	20,000	75	3.0	0.137	0.092	2.8	406	4.0

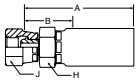
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106AH-6-6C	9/16 - 18 UNF	68.6	2.7	33.0	1.30	11/16	11/16	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	mm	mm	MPa	psi
192AH-6-6C	PF 3/8-19	62.0	2.44	27.0	1.06	19	22	34.5	5,000



B

3/8" 10,000 psi High pressure aramid hose
2022N-06V91-10K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

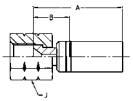
Fully compliant with ISO 13628-5 / API 17E

2022N-06V91-10K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.8	3/8	19	0.748	69	10,000	276.0	40,000	150	6.0	0.21	0.141	3.6	522	4.0

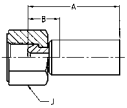
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
106LX-6-06C	9/16 - 18 UNF	69.0	33.0	22	69.0	10,000



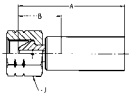
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-8-06C	G 1/2	66.0	22.0	30	69.0	10,000



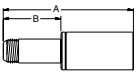
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-8-06C	3/4 - 16 UNF	71.0	2.8	25.5	1.00	24	103.5	15,000



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-06C	9/16 - 18 UNF - LH	137.0	5.4	85.0	3.35	138.0	20,000



B

1/2" 5,000 psi High pressure aramid hose
2022N-08V91-5K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

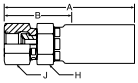
Fully compliant with ISO 13628-5 / API 17E

2022N-08V91-5K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.8	1/2	19.2	0.76	34.5	5,000	138.0	20,000	150	6.0	0.175	0.12	2.1	305	4.0

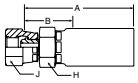
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106AH-8-8C	3/4 - 16 UNF	78.1	3.08	38.0	1.50	7/8	7/8	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	mm	mm	MPa	psi
192AH-8-8C	PF 1/2-14	70.6	2.78	31.0	1.22	24	27	34.5	5,000



B

1/2" 10,000 psi High pressure aramid hose
2022N-08V91-10K-PA



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Contact Parker

SPECIFICATION

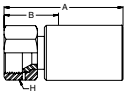
Fully compliant with ISO 13628-5 / API 17E

2022N-08V91-10K-PA

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.8	1/2	23.2	0.914	69	10,000	276.0	40,000	200	8.0	0.34	0.225	2.6	377	4.0

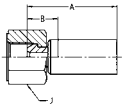
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C	3/4 - 16 UNF	94.0	3.7	39.4	1.55	27	69.0	10,000



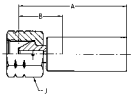
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-8-08C	G 1/2	75.0	21.0	30	130.0	18,850



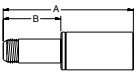
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-11-08C	1 - 12 UNF	80.0	27.0	32	130.0	18,850



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-12-08C	3/4 - 16 UNF - LH	157.5	6.2	103.5	4.07	138.0	20,000



B

HIGH PRESSURE ARAMID HOSES

1/2" 5,000 psi High collapse resistant hose
HCRV-8-xyz



CONSTRUCTION

Core tube . . . . . .Carcass: 316L SS with Polyamide
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover . . . . . .TPU, pin-pricked
Colours . . . . . .-BLU: blue, -YEL: yellow (standard colours)
. . . . . .-BLK: black, -GRN: green (non-standard colours, available on erequest)

TEMPERATURE RANGE
-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH
Please contact Parker Hannifin

SPECIFICATION
Fully compliant with ISO 13628-5 / API 17E

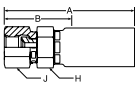
CERTIFICATES
ABS Product Design Assessment (PDA) Certificate

HCRV-8-xyz

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.7	1/2	26.4	1.040	34.5	5,000	138.0	20,000	102	4.0	0.67	0.45	45.6	6,600	4.0

JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106HV-8-8C	3/4 - 16 UNF	107.9	4.25	47.4	1.87	1 3/8"	15/16"	34.5	5,000



B

1" 5,000 psi High collapse resistant hose
HCRV-16-xyz



CONSTRUCTION

Core tube . . . . . .Carcass: 316L SS with Polyamide
Pressure reinforcement . . . . .High tensile aramid fiber braids

Cover . . . . . .TPU, pin-pricked
Colours . . . . . .-BLU: blue, -YEL: yellow (standard colours)
. . . . . .-BLK: black, -GRN: green (non-standard colours, available on erequest)

TEMPERATURE RANGE

-40°C up to +55°C
-40°F up to +131°F

MAX. LENGTH

Please contact Parker Hannifin

SPECIFICATION

Fully compliant with ISO 13628-5 / API 17E

CERTIFICATES

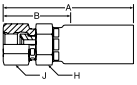
ABS Product Design Assessment (PDA) Certificate

HCRV-16-xyz

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.4	1	46.5	1.830	34.5	5,000	138.0	20,000	300	11.8	2.15	1.44	45.6	6,600	4.0

JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106HV-16-16C	1 5/16 - 12 UN	166.2	6.55	67.8	2.67	2 3/8"	1 5/8"	34.5	5,000



NOTES

CHAPTER C

WIRE HOSES

High pressure wire hoses with PA11 core tube C-4
High pressure wire hoses *ChemJec* C-24
20,000psi wire hose Nautilus20 . . . . . C-40

HIGH PRESSURE WIRE HOSES

C

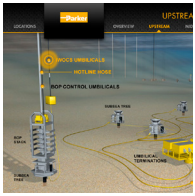
polyflex High pressure wire hoses offer best characteristics for usage in offshore applications like umbilicals, hot lines or annulus lines. In accordance with ISO 13628-5 / API 17E the very compact design results in a minimal OD which helps to reduce the size of the complete equipment. The high collapse resistant hoses are available in long continuous lengths up to 5,000m, and in some cases even more.



APPLICATION

Typical applications are usage in umbilicals, HFL and jumpers, or as hot lines and annulus lines with additional sheath:

- Hydraulic Control
- Chemical Injection
- Methanol Injection
- Lubrication
- BOP Control





FEATURES



polyflex High pressure wire hoses combine the most required features to form unique products for the Oil&Gas market:

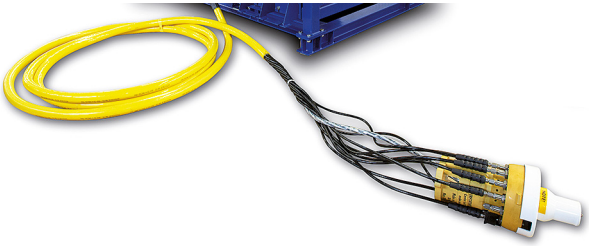
- Seamless methanol washed PA11 or fluoropolymer based core tubes
- High strength wire for high working pressures
- Long continuous lengths of more than 5,000 m without splicing
- High collapse resistance
- Meet and exceed the performance requirements of ISO 13628-5 / API 17E

BENEFITS



Customers worldwide benefit from the products in different ways:

- The compact designs helps to reduce OD of umbilicals, and therefore to reduce the size of equipment
- The increased service life of hoses supports the reduction of life cycle costs
- Developed for subsea and deep sea applications
- Enables increased umbilical lengths



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1/4" 6,250 psi High pressure wire hose
2240N-04V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,200 m / 10,499 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

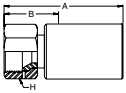
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2240N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.5	1/4	11.6	0.460	43	6,250	172.5	25,000	70	2.8	0.17	0.11	10	1,450	4.0

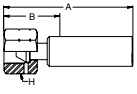
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106RX-4-04C	7/16 - 20 UNF	52.0	2.05	23.0	0.91	17	43.0	6,250
106RX-6-04C	9/16 - 18 UNF	53.5	2.11	24.5	0.96	19	43.0	6,250



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
192RX-4-04C	G 1/4	50.5	1.99	22.0	0.87	17	43.0	6,250



C

1/4" 10,000 psi High pressure wire hose
2340N-04V91



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

5,000 m / 16,404 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

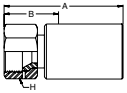
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2340N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.5	0.490	69	10,000	276.0	40,000	70	2.8	0.23	0.15	13.5	1,955	4.0

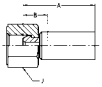
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-4-04C	7/16 - 20 UNF	85.0	3.37	40.0	1.57	19	69.0	10,000
106LX-6-04C	9/16 - 18 UNF	73.0	2.87	28.0	1.10	19	103.5	15,000



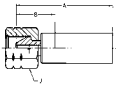
BSP female swivel (ballnose) — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1U0LX-4-04C	G 1/4	70.0	2.76	25.0	0.98	22	103.5	15,000



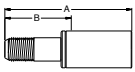
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-6-04C	9/16 - 18 UNF	72.0	2.83	27.0	1.06	22	103.5	15,000



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-6-04C	3/8 - 24 UNF - LH	109.0	4.29	64.0	2.52	138.0	20,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1/4" 10,000 psi High pressure wire hose
2380N-04V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,000 m / 9,843 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

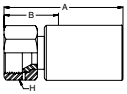
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	69	10,000	276.0	40,000	70	2.8	0.27	0.18	23.9	3,465	4.0

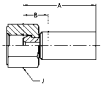
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-4-04C	7/16 - 20 UNF	57.0	26.0	19	69.0	10,000
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



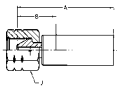
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	25.0	19	80.0	11,600



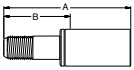
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



1/4" 12,500 psi High pressure wire hose
2440N-04V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,750 m / 12,303 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

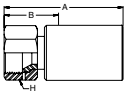
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.1	0.520	86.5	12,500	345.0	50,000	150	5.9	0.31	0.21	24.7	3,582	4.0

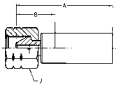
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



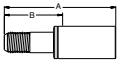
Type M female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1/4" 15,000 psi High pressure wire hose
2448N-04V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

2,750 m / 9,022 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

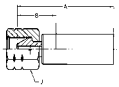
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448N-04V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.7	0.539	103.5	15,000	414.0	60,000	150	5.9	0.38	0.26	40.7	5,900	4.0

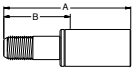
Type M female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



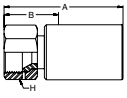
Medium pressure tube nipple ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



JIC female swivel ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



3/8" 6,250 psi High pressure wire hose
2370N-06V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire, synthetic fibre

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

2,200 m / 7,218 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

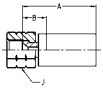
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2370N-06V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.9	3/8	16.5	0.650	43	6,250	172.5	25,000	120	4.7	0.33	0.22	9.4	1,363	4.0

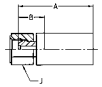
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
106NX-6-06C	9/16 - 18 UNF	58.0	2.28	28.0	1.10	19	43.0	6,250



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
192NX-6-06C	G 3/8	55.0	2.17	25.0	0.98	22	43.0	6,250



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

3/8" 6,450 psi High pressure wire hose
2390N-06V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,500 m / 11,483 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

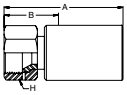
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390N-06V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.8	3/8	18.1	0.710	44.5	6,450	178.0	25,800	120	4.7	0.41	0.28	15	2,175	4.0

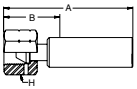
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-8-06C	3/4 - 16 UNF	74.0	2.91	31.0	1.22	24	69.0	10,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-6-06C	G 3/8	63.5	2.5	24.5	0.96	22	69.0	10,000



3/8" 7,500 psi High pressure wire hose
2380N-06V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

2,000 m / 6,562 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

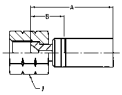
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380N-06V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.8	3/8	17.9	0.700	51.7	7,500	207.0	30,000	120	4.7	0.44	0.3	13.5	1,958	4.0

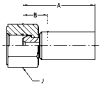
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1068X-8-06C	3/4 - 16 UNF	69.5	2.74	30.5	1.20	24	69.0	10,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1928X-6-06C	G 3/8	59.0	19.0	22	69.0	10,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

3/8" 12,500 psi High pressure wire hose
2440N-06V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

6,000 m / 19,685 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

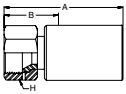
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-06V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.8	3/8	19.5	0.770	86.5	12,500	345.0	50,000	190	7.5	0.73	0.49	32.2	4,670	4.0

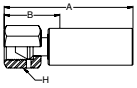
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-06C	9/16 - 18 UNF	74.5	2.93	29.0	1.14	22	69.0	10,000
106LX-8-06C	3/4 - 16 UNF	78.0	3.07	32.5	1.28	24	86.5	12,500



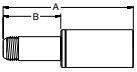
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-8-06C	3/4 - 16 UNF	78.0	3.07	32.5	1.28	27	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-6-06C	3/8 - 24 UNF - LH	128.5	5.06	76.5	3.01	138.0	20,000
1Y2LX-9-06C2	9/16 - 18 UNF - LH	137.0	5.4	91.5	3.60	138.0	20,000



C

1/2" 6,015 psi High pressure wire hose
2390N-08V91



CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

5,600 m / 18,373 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

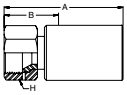
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390N-08V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	21.2	0.830	41.5	6,015	166.0	24,070	150	5.9	0.57	0.38	7.8	1,131	4.0

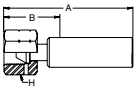
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-8-08C	3/4 - 16 UNF	81.0	3.19	38.0	1.50	27	69.0	10,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-8-08C	G 1/2	70.0	2.76	27.0	1.06	27	69.0	10,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1/2" 7,500 psi High pressure wire hose
2380N-08V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,000 m / 9,843 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

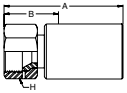
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380N-08V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.9	0.900	51.7	7,500	207.0	30,000	150	5.9	0.68	0.46	16.4	2,378	4.0

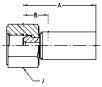
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C	3/4 - 16 UNF	94.0	3.7	39.4	1.55	27	69.0	10,000
106LX-12-08C	1 1/16 - 12 UNF	88.0	3.46	44.0	1.73	32	34.5	5,000



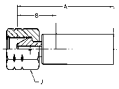
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-8-08C	G 1/2	75.0	21.0	30	130.0	18,850



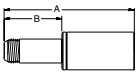
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-11-08C	1 - 12 UNF	80.0	27.0	32	130.0	18,850



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-08C	9/16-18 UNF LH	145,5	5.73	91,5	3.60	138.0	20,000
1Y2LX-12-08C	3/4 - 16 UNF - LH	157.5	6.2	103.5	4.07	138.0	20,000



1/2" 10,000 psi High pressure wire hose
2440N-08V91-10K



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

6,000 m / 19,685 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

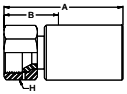
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-08V91-10K

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.7	0.892	69	10,000	276.0	4,000	200	7.9	0,94	0.63	18	2,610	4.0

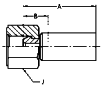
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C	3/4 - 16 UNF	94.0	3.7	39.4	1.55	27	69.0	10,000
106LX-12-08C	1 1/16 - 12 UNF	88.0	3.46	44.0	1.73	32	34.5	5,000



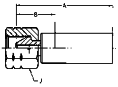
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-8-08C	G 1/2	75.0	21.0	30	130.0	18,850



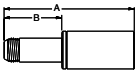
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-11-08C	1 - 12 UNF	80.0	27.0	32	130.0	18,850



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-08C	9/16-18 UNF LH	145,5	5.73	91,5	3.60	138.0	20,000
1Y2LX-12-08C	3/4 - 16 UNF - LH	157.5	6.2	103.5	4.07	138.0	20,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1/2" 12,500 psi High pressure wire hose
2448N-08V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

6,000 m / 19,685 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

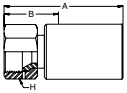
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448N-08V91

				Max. working pressure				Min. bend radius				Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.7	0.890	86.5	12,500	350.0	50,750	200	7.9	0.94	0.63	22.9	3,320	4.0

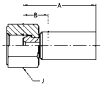
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C	3/4 - 16 UNF	94.0	3.7	39.4	1.55	27	69.0	10,000
106LX-12-08C	1 1/16 - 12 UNF	88.0	3.46	44.0	1.73	32	34.5	5,000



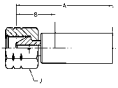
BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-8-08C	G 1/2	75.0	21.0	30	130.0	18,850



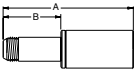
Type M female swivel ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-11-08C	1 - 12 UNF	80.0	27.0	32	130.0	18,850



Medium pressure tube nipple ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-08C	9/16-18 UNF LH	145,5	5.73	91,5	3.60	138.0	20,000
1Y2LX-12-08C	3/4 - 16 UNF - LH	157.5	6.2	103.5	4.07	138.0	20,000



1/2" 15,000 psi High pressure wire hose
2640N-08V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,500 m / 11,500 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

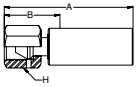
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2640N-08V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	24.7	0.970	103.5	15,000	4140.0	60,000	290	11.4	1,34	0.9	25.6	3,712	4.0

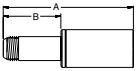
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY5X-11-08C-M-Subsea	1 - 12 UNF	111.0	4.37	56.0	2.20	32	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y25X-9-08C-M-Subsea	9/16 - 18 UNF - LH	164.2	6.46	72.0	2.83	138.0	20,000
1Y25X-12-08C-M-Subsea	3/4 - 16 UNF - LH	174.2	6.86	84.0	3.31	138.0	20,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

3/4" 5,075 psi High pressure wire hose
2390N-12V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,200 m / 10,499 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

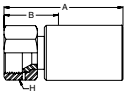
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390N-12V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
19.8	3/4	29	1.140	35	5,075	140.0	20,300	250	9.8	0.9	0.61	6.4	928	4.0

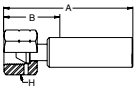
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-12-12C	1 1/16 - 12 UNF	96.0	3.78	43.0	1.69	36	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-12-12C	G 3/4	77.0	3.03	26.0	1.02	32	34.5	5,000



3/4" 10,000 psi High pressure wire hose
2440N-12V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

5,000 m / 16,404 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

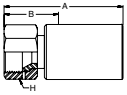
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-12V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
19.9	3/4	30.2	1.190	69	10,000	250.0	36,250	250	9.8	1.46	0.98	10.6	1,537	36.0

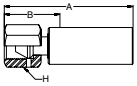
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-12-12C4462	1 1/16 - 12 UNF	95.0	3.74	41.0	1.61	36	34.5	5,000
106LX-16-12C4462	1 5/16 - 12 UNF	99.0	3.9	43.0	1.69	41	69.0	10,000



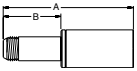
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-16-12C4462	1 5/16 - 12 UNF	92.0	3.62	38.0	1.49	41	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-12-12C4462	3/4 - 16 UNF - LH	160.0		100.0		137.9	20,000
1Y2LX-16-12C4462	1 - 14 UNS - LH	181.0	7.13	119.4	4.70	138.0	20,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

3/4" 12,500 psi High pressure wire hose
2640N-12V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

3,800 m / 12,467 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

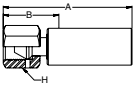
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2640N-12V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
19.8	3/4	33.2	1.310	86.5	12,500	345.0	50,000	350	13.8	2.16	1.45	12	1,740	4.0

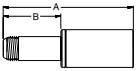
Type M female swivel ***Material: special stainless steel materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1AYJX-16-12C	1 5/16 - 12 UNF	108.0	4.25	40.6	1.60	38	103.5	15,000



Medium pressure tube nipple ***Material: special stainless steel materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2JX-16-12C	1 - 14 UNS - LH	182.2	7.17	100.0	3.93	138.0	20,000



1" 4,060 psi High pressure wire hose
2390N-16V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

5,000 m / 16,404 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

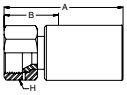
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390N-16V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.2	1	35	1.380	28	4,060	112.0	16,240	280	11.0	1.17	0.79	3.9	566	4.0

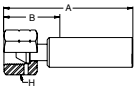
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-16-16C	1 5/16 - 12 UNF	102.5	4.04	47.5	1.87	41	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-16-16C	G 1	93.5	3.68	40.5	1.59	41	34.5	5,000



HIGH PRESSURE WIRE HOSES WITH PA11 CORE TUBE

1" 8,120 psi High pressure wire hose
2440N-16V91



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA11
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

4,000 m / 13,123 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

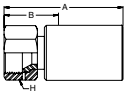
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-16V91

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	56	8,120	225.0	32,625	300	11.8	2	1.33	6	870	4.0

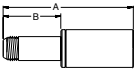
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-16-16C4462	1 5/16 - 12 UNF	77.0	3.03	25.5	1.00	41	34.5	5,000



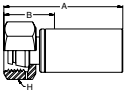
Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-16-16C4462	1 - 14 UNS - LH	181.0	7.13	127.0	5.00	138.0	20,000



Metric female swivel heavy series with O-ring ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1C9LX-30-16C4462	M42x2	99.0	3.90	45.0	1.77	50	90.0	13,050



1" 10,000 psi High pressure wire hose
2440N-16V91-10K



C

CONSTRUCTION

Core tube . . . . . .Methanol washed PA12
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

MAX. LENGTH

4,000 m / 13,123 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

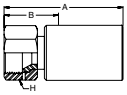
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-16V91-10K

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	69	10,000	225.0	32,625	300	11.8	2	1.34	6	870	3.3

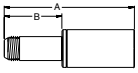
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-16-16C4462	1 5/16 - 12 UNF	77.0	3.03	25.5	1.00	41	34.5	5,000



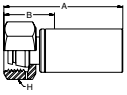
Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-16-16C4462	1 - 14 UNS - LH	181.0	7.13	127.0	5.00	138.0	20,000



Metric female swivel heavy series with O-ring ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1C9LX-30-16C4462	M42x2	99.0	3.90	45.0	1.77	50	90.0	13,050



HIGH PRESSURE WIRE HOSES CHEMJEC

1/4" 6,250 psi High pressure *ChemJec* hose
2240M-04V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

3,200 m / 10,499 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

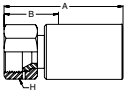
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2240M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.5	1/4	11.6	0.457	43	6,250	172.5	25,000	70	2.8	0.17	0.11	10.5	1,523	4.0

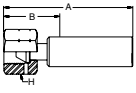
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106RX-4-04C	7/16 - 20 UNF	52.0	2.05	23.0	0.91	17	43.0	6,250
106RX-6-04C	9/16 - 18 UNF	53.5	2.11	24.5	0.96	19	43.0	6,250



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
192RX-4-04C	G 1/4	50.5	1.99	22.0	0.87	17	43.0	6,250



C

1/4" 10,000 psi High pressure *ChemJec* hose
2340M-04V38



CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

5,000 m / 16,404 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

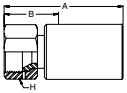
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2340M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.5	0.490	69	10,000	276.0	40,000	70	2.8	0.23	0.15	20.5	2,973	4.0

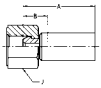
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-4-04C	7/16 - 20 UNF	57.0	26.0	19	69.0	10,000
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



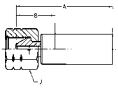
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	25.0	19	80.0	11,600



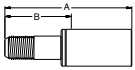
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000

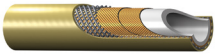


Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



1/4" 10,000 psi High pressure *ChemJec* hose 2380M-04V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

3,000 m / 9,843 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

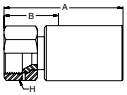
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	69	10,000	276.0	40,000	230	9.1	0.27	0.18	40	5,800	4.0

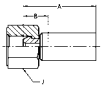
JIC female swivel — ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-4-04C	7/16 - 20 UNF	57.0	26.0	19	69.0	10,000
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



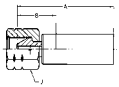
BSP female swivel (60° cone) — ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	25.0	19	80.0	11,600



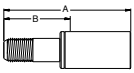
Type M female swivel — ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple — ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



1/4" 12,500 psi High pressure *ChemJec* hose
2440M-04V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +110°C
-40°F up to +230°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

3,750 m / 12,303 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

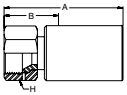
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.5	1/4	13.1	0.520	87.5	12,688	350	50,750	150	5.9	0.31	0.21	31.8	4,495	4.0

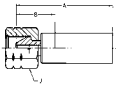
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A	B	H		
		mm	mm	mm	MPa	psi
1068X-6-04C	9/16 - 18 UNF	55.0	24.0	19	103.5	15,000



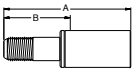
Type M female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18 UNF	66.0	2.6	33.0	1.30	19	103.5	15,000



Medium pressure tube nipple ***Material: AISI 316 / 316Ti***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y28X-6-04C	3/8 - 24 UNF - LH	120.0	4.72	87.0	3.43	138.0	20,000



1/4" 15,000 psi High pressure *ChemJec* hose
2448M-04V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,750 m / 9,022 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

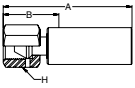
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.5	1/4	13.7	0.540	103.5	15,000	414.0	60,000	150	5.9	0.38	0.26	45.1	6,540	4.0

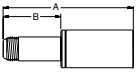
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYUX-6-04C	9/16 - 18 UNF	86.0	3.39	34.0	1.34	19	138.0	20,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2UX-6-04C	3/8 - 24 UNF - LH	131.5	5.18	63.5	2.50	138.0	20,000



1/4" 20,000 psi High pressure *ChemJec* hose
2449M-04V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +60°C
-40°F up to +140°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

3,750 m / 12,303 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

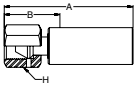
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2449M-04V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.5	1/4	13.1	0.516	138.0	20,000	414.0	60,000	150	5.9	0.34	0.23	38.0	5,510	3.0

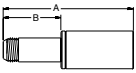
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYUX-6-04C	9/16 - 18 UNF	86.0	3.39	34.0	1.34	19	138.0	20,000

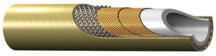


Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2UX-6-04C	3/8 - 24 UNF - LH	131.5	5.18	63.5	2.50	138.0	20,000



5/16" 8,700 psi High pressure *ChemJec* hose
2380M-05V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,500 m / 8,202 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

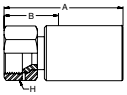
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380M-05V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
8.3	5/16	15.8	0.620	60	8,700	240.0	34,800	90	3.5	0.35	0.24	16.7	2,421	4.0

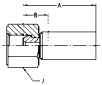
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-05C	9/16 - 18 UNF	78.0	3.07	33.0	1.30	19	69.0	10,000



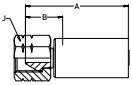
BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-6-05C	G 3/8	69.0	25.0	27	150.0	21,750



Type M female swivel ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-8-05C	3/4 - 16 UNF	70.0	31.0	27	150.0	21,750



5/16" 10,000 psi High pressure *ChemJec* hose 2440M-05V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

4,000 m / 13,123 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

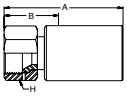
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-05V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
8.3	5/16	16.2	0.637	69	10,000	276.0	40,000	175	6.9	0.49	0.33	26	3,771	4.0

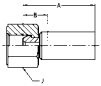
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-05C	9/16 - 18 UNF	78.0	3.07	33.0	1.30		69.0	10,000



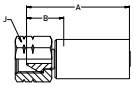
BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
192LX-6-05C	G 3/8	69.0	25.0	27	150.0	21,750



Type M female swivel ***Material: AISI 316 / 316Ti***

#		A	B	J		
		mm	mm	mm	MPa	psi
1AYLX-8-05C	3/4 - 16 UNF	70.0	31.0	27	150.0	21,750



5/16" 15,000 psi High pressure *ChemJec* hose 2448M-05V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,500 m / 8,202 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

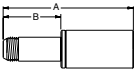
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448M-05V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
8.5	5/16	16.2	0.640	103.5	15,000	414.0	60,000	175	6.9	0.53	0.36	32.6	4,727	4.0

Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2UX-6-05-INC625	3/8 - 24 UNF - LH	125.4	4.94	63.5	2.50	138.0	20,000



3/8" 6,250 psi High pressure *ChemJec* hose
2370M-06V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire, synthetic fibre

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,200 m / 7,218 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

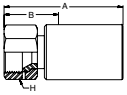
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2370M-06V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.9	3/8	16.5	0.650	43	6,250	172.5	25,000	120	4.7	0.33	0.22	15	2,175	4.0

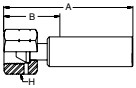
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106RX-6-06C	9/16 - 18 UNF	58.0	2.28	28.0	1.10	19	43.0	6,250



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
192RX-6-06C	G 3/8	55.0	2.17	25.0	0.98	22	43.0	6,250



3/8" 10,000 psi High pressure *ChemJec* hose
2440M-06V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +110°C
-40°F up to +230°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,600 m / 8,530 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

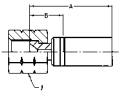
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-06V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.9	3/8	19.5	0.770	69	10,000	276.0	40,000	190	7.5	0.73	0.49	30	4,350	4.0

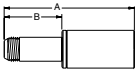
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-06C-M-Subsea	9/16 - 18 UNF	87.0	3.43	34.0	1.34	19	69.0	10,000
106LX-8-06C-M-Subsea	3/4 - 16 UNF	87.0	3.43	34.0	1.34	24	69.0	10,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-06C-M-SUBSEA	9/16 - 18 UNF - LH	158.0	6.22	105.0	4.13	138.0	20,000



3/8" 15,000 psi High pressure *ChemJec* hose 2448M-06V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

4,000 m / 13,123 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

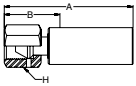
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448M-06V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
10.2	3/8	20.1	0.800	103.5	15,000	414.0	60,000	200	7.9	0.83	0.56	35.3	5,119	4.0

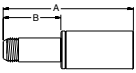
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYUX-8-06C	3/4 - 16 UNF	93.5	3.68	38.5	1.52	27	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2UX-9-06C	9/16 - 18 UNF - LH	151.0	5.94	72.0	2.83	138.0	20,000



1/2" 10,000 psi High pressure *ChemJec* hose 2440M-08V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

4,500 m / 14,764 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

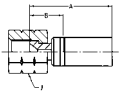
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-08V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.7	0.890	69	10,000	276.0	40,000	200	7.9	0.94	0.63	25.2	3,654	4.0

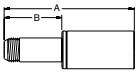
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B				
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C-M-Subsea	3/4 - 16 UNF	100.0	3.94	35.0	1.38	24	69.0	10,000

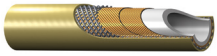


Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-12-08C-M-SUBSEA	3/4 - 16 UNF - LH	184.2	7.25	119.4	4.70	138.0	20,000



3/4" 5,000 psi High pressure *ChemJec* hose
2390M-12V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,300 m / 7,546 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

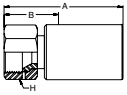
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390M-12V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
20	3/4	29	1.140	34.5	5,000	138.0	20,000	250	9.8	0.9	0.6	7.5	1,088	4.0

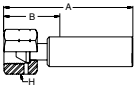
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-12-12C	1 1/16 - 12 UNF	96.0	3.78	43.0	1.69	36	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-12-12C	G 3/4	77.0	3.03	26.0	1.02	32	34.5	5,000



3/4" 10,000 psi High pressure *ChemJec* hose 2440M-12V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +110°C
-40°F up to +230°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,300 m / 7,546 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

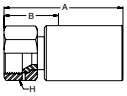
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-12V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
20.2	3/4	30.2	1.190	69	10,000	250.0	36,250	250	9.8	1.46	0.98	11	1,595	36.0

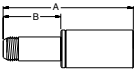
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-16-12C4462	1 5/16 - 12 UNF	99.0	3.9	43.0	1.69	41	69.0	10,000



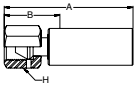
Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-12-12C4462	3/4 - 16 UNF - LH	160.0		100.0		137.9	20,000
1Y2LX-16-12C4462	1 - 14 UNS - LH	181.0	7.13	119.4	4.70	138.0	20,000

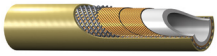


Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-16-12C4462	1 5/16 - 12 UNF	92.0	3.62	38.0	1.49	41	103.5	15,000



1" 4,060 psi High pressure *ChemJec* hose
2390M-16V38



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

1,500 m / 4,921 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

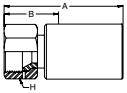
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2390M-16V38

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.3	1	35	1.380	28	4,000	112.0	16,000	280	11.0	1.19	0.79	3.5	505	4.0

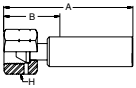
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-16-16C	1 5/16 - 12 UNF	102.5	4.04	47.5	1.87	41	34.5	5,000



BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-16-16C	G 1	93.5	3.68	40.5	1.59	41	34.5	5,000



1" 5,000 psi High pressure *ChemJec* hose
2440M-16V38-5K



C

CONSTRUCTION

Core tube . . . . . .Fluoropolymer based core tube
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Golden

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F
For higher temperature requirements please contact PHDE Polyflex Division

MAX. LENGTH

2,000 m / 6,562 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

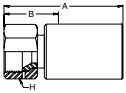
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-16V38-5K

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	34.5	5,000	225.0	32,625	300	11.8	2.05	1.36	6.5	943	65.0

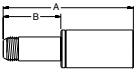
JIC female swivel ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
106LX-16-16C4462	1 5/16 - 12 UNF	77.0	3.03	25.5	1.00	41	34.5	5,000



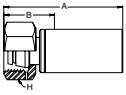
Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2LX-16-16C4462	1 - 14 UNS - LH	181.0	7.13	127.0	5.00	138.0	20,000



Metric female swivel heavy series with O-ring ***Material: Special Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1C9LX-30-16C4462	M42x2	99.0	3.90	45.0	1.77	50	90.0	13,050



20,000PSI WIRE HOSE NAUTILUS20

1/4" 20k Subsea Umbilical Hose
2448P-04V30



C

CONSTRUCTION

Core tube . . . . . .High performance polymer
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F

MAX. LENGTH

3,500 m / 11,500 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

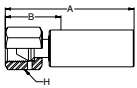
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448P-04V30

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13	0.512	138	20,000	414.0	60,000	150	5.2	0,33	0.22	60	8,700	3.0

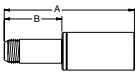
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AYUX-6-04C	9/16 - 18 UNF	86.0	3.39	34.0	1.34	19	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y2UX-6-04C	3/8 - 24 UNF - LH	131.5	5.18	63.5	2.50	138.0	20,000



20,000PSI WIRE HOSE NAUTILUS20

C

1/2" 20k Subsea Umbilical Hose
2448P-08V30



CONSTRUCTION

Core tube . . . . . .High performance polymer
Pressure reinforcement . . . . .High strength wire

Cover PA12
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +125°C
-40°F up to +257°F

MAX. LENGTH

3,500 m / 11,500 ft
(for longer length requirements please contact Parker Hannifin)

SPECIFICATION

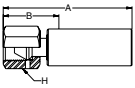
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448P-08V30

												Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
13	1/2	23.2	0.911	138	20,000	414.0	60,000	300	11.8	1,15	0.77	50,5	7,320

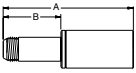
Type M female swivel ***Material: Special Stainless Steel Materials***

#		A		B		J		
		mm	inch	mm	inch	mm	MPa	psi
1AY5X-11-08C-M-Subsea	1 - 12 UNF	111.0	4.37	56.0	2.20	32	103.5	15,000



Medium pressure tube nipple ***Material: Special Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1Y25X-9-08C-M-Subsea	9/16 - 18 UNF - LH	164.2	6.46	72.0	2.83	138.0	20,000
1Y25X-12-08C-M-Subsea	3/4 - 16 UNF - LH	174.2	6.86	84.0	3.31	138.0	20,000



NOTES

CHAPTER D

SUBSEA BOP HOSES

High pressure subsea BOP hoses D-4

SUBSEA BOP HOSES

polyflex BOP hoses are in use since many years. Both on subsea BOPs for hydraulic applications and as hot-lines in long continuous lengths up to 4,200m for MUX system applications.

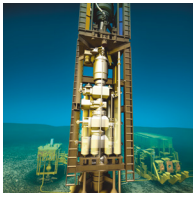
D

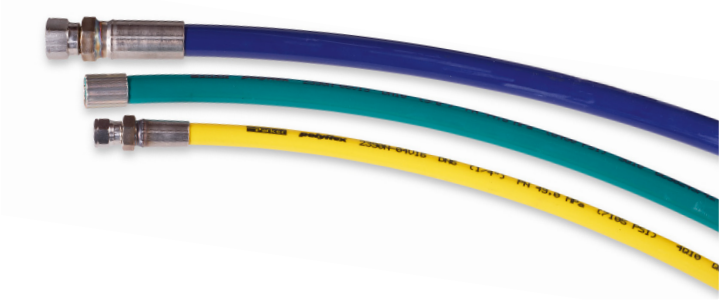
Crimp your own assembly: BOP hose 2390N and suitable fittings are available as bulk hose and single components. Hose and E3 / E4 fitting serie can easily be crimped with the Parker ParKrimp system – also on site on rigs or vessels.



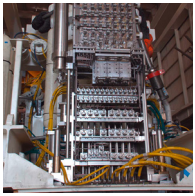
APPLICATION

- Hydraulic lines on Subsea BOPs
- Hot lines from vessel or rig to Subsea BOP
- General hydraulic applications





FEATURES



- Suitable for Parker ParKrimp System
- Very compact hose construction
- Long contiuous lengths up to 4,200 m without splicing
- Seamless Polyamide core tube of high chemical resistance
- Seawater resistant cover material in various colors
- Improved collapse resistance



BENEFITS

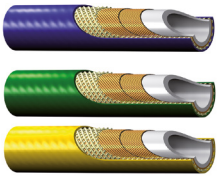


- Fast and easy hose assembly manufacturing
- Saves space on drum and vessel
- Suitable for deep sea applications
- One continuous line down to sea bed without splices or other connections
- Suitable for most hydraulic fluids



HIGH PRESSURE SUBSEA BOP HOSES

1/4" 7,105 psi Subsea BOP hose
2390N-04Vxy



D

CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.

MAX. LENGTH

3,200 m / 10,499 ft

CERTIFICATES

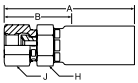
ABS Product Design Assessment (PDA) Certificate 22-2226082-PDA

2390N-04Vxy

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	49	7,105	196.0	28,420	70	2.8	0.25	0.17	13.9	2,015	4.0

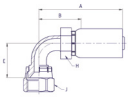
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106E3-4-4C	7/16 - 20 UNF	62.6	2.46	37.0	1.46	5/8"	5/8"	34.5	5,000
106E3-6-4C	9/16 - 18 UNF	64.8	2.55	39.0	1.54	5/8"	3/4"	34.5	5,000

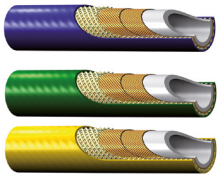


JIC female swivel 90° ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	inch	MPa	psi
139E3-4-4C	7/16 - 20 UNF	61.2	2.41	35.0	1.38	5/8"	34.5	5,000
139E3-6-4C	9/16 - 18 UNF	61.2	2.41	35.0	1.38	3/4"	34.5	5,000



3/8" 6,450 psi Subsea BOP hose
2390N-06Vxy



D

CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.

MAX. LENGTH

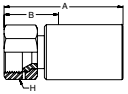
3,500 m / 11,483 ft

2390N-06Vxy

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
9.8	3/8	18.1	0.710	44.5	6,450	178.0	25,800	120	4.7	0.41	0.28	15	2,175	4.0

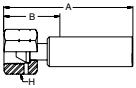
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-8-06C	3/4 - 16 UNF	74.0	2.91	31.0	1.22	24	69.0	10,000



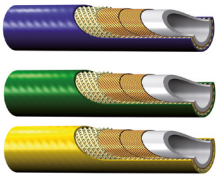
BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-6-06C	G 3/8	63.5	2.5	24.5	0.96	22	69.0	10,000



HIGH PRESSURE SUBSEA BOP HOSES

1/2" 6,020 psi Subsea BOP hose
2390N-08Vxy



D

CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.

MAX. LENGTH

5,600 m / 18,373 ft

CERTIFICATES

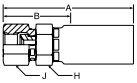
ABS Product Design Assessment (PDA) Certificate 22-2226082-PDA

2390N-08Vxy

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
12.9	1/2	21.1	0.833	41.5	6,020	166.0	24,080	150	5.9	0.57	0.38	7.8	1,131	4.0

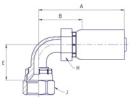
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106E3-8-8C	3/4 - 16 UNF	90.3	3.56	47.0	1.85	15/16"	15/16"	34.5	5,000



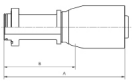
JIC female swivel 90° ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	inch	MPa	psi
139E3-8-8C	3/4 - 16 UNF	104.5	4.11	62.0	2.44	15/16"	34.5	5,000



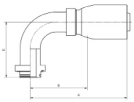
Dual Seal Straight ***Material: AISI 316 / 316Ti***

#	A		B			
	mm	inch	mm	inch	MPa	psi
19GE3-8-8C	82.9	3.26	40.0	1.57	34.5	5,000

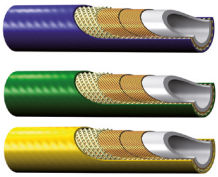


Dual Seal 90° ***Material: AISI 316 / 316Ti***

#	A		B			
	mm	inch	mm	inch	MPa	psi
19WE3-8-8C	104.5	4.11	62.0	2.44	34.5	5,000
19WE3-16-8C	104.5	4.11	62.0	2.44	34.5	5,000



3/4" 5,075 psi Subsea BOP hose
2390N-12Vxy



D

CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.

MAX. LENGTH

3,200 m / 10,500 ft

CERTIFICATES

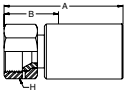
ABS Product Design Assessment (PDA) Certificate 22-2226082-PDA

2390N-12Vxy

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
19.8	3/4	29	1.140	35	5,075	140.0	20,300	250	9.8	0.9	0.61	6.1	885	4.0

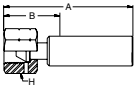
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1069X-12-12C	1 1/16 - 12 UNF	96.0	3.78	43.0	1.69	36	34.5	5,000



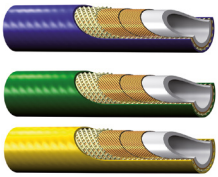
BSP female swivel (60° cone) ***Material: AISI 316 / 316Ti***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1929X-12-12C	G 3/4	77.0	3.03	26.0	1.02	32	34.5	5,000



HIGH PRESSURE SUBSEA BOP HOSES

1" 5,000 psi Subsea BOP hose
2380N-16Vxy



D

CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

-40°C up to +100°C, max. 70°C for water or methanol based fluids.

MAX. LENGTH

4,000 m / 13,123 ft

CERTIFICATES

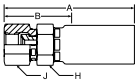
ABS Product Design Assessment (PDA) Certificate 22-2226082-PDA

2380N-16Vxy

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
25.2	1	36.8	1.450	34,5	5,000	138.0	20,000	290	11.4	1.49	1	4.8	696	4.0

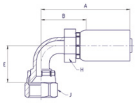
JIC female swivel ***Material: AISI 316 / 316Ti***

#		A		B		H	J		
		mm	inch	mm	inch	inch	inch	MPa	psi
106E4-16-16C	1 5/16 - 12 UN	121.0	4.76	60.0	2.36	1 1/2"	1 5/8"	34.5	5,000



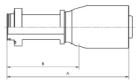
JIC female swivel 90° ***Material: AISI 316 / 316Ti***

#		A		B		J		
		mm	inch	mm	inch	inch	MPa	psi
139E4-16-16C-411	1 5/16 - 12 UN	144.6	5.69	84.0	3.31	1 5/8"	34.5	5,000



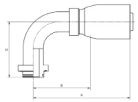
Dual Seal Straight ***Material: AISI 316 / 316Ti***

#	A		B			
	mm	inch	mm	inch	MPa	psi
19GE4-16-16C	110.6	4.35	50.8	2.00	34.5	5,000
19GE4-24-16C	113.8	4.48	54.0	2.13	34.5	5,000

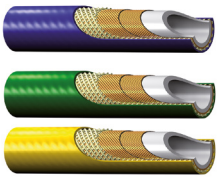


Dual Seal 90° ***Material: AISI 316 / 316Ti***

#	A		B			
	mm	inch	mm	inch	MPa	psi
19WE4-16-16C	144.5	5.69	84.0	3.31	34.5	5,000
19WE4-24-16C	144.5	5.69	84.0	3.31	34.5	5,000



1.5" 5,000 psi Subsea BOP hose
2340N-24V10



CONSTRUCTION

Core tube . . . . . .Polyamide
Pressure reinforcement . . . . .High strength wire

Cover . . . . . .Polyurethane
Colour . . . . . .V10: black; V12: blue; V13: green; V16: yellow

TEMPERATURE RANGE

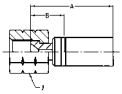
-40°C up to +100°C, max. 70°C for water or methanol based fluids.

2340N-24V10

												Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi	
38	1.5	55.5	2.185	34.5	5,000	138.0	20,000	450	17.7	3.5	2.35	3.7	536	4.0

JIC female swivel

#		A		B		H	J		
		mm	inch	mm	inch	mm	mm	MPa	psi
1068X-24-24C	1 7/8-12 UN	173.0	6.817	89.2	3.51	65	55	345.0	5,000



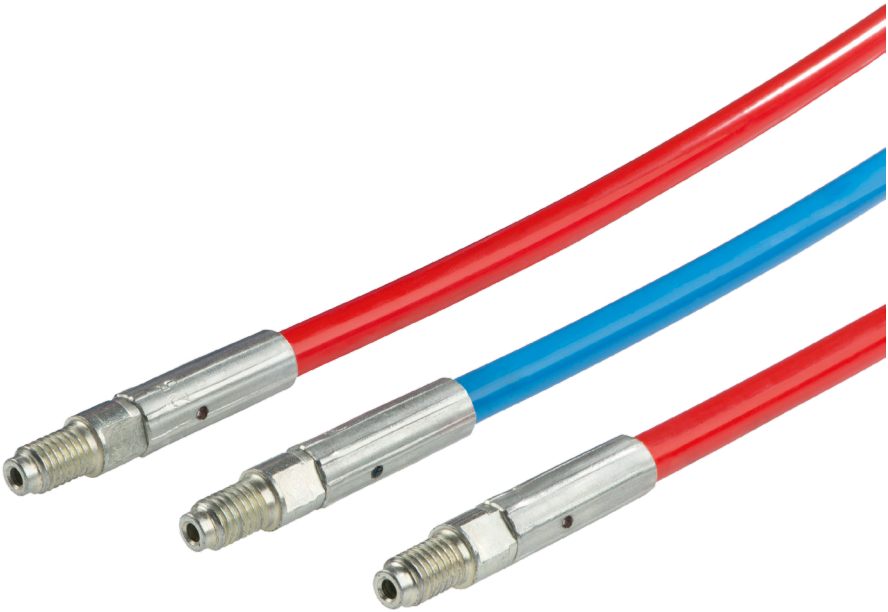
CHAPTER E

HYDROSTATIC TESTING HOSE

Ultra high pressure hoses and fittings E-2

ULTRA HIGH PRESSURE HOSES AND FITTINGS

PHDE *Polyflex* offers a large number of ultra high pressure hoses which are suitable for hydrostatic testing applications. With working pressures up to 60,000psi and a size range from 1/8” up to 1 1/4” we offer customers the option to test equipment or well installations in an extremly wide pressure range. Please refer to catalogue 4462 for further details.



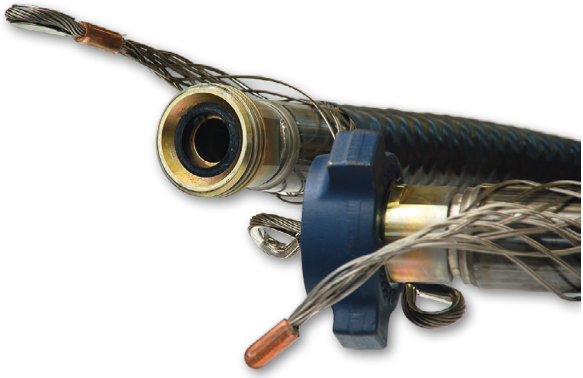
CHAPTER F

THE *Black Eagle* HOSE FAMILY FOR WELL SERVICES

The *Black Eagle* hose family for well services F-2
Construction F-4
Hose overview F-5
Hose specifications F-6

THE BLACK EAGLE HOSE FAMILY FOR WELL SERVICES

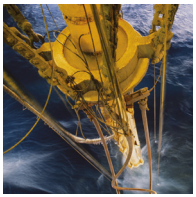
The *Black Eagle* family is a range of multispiral, wire reinforced hoses specifically designed for the oil and gas market, covering applications in offshore projects and land operations.
For many years this range of hoses has enabled our customers to optimize well production by performing operations like acidizing, cementing, methanol injection or gas injection.



APPLICATION

Subsea and land based well operations like:

- Cementing operations acc. to API 7K FSL 0
- Acidizing
- General Fluid and Gas Injection
- Mud Circulation





FEATURES



- ColorGard™, an extra thick dual color Polyurethan sheath
- Long continuous lengths up to 1,500 m without splicing (depending on hose type)
- Superior chemical resistant PA 11 core tube
- Compact design – smaller OD than flexible pipe
- Up to 30% weight reduction in comparision to R13 rubber hoses – more than 70% in comparision to flexible pipe
- ID from 1 1/4" up to 3" – working pressure from 3,000 psi (207 bar) up to 15,000 psi (1035 bar) – temperature range from -40°C up to 100°C
- Lower bend radius compared to composite hose

BENEFITS



- Increased safety – superior abrasion resistance in combination with a visual indication for damaged cover
- Less connections – therefore less risk of leakage, less risk to workforce, and faster deployment
- Long service life and less maintenance
- Less effort for logistics due to increased hose capacity per reel
- Easier handling and faster installation
- Comprehensive range of hoses to cover most applications
- Easier handling and improved flexibility

THERMOPLASTIC CORE TUBE

To be able to cover these requirements the construction of Black Eagle hose has the following functionality: The essential requirement for a hose is to contain and transmit a fluid or gas. The core tube of a thermoplastic hose is therefore in direct contact with that medium. The selection of the core tube material depends on fluid compatibility, service temperature, and diffusion rate under operating conditions. The Polyflex Black Eagle hoses core tube material is Polyamide (PA11): It is used in high-performance applications for oil and gas, flexible pipes and control fluid umbilicals. It can operate within a wide range of working temperatures (-40°C up to +70°C), has a high dimensional stability and is low in density. Thermoplastic core tubes are manufactured with an extremly smooth and clean inner surface. This provides minimum flow resistance and minimum pressure drop in service.

SPIRALIZED WIRE REINFORCEMENT

Our reinforcement allows flexibility in service without compromising fluid transfer . Various layers of high tensile strength steel wires are used to achieve the best combination of pressure resistance, flexibility, and volumetric expansion.

COLORGARD™ COVER

The basic function of the cover is to protect the wire reinforcement from very demanding environment. This could be decomposive media like seawater or extreme abrasion of the cover.
ColorGard™ is an extra thick dual layer Polyurethan sheath: a red inner layer and a black or golden outer layer. It offers both an abration resistant extra thick cover for long service life and acts as an additional safety feature. This concept is a visual early warning system for detection of excessive abrasion. This feature avoids possible injuries and reduction of downtime by anticipating failure.

TECHNICAL COMMENTS

Polyflex Black Eagle hoses are designed for oilfield applications. For each application different demandsneed to be considered regarding:
– Composition of fluids
– Temperatures and pressures
– Short term pressure fluctuations
– Static and dynamic loads
– Safety requirements and standards

For further Black Eagle details on Storage, Handling, Inspection please contact Parker.

Black Eagle **LIGHT**

#									
Part number	Size			Max. working pressure	Min. burst pressure	Min. bend radius	Max. length	Weight	Collapse pressure
	size	inch	inch	psi	psi	inch	ft	lbs/ft	psi
	DN	*mm*	*mm*	*MPa*	*MPa*	*mm*	*m*	*kg/m*	*MPa*
2240N-32V10	-32	2	2.70	3,000	12,000	19.7	3,281	2.96	–
	50	*51*	*68.5*	*20.7*	*82.5*	*500*	*1000*	*4.40*	–
2248N-32V10	-32	2	2.70	5,000	12,500	19.7	3,281	2.96	–
	50	*51*	*68.5*	*34.5*	*86.2*	*500*	*1000*	*4.40*	–
2449N-32V10	-32	2	2.89	8,000	20'000	25.6	3,281	5.14	–
	50	*51*	*73.5*	*55.2*	*138*	*650*	*1000*	*7.65*	–

F

Black Eagle

	size	inch	inch	psi	psi	inch	ft	lbs/ft	psi
	DN	*mm*	*mm*	*MPa*	*MPa*	*mm*	*m*	*kg/m*	*MPa*
2440N-20V80	-20	1 1/4	2.19	10,000	25,000	15.8	4,921	2.55	827
	32	*32.2*	*55.5*	*69.0*	*172.5*	*400*	*1500*	*3.80*	*5.7*
2640N-24V80	-24	1 1/2	2.78	10,000	33,350	19.7	3,281	4.84	950
	40	*38.0*	*70.5*	*69.0*	*230.0*	*500*	*1000*	*7.20*	*6.5*
2640N-24V80-15K	-24	1 1/2	2.60	15,000	33,750	19.7	3,281	4.37	957
	40	*38.0*	*66.0*	*103.5*	*233.0*	*500*	*1000*	*6.50*	*6.6*
2448N-32V80	-32	2	3.17	5,000	20,000	19.7	3,281	5.71	710
	50	*50.5*	*80.5*	*34.5*	*138.0*	*500*	*1000*	*8.50*	*4.9*
2580N-32V80	-32	2	3.33	10,000	25,000	31.5	3,281	6.32	826
	50	*50.5*	*84.5*	*69.0*	*172.5*	*800*	*1000*	*9.40*	*5.7*
2648N-32V80	-32	2	3.39	15,000	33,750	31.5	2,625	8.13	870
	50	*50.5*	*86.0*	*103.5*	*233.0*	*800*	*800*	*12.10*	*6.0*
2240N-48V80	-48	3	4.49	5,000	12,500	40.0	1,148	7.73	–
	75	*75.0*	*114.0*	*34.5*	*86.2*	*1000*	*350*	*11.50*	–
2440N-48V80	-48	3	4.80	10,000	20,000	43.3	984	12.57	957
	75	*75.0*	*122.0*	*69.0*	*138.0*	*1100*	*300*	*18.70*	*6.6*
2640N-48V80	-48	3	5.12	15,000	33,750	47.2	820	18.48	1,160
	75	*75.0*	*130.0*	*103.5*	*233.0*	*1200*	*250*	*27.50*	*8.0*

HOSE SPECIFICATIONS

2" 3,000 psi *Black Eagle* Light
2240N-32V10



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .2 layers of high tensile steel wire

Cover . . . . . .Extra thick TPU sheath
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

MAX. LENGTH

1,000 m / 3,281 ft

F

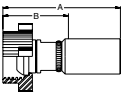
2240N-32V10

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
51	2	68.5	2.700	20.7	3,000	31.1	4,500	82.7	12,000	500	19.7	4.4	2.96	3.8	550

AVAILABLE STEEL AND STAINLESS STEEL FITTINGS*

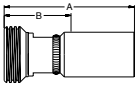
1502 Hammerlug union male — ***Material: Special Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



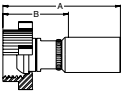
1502 Hammerlug union female — ***Material: Special Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



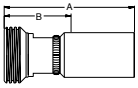
1502 Hammerlug union male — ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



1502 Hammerlug union female — ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



* Fittings must not be used subsea. For subsea applications please use the products page F-7 et sqq. in this chapter.

2" 3,000 psi *Black Eagle* Light
2240N-32V10

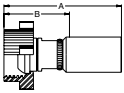


F

AVAILABLE SUBSEA FITTINGS

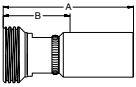
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT-SUBSEA	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32-SUBSEA	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



2" 5,000 psi *Black Eagle* Light
2248N-32V10



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .2 layers of high tensile steel wire

Cover . . . . . .Extra thick TPU sheath
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

MAX. LENGTH

1,000 m / 3,281 ft

F

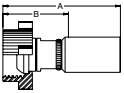
2248N-32V10

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
51	2	68.5	2.700	34.5	5,000	51.8	7,500	86.2	12,500	500	19.7	4.4	2.96	3.8	550

AVAILABLE STEEL AND STAINLESS STEEL FITTING*

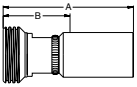
1502 Hammerlug union male — ***Material: Special Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



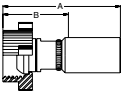
1502 Hammerlug union female — ***Material: Special Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



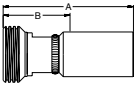
1502 Hammerlug union male — ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



1502 Hammerlug union female — ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



* Fittings must not be used subsea. For subsea applications please use the products page F-9 et sqq. in this chapter.

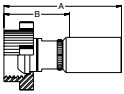
2" 5,000 psi Black Eagle Light
2248N-32V10



AVAILABLE SUBSEA FITTINGS

1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

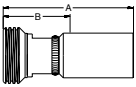
#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES6-32-32-FLAT-SUBSEA	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



* Material Certificates available on request.

1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS6-32-32-SUBSEA	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



2" 8,000 psi *Black Eagle* Light
2449N-32V10



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .4 layers of high tensile steel wire

Cover . . . . . .Extra thick TPU sheath
Colour . . . . . .Black

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

MAX. LENGTH

1,000 m / 3,281 ft

F

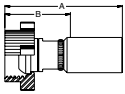
2449N-32V10

												Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
51	2	73.5	2.890	55.2	8,000	138.0	20,000	650	25.6	7.65	5.14	4.9	710

AVAILABLE STEEL AND STAINLESS STEEL FITTING*

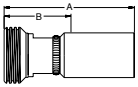
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HES8-32-32-FLAT-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNS8-32-32-SC	4 1/8" - 3 ACME	170.0	6.69	76.0	2.99	103.5	15,000



* Fittings must not be used subsea.

1 1/4" 10,000 psi *Black Eagle*
2440N-20V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .4 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

MAX. LENGTH

1,500 m / 4,921 ft

CERTIFICATES

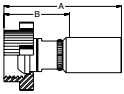
DNV Type Approval TAD00000CA

2440N-20V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
32.2	1 1/4	55.5	2.190	69	10,000	103.5	15,000	172.5	25,000	400	15.8	3.8	2.55	6	870

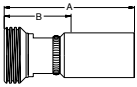
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HELX-32-20C4462-FLAT	4 1/8” - 3 ACME	191.0	7.52	116.5	4.59	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNLX-32-20C4462	4 1/8” - 3 ACME	175.7	6.92	101.2	3.98	103.5	15,000



HOSE SPECIFICATIONS

1 1/2" 10,000 psi *Black Eagle*
2640N-24V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .6 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

1,000 m / 3,281 ft

CERTIFICATES

DNV Type Approval TAD00000CA

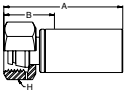
F

2640N-24V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
38	1 1/2	70.5	2.780	69	10,000	103.5	15,000	230.0	33,350	500	19.7	7.2	4.84	6.5	950

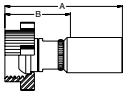
Metric female swivel heavy series with O-ring ***Material: Special Steel and Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1C95X-38-24COSK-TC	M52x2	143.0	5.63	50.0	1.97	65	103.5	15,000



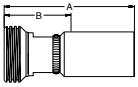
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HE5X-32-24C4462-FLATTC	4 1/8" - 3 ACME	232.0	9.1	108.0	4.25	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HN5X-32-24C4462-TC	4 1/8" - 3 ACME	245.1	9.65	108.0	4.25	103.5	15,000



1 1/2" 15,000 psi *Black Eagle*
2640N-24V80-15K



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .6 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

1,000 m / 3,281 ft

CERTIFICATES

DNV Type Approval TAD00000CA

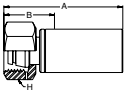
F

2640N-24V80-15K

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
38	1 1/2	66.0	2.600	103.5	15,000	155.3	22,500	233.0	33,750	500	19.7	6.5	4.37	6.6	957

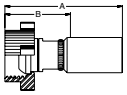
Metric female swivel heavy series with O-ring ***Material: Special Steel and Stainless Steel Materials***

#		A		B		H		
		mm	inch	mm	inch	mm	MPa	psi
1C95X-38-24COSK-KOP2	M52x2	143.0	5.63	50.0	1.97	65	103.5	15,000



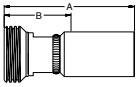
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HE5X-32-24C4462-KOP2	4 1/8" - 3 ACME	232.0	9.13	108.0	4.25	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HN5X-32-24C4462-KOP2	4 1/8" - 3 ACME	245.1	9.65	108.0	4.25	103.5	15,000



HOSE SPECIFICATIONS

2" 5,000 psi *Black Eagle*
2448N-32V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .4 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

1,400 m / 4,593 ft

CERTIFICATES

DNV Type Approval TAD00000CA

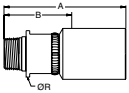
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2448N-32V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
50.5	2	80.5	3.170	34.5	5,000	51.8	7,500	138.0	20,000	500	19.7	8.5	5.71	4.9	710

National Pipe Tapered (NPT) male ***Material: Special Steel and Stainless Steel Materials***

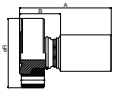
#		A		B		ØR			
		mm	inch	mm	inch	mm	inch	MPa	psi
101BL-32-32	2" NPT	275.0	10.8	129.0	5.08	83.0	3.27	34.5	5,000



API Flange, swivel ***Material: Special Steel and Stainless Steel Materials***

#	API size	A		B		ØR		Seal		
		mm	inch	mm	inch	mm	inch		MPa	psi
18KBL-29-32-API17DSV-10K	1 13/16" 10,000 psi	275.0	10.83	129.0	5.08	185.0	7.28	BX151	69.0	10,000
18KBL-33-32-API17DSV-5K-L*	2 1/16" 5,000 psi	265.0	10.43	119.0	4.69	216.0	8.50	BX152	34.5	5,000
18KBL-33-32-API17DSV-10K	2 1/16" 10,000 psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000
18KBL-33-32-API17DSV-10KL*	2 1/16" 10,000 psi	275.0	10.83	129.0	5.08	200.0	7.87	BX152	69.0	10,000
18KBL-41-32-API17DSV-5K	2 9/16" 5,000 psi	285.0	11.22	139.0	5.47	246.0	9.69	BX153	34.5	5,000

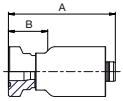
* with Inconel inlay



API Hub ***Material: Special Steel and Stainless Steel Materials***

#	API size	A		B		Seal		
		mm	inch	mm	inch		MPa	psi
1HBBL-29-32-10K	1 13/16" 10,000 psi	275.0	10.8	129.0	5.08	BX151	69.0	10,000
1HBBL-33-32-10K-L *	2 1/16" 10,000 psi	280.0	11	134.0	5.28	BX152	69.0	10,000

* with Inconel inlay

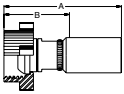


2" 5,000 psi *Black Eagle*
2448N-32V80



1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

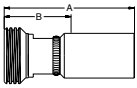
#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000



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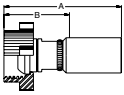
1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32	4 1/8" - 3 ACME	263.0	10.4	117.0	4.61	103.5	15,000



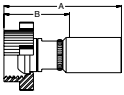
1501 Hammerlug union male, segmented ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-SEG	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000



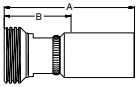
2202 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT-2202	3 5/8" - 5 ACME	290.0	11.42	144.0	5.67	103.5	15,000



2202 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32-2202	3 5/8" - 5 ACME	265.0	10.43	119.0	4.68	103.5	15,000



HOSE SPECIFICATIONS

2" 10,000 psi *Black Eagle*
2580N-32V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .6 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

1,400 m / 4,593 ft

CERTIFICATES

DNV Type Approval TAD00000CA
ABS Product Design Assessment (PDA) Certificate

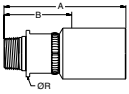
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2580N-32V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
50.5	2	84.5	3.330	69	10,000	103.5	15,000	172.5	25,000	800	31.5	9.4	6.32	5.7	825

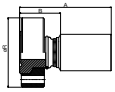
National Pipe Tapered (NPT) male ***Material: Special Steel and Stainless Steel Materials***

#		A		B		ØR			
		mm	inch	mm	inch	mm	inch	MPa	psi
101BL-32-32	2" NPT	275.0	10.8	129.0	5.08	83.0	3.27	34.5	5,000



API Flange, swivel ***Material: Special Steel and Stainless Steel Materials***

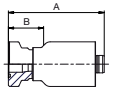
#	API size	A		B		ØR		Seal		
		mm	inch	mm	inch	mm	inch		MPa	psi
18KBL-29-32-API17DSV-10K	1 13/16" 10,000 psi	275.0	10.83	129.0	5.08	185.0	7.28	BX151	69.0	10,000
18KBL-33-32-API17DSV-10K	2 1/16" 10,000 psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000
18KBL-33-32-API17DSV-10KL*	2 1/16" 10,000 psi	275.0	10.83	129.0	5.08	200.0	7.87	BX152	69.0	10,000



* with Inconel inlay

API Hub ***Material: Special Steel and Stainless Steel Materials***

#	API size	A		B		Seal		
		mm	inch	mm	inch		MPa	psi
1HBBL-29-32-10K	1 13/16" 10,000 psi	275.0	10.8	129.0	5.08	BX151	69.0	10,000
1HBBL-33-32-10K-L *	2 1/16" 10,000 psi	280.0	11	134.0	5.28	BX152	69.0	10,000



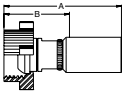
* with Inconel inlay

2" 10,000 psi *Black Eagle*
2580N-32V80



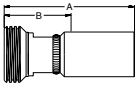
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000



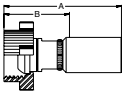
1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32	4 1/8" - 3 ACME	263.0	10.4	117.0	4.61	103.5	15,000



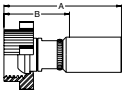
1501 Hammerlug union male, segmented ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-SEG	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000



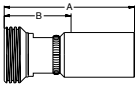
2202 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT-2202	3 5/8" - 5 ACME	290.0	11.42	144.0	5.67	103.5	15,000



2202 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32-2202	3 5/8" - 5 ACME	265.0	10.43	119.0	4.68	103.5	15,000



HOSE SPECIFICATIONS

2" 15,000 psi *Black Eagle*
2648N-32V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .6 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

300 m / 984 ft

CERTIFICATES

DNV Type Approval TAD00000CA

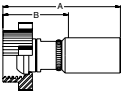
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2648N-32V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
50.5	2	86	3.390	103.5	15,000	155.3	22,500	233.0	33,750	800	31.0	12.1	8.13	6	870

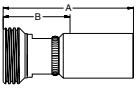
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HECX-32-32-FLAT	4 1/8" - 3 ACME	298.0	11.7	132.0	5.20	103.5	15,000



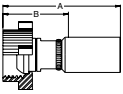
1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNCX-32-32	4 1/8" - 3 ACME	284.0	11.2	118.0	4.65	103.5	15,000



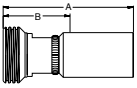
2202 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HECX-32-32-FLAT-2202	3 5/8" - 5 ACME	290.0	11.4	124.0	4.88	103.5	15,000



2202 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNCX-32-32-2202	3 5/8" - 5 ACME	265.0	10.4	99.0	3.90	103.5	15,000



3" 5,000 psi *Black Eagle*
2240N-48V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .2 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

400 m / 1,312 ft

CERTIFICATES

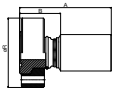
DNV Type Approval TAD00000CA

2240N-48V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
75	3	114	4.490	34.5	5,000	51.8	7,500	86.2	12,500	1000	40.0	11.5	7.73	2	290

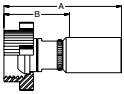
API Flange, swivel ***Material: Special Steel and Stainless Steel Materials***

#	API size	A		B		ØR		Seal		
		mm	inch	mm	inch	mm	inch		MPa	psi
18KTX-65-48-API17DSV10KL	4 1/16" 10,000 psi	427.0	16.81	261.0	10.28	315.0	12.40	BX155	69.0	10,000



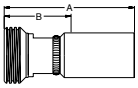
602 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HETX-48-48-FLAT-602	5 3/8" - 3 ACME	372.0	14.6	206.0	8.11	34.5	5,000



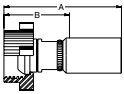
602 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNTX-48-48-602	5 3/8" - 3 ACME	350.0	13.78	184.0	7.25	34.5	5,000



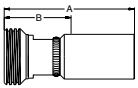
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HETX-48-48-FLAT	5 3/8" - 3 1/2 ACME	378.0	14.88	212.0	8.35	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNTX-48-48	5 3/8" - 3 1/2 ACME	350.0	13.78	184.0	7.25	103.5	15,000



HOSE SPECIFICATIONS

3" 10,000 psi *Black Eagle*
2440N-48V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .4 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

350 m / 1,148 ft

CERTIFICATES

DNV Type Approval TAD00000CA

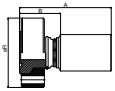
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2440N-48V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
75	3	122	4.800	69	10,000	103.5	15,000	138.0	20,000	1100	43.3	18.7	12.57	6.6	957

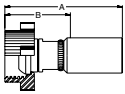
API Flange, swivel ***Material: Special Steel and Stainless Steel Materials***

#	API size	A		B		ØR		Seal		
		mm	inch	mm	inch	mm	inch		MPa	psi
18KLX-49-48-API17DSV-10K	3 1/16" 10,000 psi	455.0	17.91	244.0	9.61	270.0	10.63	BX154	69.0	10,000
18KLX-65-48-API17DSV-10K	4 1/16" 10,000 psi	482.0	18.98	246.0	9.68	315.0	12.40	BX155	69.0	10,000



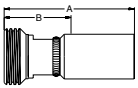
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HELX-48-48-FLAT	5 3/8" - 3 1/2 ACME	395.0	15.55	184.0	7.24	103.5	15,000



1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HNLX-48-48	5 3/8" - 3 1/2 ACME	405.0	15.9	194.0	7.64	103.5	15,000



3" 15,000 psi *Black Eagle*
2640N-48V80



CONSTRUCTION

Core tube PA11
Pressure reinforcement . . . . .6 layers of high tensile steel wire

Cover . . . . . .Extra thick dual layer TPU sheath
Colour . . . . . .ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE

-40°C up to +70°C
-40°F up to +158°F

MAX. LENGTH

300 m / 984 ft

CERTIFICATES

DNV Type Approval TAD00000CA

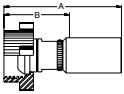
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2640N-48V80

				Max. working pressure		Test pressure				Min. bend radius				Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	MPa	psi
75	3	130	5.120	103.5	15,000	155.3	22,500	233.0	33,750	1200	47.2	27.5	18.48	8	1,160

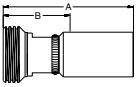
1502 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HE5X-48-48-FLAT	5 3/8" - 3 1/2 ACME	395.0	15.5	184.0	7.24	103.5	15,000



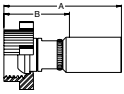
1502 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HN5X-48-48	5 3/8" - 3 1/2 ACME	405.0	15.9	194.0	7.64	103.5	15,000



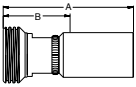
2202 Hammerlug union male ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HE5X-48-48-FLAT-2202	6 11/16" - 5 ACME	470.0	18.5	250.0	9.84	103.5	15,000



2202 Hammerlug union female ***Material: Special Steel and Stainless Steel Materials***

#		A		B			
		mm	inch	mm	inch	MPa	psi
1HN5X-48-48-2202	6 11/16" - 5 ACME	430.0	16.9	210.0	8.27	103.5	15,000



NOTES

NOTES

CHAPTER G

HOSE UMBILICALS

Multitube Hoses G-2

MULTITUBE HOSES

BOP Bundles, Electro-Hydraulic Umbilicals and Hotlines

- Over 750,000 feet of bundles in service.
- Over 40 million feet of pilot hose produced.

FEATURES

- Dependability and Experience - Over 30 years of Oil & Gas thermoplastic hose design and engineering experience
- Field Tested - Over 750,000 feet of bundles and over 40 million feet of pilot hose produced for rigs
- Capabilities - BOP umbilical lengths up to 7,000+ ft and 90+ pilot hoses within one umbilical
- Extended Service Life - Compact pilot hose design allows for more spares to be installed in the bundle without increasing the O.D.

BOP UMBILICALS WITH VELOCITY HOSE

- BOP umbilicals are used on offshore drilling rigs to control the subsea BOP stack
- Parker's BOP have a smaller O.D. which means Parker can produce BOP umbilicals with more pilot lines without increasing the O.D. of the umbilical
- Parker umbilicals are built with Velocity Hose to allow for precise control and faster response times when activating subsea valves on the BOP pod

ELECTRO-HYDRAULIC UMBILICALS

- Parker is an industry leader in designing short length electro-hydraulic umbilicals for offshore applications
- Parker high-pressure subsea hoses, (1/4", 3/8" and 1/2" I.D.), are in compliance to API 17e and pressure ratings up to 15,000 psi. These hoses can be combined into an umbilical configuration with electrical power cables included

HOTLINE HOSE

- Subsea Hotline's are the primary emergency hydraulic control line providing critical service for various subsea functions
- Parker Hotline hoses are specially designed to provide fast response time and low volumetric expansion with length capability of 14,000 feet continuous

NOTES

NOTES

CHAPTER H

WORKSHOP EQUIPMENT
Parker PHDE Polyflex guidelines for hose assembly and workshop certification H-2

PARKER PHDE POLYFLEX GUIDELINES FOR HOSE ASSEMBLY AND WORKSHOP CERTIFICATION

Information on workshop equipment, hose assembly, and workshop certification is contained in the following manual:

“Parker PHDE Polyflex Guidelines for Hose Assembly and Workshop Certification”.

Please ask your local Parker distributor.



CHAPTER I

ACCESSORIES & TOOLING

Containment grips I-2

CONTAINMENT GRIPS

#	Description
HS-03	Containment grip DN05, 10-15
HS-05	Containment grip DN08, 15-20
HS-08	Containment grip DN12, 20-30
HS-12	Containment grip DN20, 30-40
HS-16	Containment grip DN25, 40-50
HS-20	Containment grip DN32, 50-60
HS-28	Containment grip DN46, 60-70
HS-32	Containment grip DN50, 90-110



CHAPTER J

TECHNICAL INFORMATION

Chemical resistance chart . . . . . J – 2
Pressure drop tables . . . . . J – 11
Recommended tightening procedures . . . . . J – 13
Test equipment for qualification testing and production control . . . . . J – 14
Parker safety guide . . . . . J – 19
Glossary . . . . . J – 27
Unit conversion table . . . . . J – 30

	PARKER ENGINEERING MANUAL Parker Hannifin Corporation Polymer Hose Division Europe	SPEC: PFDE-ES28 Y
SUBJECT:	**Chemical Resistance Chart**	PAGE: 1

The below chart contains chemical resistance information for Polyamide 11 (Nylon 11), Fluoropolymer and Proprietary Material used on Nautilus 20 hose.

These are the most common core tube materials used for Parker Polyflex oil & gas hoses

Please refer to the hose datasheets for more detailed information.

Rating codes

E	Excellent	Good to excellent. Little or no swelling, tensile or surface change. Preferred choice.
A	Good	Good to excellent. Little or no swelling, tensile or surface change. Limitations with temperature and type of fluid.
B	Limited	Marginal or conditional. Noticeable effects but not necessary indicating lack of serviceability. Further testing is suggested for specific application. Very long-term effects.
X	Unsatisfactory	Poor or unsatisfactory. Not recommended without extensive and realistic testing.
-		Indicates that this was not tested.
*	Swelling	Increase of volume of material, due to absorption of a solvent.

J

Material code for hose core tube

N: Polyamide

M: Coextruded core tube with Fluoropolymer inner liner

P: Proprietary Specification (Nautilus 20 hose)

Notes on chemical resistance table

The chemical resistance table is a simpified rating tabulation based on immersion tests. Higher temperatures tend to reduce ratings. Since final selection depends on pressure, fluid, ambient temperature and many other factors not known to Parker Hannifin, no performance guarantee is expressed or implied.

The indications do not imply any compliance with standards and regulations and do not refer to possible changes of colour, taste or smell.

Some hose applications must take into account legal and insurance regulations. The chemical resistance indicated does not express or imply approval by certain institutions.

Chemical resistance does not imply low permeation rates. For gas applications, refer to Appendix 4. Note that hoses with coextruded core tube with Fluoropolymer inner liner are not recommended for gas applications.

For fluids, not listed or for advice on particular applications, please contact Parker Hannifin, POLYMER HOSE DIVISION EUROPE in Lampertheim, Germany.

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	Chemical Resistance Chart	PAGE: 2

Chemical	Concentration	N				M	P		
		20°C (68°F)	40°C (104°F)	60°C (140°F)	90°C (194°F)	125°C (257°F)	23°C (73°F)	100°C (212°F)	150°C 302°F)
Acetaldehyde		A	B	X	X	A	A	A	-
Acetic Acid	5%	A	A	A	B	E	A	A	-
Acetic Acid	10%	A	A	B	X	E	A	A	-
Acetic Acid	50%	B	X	X	X	E	A	A (75°C)	-
Acetic Anhydride		B	X	X	X	E	-	-	-
Acetone	Pure	A	A	B	X	A	A	A	-
Acetylene		A	A	A	-	A	A	A	-
Air		A	A	A	A	A	A	A	A
Aluminium Sulphate	Saturated Solution	A	A	A	A	A	A	-	-
Ammonia	Liquid or Gas	A	A	A	X	A	A	A	A
Ammonium Chloride		A	A	A	-	A	A	A	-
Ammonium Hydroxide	Concentrated	A	A	A	A	A	A	A (80°C)	-
Ammonium Nitrate		A	A	A	A	A	A	A	-
Ammonium Sulphate	Saturated Solution	A	A	B	-	E	A	-	-
Amyl Acetate		A	A	A	B	A	A	A	-
Aniline		B*	X	X	X	E	A	B	-
Asphalt		A	A	A	A	A	-	-	-
Barium Chloride	Saturated Solution	A	A	A	A	A	A	-	-
Barium Formate	Saturated Solution	A	B	X	X	-	A	-	-
Benzaldehyde		A	B	X	X	E	A	A (60°C)	-
Benzene		A	A*	B	X	E	A	A	-
Benzyl Alcohol		B	X	X	X	E	A	A (80°C)	-

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Bleach		B	X	X	X	E	A	A	-
Bromine		X	X	X	X	B	X	X	X
Butane		A	A	A	A	A	A	-	-
Butyl Acetate		A	A	A	B	A	A	A	-
Butyl Alcohol (Butanol)		A*	B	X	X	E	A	A	-
Calcium Arsenate		A	A	A	-	A	-	-	-
Calcium Bromide		A	A	A	B	-	-	-	-
Calcium Chloride	Saturated Solution	A	A	A	A	A	A	A	-
Calcium Nitrate		A	A	A	-	A	A	-	-
Camphor		A	-	-	-	A	A	-	-
Carbonated Water		A	A	A	A	A	-	-	-
Carbon Dioxide		A	A	A	A	A	A	-	-
Carbon Disulphide		A*	B*	B	X	A	A	A	-
Carbon Monoxide		A	A	A	A	A	A	A	A
Carbon Tetrachloride		X	X	X	X	A	A	A	-
Cement Slurries		A	A	A	-	A	-	-	-
Chlorinated Solvents		B	X	X	X	E	A	A/B	-
Chlorine		X	X	X	X	E	X	X	X
Chloroform		B	X	X	X	E	A	A	-
Chromic Acid	40%	X	X	X	X	E	A	B (80°C)	-
Citric Acid	Saturated Solution	A	A	B	X	E	A	A	-
Copper Sulphate		A	A	A	A	A	A	A	-
Crude Oil		A	A	A	B	A	A	-	-
Cyclohexane		A	A	A	B	A	A	A	-
Cyclohexanol		A	B	X	X	E	A	A	-
Cyclohexanone		A	B	X	X	E	A	A	-
Decalin		A	A	A	B	A	A	-	-
Diacetone Alcohol		A	A	B	X	E	-	-	-

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Diammonium Phosphate		A	A	B	-	E	-	-	-
Dichloroethylene		B	X	X	X	E	-	-	-
Diesel		A	A	A	A	A	A	A	-
Diester Oils		A	A	A	B	A	-	-	-
Diethanolamine	20%	A	A*	A*	B	A	-	-	-
Diethyl Ether		A	-	-	-	E	A	A	-
Dioctyl Phosphate		A	A	A	B	-	-	-	-
Dioctyl Phthalate		A	A	A	B	A	A	-	-
Ethanol	Pure	A*	B	B	X	E	A	A	-
Ethyl Acetate		A	A	A	-	A	A	A (50°C)	-
Ethylene Chlorhydrin		X	X	X	X	E	A	-	-
Ethylene Oxide		A	A	X	X	E	A	A (80°C)	-
Fatty Acid Esters		A	A	A	A	A	-	-	-
Fluorine		X	X	X	X	X	X	X	X
Formaldehyde	Technical	A	B	X	X	E	A	A	-
Formic Acid	10%	X	X	X	X	E	B	B	-
Freon		A	-	-	-	A	A	-	-
Furfuryl Alcohol		A	A*	B	X	E	A	A	-
Gas (Coal)		A	A	-	-	A	A	-	-
Gasoline (High Octane)		A	A	A*	-	A	A	A	-
Glucose		A	A	A	A	A	A	-	-
Glycerine	Pure	A	A	B	X	E	A	A	-
Heptane		A	A	A*	-	A	A	A	-
Hexane		A	A	A	A	A	A	A (60°C)	-
Hydraulic Fluid (petroleum base)		A	A	A	A	A	A	A	-
Hydraulic Fluid (phosphate ester base)		A	A	A	B	A	A	-	-

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Hydraulic Fluid (water base)		A	A	A	A	A	-	-	-
Hydrochloric Acid	15%	A	B	X	X	E	A	A	-
Hydrochloric Acid	28%	X	X	X	X	E	A	A	-
Hydrochloric Acid	37%	X	X	X	X	A	A	-	-
Hydrofluoric Acid	3%	A	B	X	X	E	B	-	-
Hydrogen		A	A	A	A	A	A	-	-
Hydrogen Peroxide	20%	A	B	-	-	E	A	A	-
Iron Trichloride	Saturated Solution	A	A	A	-	A	A	B	-
Isocyanates		B	X	X	X	E	-	-	-
Isooctane		A	A	A	A	A	A	-	-
Isopropyl Alcohol		A	B	X	X	E	A	A	-
Kerosene		A	A	A*	B	A	A	A (85°C)	-
Lactic Acid		A	A	A	B	E	A	A	-
LP Gas		A	A	A	A	E	-	-	-
Magnesium Chloride	50%	A	A	A	A	A	A	A	-
Mercury		A	A	A	A	A	A	A	-
Methane		A	A	A	A	E	A	A	A
Methanol	Pure	A	B	B*	X	E	A	A	-
Methyl Acetate		A	A	A	-	A	A	-	-
Methyl Bromide		A	X	X	X	E	A	-	-
Methyl Cellosolve		A	A	A	X	A	-	-	-
Methyl Chloride		A	X	X	X	E	A	-	-
Methylene Chloride		X	X	X	X	A	A	-	-
Methyl Ethyl Ketone (MEK)		A	A	B	X	-	A	A (80°C)	X (200°C)
Methyl Isobutyl Ketone		A	A	B	X	E	A	-	-
Methyl Sulphate		A	B	-	-	E	-	-	-
Monochlorobenzene		B	X	X	X	A	A	A (75°C)	-

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Monoethylene Glycol (MEG) Ethane-1,2-diol		A	A	A*	X	E	A	A	B (200°C)
Naphtha		A	A	A	-	A	A	A	-
Naphthalene		A	A	A	B	A	A	A	-
Natural Gas		A	A	A	A	E	A	-	-
Nitric Acid		X	X	X	X	X	X	X	X
Nitrobenzene		B	X	X	X	A	A	B (80°C)	-
Nitrogen Gas		A	A	A	A	E	A	-	-
Oils Refined		A	A	A	B	A	A	A	-
Oleic Acid		A	A	A	B	A	A	A	-
Oxalic Acid		A	A	B	X	E	A	A	-
Oxygen Gas		A	A	B	X	A	A	-	-
Ozone		B	X	X	X	E	A	B	-
Perchloric Acid		B	X	X	X	B	A	A	-
Perchloroethylene		B	X	X	X	E	A	A	-
Petroleum Ether		A	A	A	B	E	A	A (80°C)	-
Phenols		X	X	X	X	E	B	X	X
Phosphoric Acid	50%	A	B	X	X	E	A	A	A
Picric Acid		B	X	X	X	E	A	A	-
Potassium Carbonate		A	A	B	X	E	A	-	-
Potassium Chloride		A	A	B	X	E	A	A	-
Potassium Hydroxide	50%	A	B	X	X	E	A	A (80°C)	-
Potassium Nitrate		A*	B*	X	X	E	A	A	-
Potassium Permanganate	5%	X	X	X	X	E	A	A (60°C)	-
Potassium Sulphate		A	A	A	A	A	A	A	-
Propane		A	A	A	A	A	A	-	-
Propylene Glycol		A	B	X	X	A	A	-	-

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Pyridine	Pure	B	X	X	X	E	A	A (80°C)	-
Sea Water		A	A	A	A	A	A	A	-
Sodium Acetate	Saturated Solution	A	B	X	X	E	A	A	-
Sodium Borate		A	A	A	-	A	A	-	-
Sodium Carbonate	Saturated Solution	A	A	B	X	E	A	A (80°C)	-
Sodium Chloride	Saturated Solution	A	A	A	A	A	A	A	-
Sodium Hydroxide	50%	A	B	X	X	E	A	A	A
Sodium Hypochlorite	Concentrated	B	X	X	X	E	A	-	-
Sodium Hypochlorite	Dilute Commercial	A	B	X	X	E	A	A	-
Sodium Sulphide		A	A	B	-	E	A	A	-
Stearic Acid		A	A	A	B	A	A	-	-
Stearin		A	B	B	-	E	-	-	-
Styrene Monomer		A	A*	-	-	E	A	-	-
Sulphur		A	A	-	-	A	A	A	-
Sulphur Dioxide		B	X	X	X	A	A	A	A
Sulphur Hexafluoride Gas		A	A	A	A	A	A	-	-
Sulphuric Acid	1%	A	B	B	X	E	A	-	-
Sulphuric Acid	10%	A	B	X	X	E	A	B (80°C)	-
Sulphuric Anhydride		B	X	X	X	E	A	-	-
Tartaric Acid		A	A	A	B	A	A	A	-
Tetrahydrofuran (THF)		A	A	B	X	E	A	B	-
Toluene		A	A*	B	B	E	A	A	-
Tributyl Phosphate		A	A	A	B	A	A	-	-
Trichloroethane		B	X	X	X	E	A	A (75°C)	-
Trichloroethylene		B	X	X	X	E	A	A (80°C)	-
Tricresyl Phosphate		A	A	A	B	A	B	-	-

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Triphenyl Phosphate		A	A	B	-	A	-	-	-
Trisodium Phosphate		A	A	A	A	A	-	-	-
Turpentine		A	A	B	-	A	A	-	-
Urea		A	A	B	B	E	A	A	-
Uric Acid		A	A	A	B	A	A	-	-
Water		A	A	A	A	A	A	A	-
Water Glycols, e.g. Oceanic HW fluids [a] Transaqua HT/HT2 [b] Brayco Micronic SV fluids [b] a) registered trademark of MacDermid Group b) registered trademark of Castrol		A	A	A	B	A	A	A	-
Xylene		A	A*	B	B	E	A	B/X	-
Zinc Bromide		A	A	A	-	-	-	-	-
Zinc Chloride	Saturated Solution	A	A	B	X	E	A	A (80°C)	-

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PRESSURE DROP TABLES FOR DIFFERENT HOSE SIZES

REMARKS

Figures shown in the table are for 1 m of hose without fittings.
Figures derived from calculation, not from testing.
Medium is water at room temperature. For this conditions, recommended max. fluid velocity is 15 m/sec
The recommended max fluid velocity depends on allowable pressure drop. Hoses have been used at higher fluid velocities. These flow figures are marked with a grey background.

FLOWRATES 5 UP TO 150 L/MIN. SIZES 5 MM (-03) UP TO 13 MM (-08)

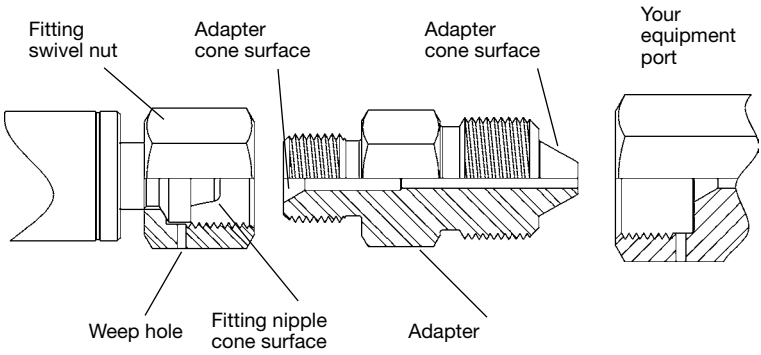
Flowrate			Pressure drop in bar/m				
			nominal IDs				
l/min	US Gal/min	Oilfield BBL/min	5 mm -03	6 mm -04	8 mm -05	10 mm -06	13 mm -08
5	1.32		0.48	0.16	0.05		
10	2.64		1.68	0.55	0.17	0.07	
15	3.96		3.53	1.14	0.36	0.14	
20	5.28		6.00	1.93	0.60	0.23	0.07
25	6.60			2.91	0.90	0.34	0.10
30	7.93			4.01	1.26	0.47	0.13
35	9.25			6.94	1.67	0.62	0.18
40	10.57				2.14	0.79	0.23
45	11.89				2.66	0.98	0.28
50	13.21				3.23	1.19	0.34
60	15.85	0.38			4.54	1.67	0.47
70	18.49	0.44				2.22	0.62
80	21.13	0.50				2.85	0.80
100	26.42	0.63					1.20
120	31.70	0.75					1.69
150	39.63	0.94					2.55

FLOWRATES 60 UP TO 5000 L/MIN. SIZES 20 MM (-12) UP TO 75 MM (-48)

Flowrate			Pressure drop in bar/m					
			nominal IDs					
l/min	US Gal/min	Oilfield BBL/min	20 mm -12	25 mm -16	32 mm -20	38 mm -24	50 mm -32	75 mm -48
60	15.85	0.38	0.07					
70	18.49	0.44	0.09					
80	21.13	0.50	0.11					
100	26.42	0.63	0.17					
120	31.70	0.75	0.24	0.06				
150	39.63	0.94	0.35	0.09				
200	52.83	1.26	0.60	0.15				
250	66.04	1.57	0.91	0.22	0.07			
300	79.25	1.89	1.28	0.31	0.10			
400	105.67	2.52	2.18	0.52	0.17	0.07		
500	132.09	3.14		0.79	0.26	0.12		
700	184.92	4.40		1.48	0.49	0.21	0.05	
1000	264.17	6.29			0.95	0.40	0.09	
1500	396.26	9.43			2.05	0.85	0.20	
2000	528.35	12.58				1.46	0.34	0.05
2500	660.43	15.72					0.52	0.08
3000	792.52	18.87					0.73	0.11
3500	924.61	22.01						0.15
4000	1056.69	25.16						0.19
4500	1188.78	28.30						0.23
5000	1320.86	31.45						0.28

RECOMMENDED TIGHTENING PROCEDURES

Connection	Thread sizes	Tightening torque ft•lb	N•m
High Pressure			
1/4"	9/16" - 18UNF	25	34
3/8"	3/4" - 16UNF	50	69
9/16"	1-1/8" - 12UNF	75	103
Medium Pressure			
1/4"	7/16" - 20UNF	20	28
3/8"	9/16" - 18UNF	30	41
9/16"	13/16" - 16UNF	85	117
3/4"	3/4" NPSM	90	124
1"	1-3/8" - 12UNF	125	173
Type "M" Swivel			
A9	9/16" - 18UNF	25-30	34-41
A12	3/4" - 16UNF	40-50	55-69
A14	7/8" - 14UNF	50-60	69-83
A16	1" - 12UNF	75-85	103-117
A21	1-5/16 - 12UNF	100-120	138-166



LEAKAGE AT SWIVEL NUT-TO-ADAPTER JOINT
(Seen by leak at weep hole in swivel nut)

1. Reduce system pressure to zero
2. Unscrew swivel nut and check cone surfaces of adapter and hose insert.
3. If hose insert is damaged, return hose to PHDE *polyflex* for repair and retest.
4. If cone surfaces look good after cleaning, re-tighten swivel nut. Do not exceed 150% of recommended torque.

LEAKAGE AT TYPE "M" ADAPTER-TO-PORT
(Seen by leak at weep hole in pressure port,or leak at threads for NPT adapters.)

1. Reduce system pressure to zero.
2. Slacken hose swivel nut.
3. Tighten adaptor into port.
4. Re-tighten swivel nut.

Never use the swivel nut to tighten the adapter into the port.

TEST EQUIPMENT FOR QUALIFICATION TESTING AND PRODUCTION CONTROL

PRELIMINARY NOTE

Before our hoses and fittings enter the market, they are subjected to a rigorous test program. With the specialised test equipment we test our hoses and fittings according to recognized international standards.

Below you will find a short overview of our test equipment. We also offer a testing service. All testing can be witnessed by an authority of your choice.

All test equipment is calibrated by accredited companies.

1. STATIC PRESSURE TEST RIGS AND CLIMATE CHAMBER

Parker PHDE Polyflex is able to conduct all kinds of static pressure tests.

Type of test: leakage, burst, proof pressure, change in length, volumetric expansion
Maximum test pressure: 1,000 MPa (145,000 psi). For volumetric expansion: 400 MPa (58,000 psi).
Test medium: water or glycol.
Applicable standards: ISO 13628-5, ISO 1402, SAE J343

The fully computerized system allows free adjustment of the pressure rating and full documentation.

With another test rig static pressure testing including pressure decay tests on finished hose lengths including large bore hoses, umbilicals, and/or very long lengths can be done. Pressure graphs can be supplied on request.

More static pressure test rigs are installed in the production area. They are used for final pressure testing of ultra high pressure hose assemblies.

The climate chamber can be programmed for cyclic testing at temperatures between -70 °C and +170 °C.

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2. IMPULSE TEST RIGS

An impulse test is considered to be the most demanding test, which gives the best indication of the quality of the hose assembly. Parker PHDE Polyflex is equipped with the most advanced impulse test rigs, which are used for hose and fitting qualification and periodical quality control testing. With the unique impulse test rig, Parker PHDE Polyflex is the only company worldwide, which is able to conduct impulse testing fully complying with ISO 13628-5, EN 1829-2 and ISO 6803 (square pressure curve) at pressures up to 500 MPa (72,500 psi).

Maximum test pressure: 500 MPa (72,500 psi)
Maximum medium temperature: 140°C
Test medium: mineral oil
Applicable standards: ISO 13628-5, EN 1829-2, ISO 6803, SAE J343
Pressure curve: free adjustable to meet national or international standards or specific customer requirements.



3. COLLAPSE PRESSURE TEST RIG

This rig allows testing at external pressures up to 60 MPa (87,000 psi). The dimensions of the pressure chamber and a special arrangement of the hose allows testing of up to 4” hoses. The testing can be conducted at elevated temperatures up to 93 °C. Test medium is water.



NOTES

PARKER SAFETY GUIDE

! Parker Safety Guide for Selecting and Using Hose, Tubing, Fittings and Related Accessories
Publication No. 4400-B.1
Revised: November 2007

WARNING: Failure or improper selection or improper use of hose, tubing, fittings, assemblies or related accessories (“Products”) can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of these Products include but are not limited to:

- Fittings thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Electrocution from high voltage electric powerlines.
- Contact with suddenly moving or falling objects that are controlled bythe conveyed fluid.
- Injections by high-pressure fluid discharge.
- Dangerously whipping Hose.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity buildup or other sources of electricity.
- Sparking or explosion while spraying paint or flammable liquids.
- Injuries resulting from inhalation, ingestion or exposure to fluids. Before selecting or using any of these Products, it is important that you read and follow the instructions below. Only Hose from Parker’s Stratoflex Products Division is approved for in flight aerospace applications.

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1.0 GENERAL INSTRUCTIONS

1.1 Scope: This safety guide provides instructions for selecting and using (including assembling, installing, and maintaining) these Products. For convenience, all rubber and/or thermoplastic products commonly called “hose” or “tubing” are called “Hose” in this safety guide. All assemblies made with Hose are called “Hose Assemblies”. All products commonly called “fittings”, “couplings” or “adapters” are called “Fittings”. All related accessories (including crimping and swaging machines and tooling) are called “Related Accessories”. This safety guide is a supplement to and is to be used with the specific Parker publications for the specific Hose, Fittings and Related Accessories that are being considered for use. Parker publications are available at www.parker.com. SAE J1273 (www. sae. o r g) and ISO 171652 (www.ansi.org) alsoprovide recommended practices for hydraulic Hose Assemblies.

1.2 Fail-Safe: Hose, Hose Assemblies and Fittings can and do fail without warning for many reasons. Design all systems and equipment in a fail safe mode, so that failure of the Hose, Hose Assembly or Fitting will not endanger persons or property.

1.3 Distribution: Provide a copy of this safety guide to each person responsible for selecting or using Hose and Fitting products. Do not select or use Parker Hose or Fittings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the Products.

1.4 User Responsibility: Due to the wide variety of operating conditions and applications for Hose and Fittings, Parker does not represent or warrant that any particular Hose or Fitting is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through

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its own analysis and testing, is solely responsible for:
• Making the final selection of the Products.
• Assuring that the user's requirements are met and that the application
presents no health or safety hazards.
• Providing all appropriate health and safety warnings on the equipment on which the Products are used.
• Assuring compliance with all applicable government and industry standards.

1.5 Additional Questions: Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the Products being considered or used, or call 1 800 CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2.0 HOSE AND FITTING SELECTION INSTRUCTIONS

2.1 Electrical Conductivity: Certain applications require that the Hose be nonconductive to prevent electrical current flow. Other applications require the Hose and the Fittings and the Hose/Fitting interface to be sufficiently conductive to drain off static electricity. Extreme care must be exercised when selecting Hose and Fittings for these or any other applications in which electrical conductivity or nonconductivity is a factor. The electrical conductivity or nonconductivity of Hose and Fittings is dependent upon many factors and may be susceptible to change. These factors include but are not limited to the various materials used to make the Hose and the Fittings, Fitting finish (some Fitting finishes are electrically conductive while others are nonconductive), manufacturing methods (including moisture control), how the Fittings contact the Hose, age and amount of deterioration or damage or other changes, moisture content of the Hose at any particular time, and other factors. The following are considerations for electrically nonconductive and conductive Hose. For other applications consult the individual catalog pages and the appropriate industry or regulatory standards for proper selection.

2.1.1 Electrically Nonconductive Hose:
Certain applications require that the Hose be nonconductive to prevent electrical current flow or to maintain electrical isolation. For applications that require Hose to be electrically nonconductive, including but not limited to applications near high voltage electric lines, only special nonconductive Hose can be used. The manufacturer of the equipment in which the nonconductive Hose is to be used must be consulted to be certain that the Hose and Fittings that are selected are proper for the application. Do not use any Parker Hose or Fittings for any such application requiring nonconductive Hose, including but not limited to applications near high voltage electric lines, unless (i) the application is expressly approved in the Parker technical publication for the product, (ii) the Hose is marked "nonconductive", and (iii) the manufacturer of the equipment on which the Hose is to be used specifically approves the particular Parker Hose and Fittings for such use.

2.1.2 Electrically Conductive Hose: Parker manufactures special Hose for certain applications that require electrically conductive Hose. Parker manufactures special Hose for conveying paint in airless paint spraying applications. This Hose is labeled "Electrically Conductive Airless Paint Spray Hose" on its layline and packaging. This Hose must be properly connected to the appropriate Parker

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Fittings and properly grounded in order todissipate dangerous static charge buildup, which occurs in all airless paint spraying applications. Do not use any other Hose for airless paint spraying, even if electrically conductive. Use of any other Hose or failure to properly connect the Hose can cause a fire or an explosion resulting in death, personal injury, and property damage. Parker manufactures a special Hose for certain compressed natural gas ("CNG") applications where static electricity buildup may occur. Parker CNG Hose assemblies comply with the requirements of ANSI/IAS NGV 4.2-1999; CSA 12.52-M99, "Hoses for Natural Gas Vehicles and Dispensing Systems" (www.ansi.org). This Hose is labeled "Electrically Conductive for CNG Use" on its layline and packaging. This Hose must be properly connected to the appropriate Parker Fittings and properly grounded in order to dissipate

2.2 Pressure: Hose selection must be made so that the published maximum working pressure of the Hose and Fittings are equal to or greater than the maximum system pressure. The maximum working pressure of a Hose Assembly is the lower of the respective published maximum working pressures of the Hose and the Fittings used. Surge pressures or peak transient pressures in the system must be below the published maximum working pressure for the Hose. Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at millisecond intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures. Published burst pressure ratings for Hose is for manufacturing test purposes only and is no indication that the Product can be used in applications at the burst pressure or otherwise above the published maximum recommended working pressure.

2.3 Suction: Hoses used for suction applications must be selectedto insure that the Hose will withstand the vacuum and pressure of the system. Improperly selected Hose may collapse in suction application.

2.4 Temperature: Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the Hose. Temperatures below and above the recommended limit can degrade Hose to a point where a failure may occur and release fluid. Properly insulate and protect the Hose Assembly when routing near hot objects (e.g. manifolds). Do not use any Hose in any application where failure of the Hose could result in the conveyed fluids (or vapors or mist from the conveyed fluids) contacting any open flame, molten metal, or other potential fire ignition source that could cause burning or explosion of the conveyed fluids or vapors.

2.5 Fluid Compatibility: Hose Assembly selection must assure compatibility of the Hose tube, cover, reinforcement, and Fittings with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used. This information is offered only as a guide. Actual service life can only be determined by the end user by testing under all extreme conditions and other analysis. Hose that is chemically compatible with a particular fluid must be assembled using Fittings and adapters containing likewise compatible seals.

2.6 Permeation: Permeation (that is, seepage through the Hose) will occur from inside the Hose to outside when Hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials as helium, diesel fuel, gasoline, natural gas, or LPG). This permeation may result in

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high concentrations of vapors which are potentially flammable, explosive, or toxic, and in loss of fluid. Dangerous explosions, fires, and other hazards can result when using the wrong Hose for such applications. The system designer must take into account the fact that this permeation will take place and must not use Hose if this permeation could be hazardous. The system designer must take into account all legal, government, insurance, or any other special regulations which govern the use of fuels and refrigerants. Never use a Hose even though the fluid compatibility is acceptable without considering the potential hazardous effects that can result from permeation through the Hose Assembly. Permeation of moisture from outside the Hose to inside the Hose will also occur in Hose assemblies, regardless of internal pressure. If this moisture permeation would have detrimental effects (particularly, but not limited to refrigeration and air conditioning systems), incorporation of sufficient drying capacity in the system or other appropriate system safeguards should be selected and used.

2.7 Size: Transmission of power by means of pressurized fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.

2.8 Routing: Attention must be given to optimum routing to minimize inherent problems (kinking or flow restriction due to Hose collapse, twisting of the Hose, proximity to hot objects or heat sources). For additional routing recommendations see SAE J1273 and ISO 17165-2. Hose Assemblies have a finite life and if possible, should be installed in a manner that allows for ease of inspection and future replacement. Rubber Hose because of its relative short life, should not be used in residential and commercial buildings for HVAC (heating, ventilating and air conditioning) applications.

2.9 Environment: Care must be taken to insure that the Hose and Fittings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals and air pollutants can cause degradation and premature failure.

2.10 Mechanical Loads: External forces can significantly reduce Hose life or cause failure. Mechanical loads which must be considered include excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type Fittings or adapters may be required to insure no twist is put into the Hose. Unusual applications may require special testing prior to Hose selection.

2.11 Physical Damage: Care must be taken to protect Hose from wear, snagging, kinking, bending smaller that minimum bend radius and cutting, any of which can cause premature Hose failure. Any Hose that has been kinked or bent to a radius smaller than the minimum bend radius, and any Hose that has been cut or is cracked or is otherwise damaged should be removed and discarded.

2.12 Proper End Fitting: See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards

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such as SAE J517 for hydraulic applications, or MIL-A-5070, AS1339, or AS3517 for Hoses from Parker's Stratoflex Products Division for aerospace applications.

2.13 Length: When establishing a proper Hose length, motion absorption, Hose length changes due to pressure, and Hose and machine tolerances and movement must be considered.

2.14 Specifications and Standards: When selecting Hose and Fittings, government, industry, and Parker specifications and recommendations must be reviewed and followed as applicable.

2.15 Hose Cleanliness: Hose components may vary in cleanlinesslevels. Care must be taken to insure that the Hose Assembly selected has an adequate level of cleanliness for the application.

2.16 Fire Resistant Fluids: Some fire resistant fluids that are to be conveyed by Hose require use of the same type of Hose as used with petroleum base fluids. Some such fluids require a special Hose, while a few fluids will not work with any Hose at all. See instructions 2.5 and 1.5. The wrong Hose may fail after a very short service. In addition, all liquids but pure water may burn fiercely under certain conditions, and even pure water leakage may be hazardous.

2.17 Radiant Heat: Hose can be heated to destruction without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the Hose.

2.18 Welding or Brazing: When using a torch or arc welder in close proximity to hydraulic lines, the hydraulic lines should be removed or shielded with appropriate fire resistant materials. Flame or weld spatter could burn through the Hose and possibly ignite escaping fluid resulting in a catastrophic failure. Heating of plated parts, including Hose Fittings and adapters, above 450°F (232°C) such as during welding, brazing or soldering may emit deadly gases.

2.19 Atomic Radiation: Atomic radiation affects all materials used in Hose assemblies. Since the long-term effects may be unknown, do not expose Hose assemblies to atomic radiation.

2.20 Aerospace Applications: The only Hose and Fittings that may be used for in flight aerospace applications are those available from Parker's Stratoflex Products Division. Do not use any other Hose or Fittings for in flight applications. Do not use any Hose or Fittings from Parker's Stratoflex Products Division with any other Hose or Fittings, unless expressly approved in writing by the engineering manager or chief engineer of Stratoflex Products Division and verified by the user's own testing and inspection to aerospace industry standards.

2.21 Unlocking Couplings: Ball locking couplings or other Fittings with quick disconnect ability can unintentionally disconnect if they are dragged over obstructions, or if the sleeve or other disconnect member, is bumped or moved enough to cause disconnect. Threaded Fittings should

3.0 HOSE AND FITTING ASSEMBLY AND INSTALLATION INSTRUCTIONS

3.1 Component Inspection: Prior to assembly, a careful examination of the Hose and Fittings must be performed. All components must be checked for correct style, size, catalog number, and length. The Hose must be examined for cleanliness,

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obstructions, blisters, cover looseness, kinks, cracks, cuts or any other visible defects. Inspect the Fitting and sealing surfaces for burrs, nicks, corrosion or other imperfections. Do NOT use any component that displays any signs of nonconformance.

3.2 Hose and Fitting Assembly: Do not assemble a Parker Fitting on a Parker Hose that is not specifically listed by Parker for that Fitting, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division. Do not assemble a Parker Fitting on another manufacturer's Hose or a Parker Hose on another manufacturer's Fitting unless (i) the engineering manager or chief engineer of the appropriate Parker division approves the Assembly in writing or that combination is expressly approved in the appropriate Parker literature for the specific Parker product, and (ii) the user verifies the Assembly and the application through analysis and testing. For Parker Hose that does not specify a Parker Fitting, the user is solely responsible for the selection of the proper Fitting and Hose Assembly procedures. See instruction 1.4. To prevent the possibility of problems such as leakage at the Fitting or system contamination, it is important to completely remove all debris from the cutting operation before installation of the Fittings. The Parker published instructions must be followed for assembling the Fittings on the Hose. These instructions are provided in the Parker Fitting catalog for the specific Parker Fitting being used, or by calling 1 800 CPARKER, or at www.parker.com. 3.3 Related Accessories: Do not crimp or swage any Parker Hose or Fitting with anything but the listed swage or crimp machine and dies in accordance with Parker published instructions. Do not crimp or swage another manufacturer's Fitting with a Parker crimp or swage die unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

3.4 Parts: Do not use any Parker Fitting part (including but not limited to socket, shell, nipple, or insert) except with the correct Parker mating parts, in accordance with Parker published instructions, unless authorized in writing by the engineering manager or chief engineer of the appropriate Parker division.

3.5 Field Attachable/Permanent: Do not reuse any field attachable Hose Fitting that has blown or pulled off a Hose. Do not reuse a Parker permanent Hose Fitting (crimped or swaged) or any part thereof. Complete Hose Assemblies may only be reused after proper inspection under section 4.0. Do not assemble Fittings to any previously used hydraulic Hose that was in service, for use in a fluid power application.

3.6 Pre-Installation Inspection: Prior to installation, a careful examination of the Hose Assembly must be performed. Inspect the Hose Assembly for any damage or defects. DO NOT use any Hose Assembly that displays any signs of nonconformance.

3.7 Minimum Bend Radius: Installation of a Hose at less than the minimum listed bend radius may significantly reduce the Hose life. Particular attention must be given to preclude sharp bending at the Hose to Fitting juncture. Any bending during installation at less than the minimum bend radius must be avoided. If any Hose is kinked during installation, the Hose must be discarded.

3.8 Twist Angle and Orientation: Hose Assembly

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installation must be such that relative motion of machine components does not produce twisting.

3.9 Securement: In many applications, it may be necessary to restrain, protect, or guide the Hose to protect it from damage by unnecessary flexing, pressure surges, and contact with other mechanical components. Care must be taken to insure such restraints do not introduce additional stress or wear points.

3.10 Proper Connection of Ports: Proper physical installation of the Hose Assembly requires a correctly installed port connection insuring that no twist or torque is transferred to the Hose when the Fittings are being tightened or otherwise during use..

3.11 External Damage: Proper installation is not complete without insuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.

3.12 System Checkout: All air entrapment must be eliminated and the system pressurized to the maximum system pressure (at or below the Hose maximum working pressure) and checked for proper function and freedom from leaks. Personnel must stay out of potential hazardous areas while testing and using.

3.13 Routing: The Hose Assembly should be routed in such a manner so if a failure does occur, the escaping media will not cause personal injury or property damage. In addition, if fluid media comes in contact with hot surfaces, open flame or sparks, a fire or explosion may occur. See section 2.4.

3.14 Ground Fault Equipment Protection Devices (GFEPDs): WARNING! Fire and Shock Hazard: To minimize the danger of fire if the heating cable of a Multitube bundle is damaged or improperly installed, use a Ground Fault Equipment Protection Device. Electrical fault currents may be insufficient to trip a conventional circuit breaker. For ground fault protection, the IEEE 515:1989 (www.ansi.org) standard for heating cables recommends the use of GFEPDs with a nominal 30 milliampere trip level for “piping systems in classified areas, those areas requiring a high degree of maintenance, or which may be exposed to physical abuse or corrosive atmospheres”.

4.0 HOSE AND FITTING MAINTENANCE AND REPLACEMENT INSTRUCTIONS

4.1 Even with proper selection and installation, Hose life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a possible Hose failure, and experience with any Hose failures in the application or in similar applications should determine the frequency of the inspection and the replacement for the Products so that Products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.7.

4.2 Visual Inspection Hose/Fitting: Any of the following conditions require immediate shut down and replacement of the Hose Assembly:

- Fitting slippage on Hose;
- Damaged, cracked, cut or abraded cover (any reinforcement exposed);
- Hard, stiff, heat cracked, or charred Hose;
- Cracked, damaged, or badly corroded Fittings;
- Leaks at Fitting or in Hose;
- Kinked, crushed, flattened or twisted Hose; and
- Blistered, soft, degraded, or loose cover.

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4.3 Visual Inspection All Other: The following items must be tightened,
repaired, corrected or replaced as required:
• Leaking port conditions;
• Excess dirt buildup;
• Worn clamps, guards or shields; and
• System fluid level, fluid type, and any air entrapment.

4.4 Functional Test: Operate the system at maximum operating pressure and check for possible malfunctions and leaks. Personnel must avoid potential hazardous areas while testing and using the system. See section 2.2.

4.5 Replacement Intervals: Hose assemblies and elastomeric seals used on Hose Fittings and adapters will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Hose Assemblies and elastomeric seals should be inspected and replaced at specific replacement intervals, based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage, or injury risk. See section 1.2. Hose and Fittings may be subjected to internal mechanical and/or chemical wear from the conveying fluid and may fail without warning. The user must determine the product life under such circumstances by testing.

4.6 Hose Inspection and Failure: Hydraulic power is accomplished by utilizing high pressure fluids to transfer energy and do work. Hoses, Fittings and Hose Assemblies all contribute to this by transmitting fluids at high pressures. Fluids under pressure can be dangerous and potentially lethal and, therefore, extreme caution must be exercised when working with fluids under pressure and handling the Hoses transporting the fluids. From time to time, Hose Assemblies will fail if they are not replaced at proper time intervals. Usually these failures are the result of some form of misapplication, abuse, wear or failure to perform proper maintenance. When Hoses fail, generally the high pressure fluids inside escape in a stream which may or may not be visible to the user. Under no circumstances should the user attempt to locate the leak by “feeling” with their hands or any other part of their body. High pressure fluids can and will penetrate the skin and cause severe tissue damage and possibly loss of limb. Even seemingly minor hydraulic fluid injection injuries must be treated immediately by a physician with knowledge of the tissue damaging properties of hydraulic fluid.
If a Hose failure occurs, immediately shut down the equipment and leave the area until pressure has been completely released from the Hose Assembly. Simply shutting down the hydraulic pump may or may not eliminate the pressure in the Hose Assembly. Many times check valves, etc., are employed in a system and can cause pressure to remain in a Hose Assembly even when pumps or equipment are not operating. Tiny holes in the Hose, commonly known as pinholes, can eject small, dangerously powerful but hard to see streams of hydraulic fluid. It may take several minutes or even hours for the pressure to be relieved so that the Hose Assembly may be examined safely. Once the pressure has been reduced to zero, the Hose Assembly may be taken off the equipment and examined. It must always be replaced if a failure has occurred. Never attempt to patch or repair a Hose Assembly that has failed. Consult the nearest Parker distributor or the appropriate Parker division for Hose Assembly replacement information. Never touch or examine a failed Hose Assembly unless it is obvious that the

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Hose no longer contains fluid under pressure. The high pressure fluid is extremely dangerous and can cause serious and potentially fatal injury.

4.7 Elastomeric seals: Elastomeric seals will eventually age, harden, wear and deteriorate under thermal cycling and compression set. Elastomeric seals should be inspected and replaced.

4.8 Refrigerant gases: Special care should be taken when working with refrigeration systems. Sudden escape of refrigerant gases can cause blindness if the escaping gases contact the eye and can cause freezing or other severe injuries if it contacts any other portion of the body.

4.9 Compressed natural gas (CNG): Parker CNG Hose Assemblies should be tested after installation and before use, and at least on a monthly basis per ANSI/IAS NGV 4.2-1999; CSA 12.52-M99 Section 4.2 “Visual Inspection Hose/Fitting”. The recommended procedure is to pressurize the Hose and check for leaks and to visually inspect the Hose for damage. Caution: Matches, candles, open flame or other sources of ignition shall not be used for Hose inspection. Leak check solutions should be rinsed off after use.

5.0 HOSE STORAGE

5.1 Age Control: Hose and Hose Assemblies must be stored in a manner that facilitates age control and first-in and first-out usage based on manufacturing date of the Hose and Hose Assemblies. The shelf life of rubber Hose or Hose Assemblies that have passed visual inspection and a proof test is 10 years (40 quarters) from the date of manufacture. The shelf life of thermoplastic and polytetrafluoroethylene Hose or Hose Assemblies is considered to be unlimited.

5.2 Storage: Stored Hose and Hose Assemblies must not be subjected to damage that could reduce their expected service life and must be placed in a cool, dark and dry area with the ends capped. Stored Hose and Hose Assemblies must not be exposed to temperature extremes, ozone, oils, corrosive liquids or fumes, solvents, high humidity, rodents, insects, ultraviolet light, electromagnetic fields or radioactive materials.

GLOSSARY

Abrasion
Abrasion occurs in numerous forms; two of the more common are the typical rubbing or chafing, with the second being very high frequency, low amplitude friction. This type of abrasion results from pump pressure pulses otherwise known as pump ripple. It can also be caused by equipment vibration or resonance. Abrasion may occur when two hose lines cross or when a hose line rubs or bears against a fixed point. Abrasion resistance is also a function of temperature and attack of the cover material by aggressive chemicals.
Spring guards or other protective sleeving can also ward off premature hose failure resulting from abrasion. Spring guards also distribute bending force often associated with excessive side loading or even kinking at the skirt of the coupling.

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Ambient temperature
Exceedingly high or low ambient temperatures will affect the materials from which the hose is constructed and will negatively influence hose life. When at all possible, the hose should be routed in such a manner as to protect it from heat sources. In extreme cold applications, the equipment should be designed with remote relief valves to allow circulation and warming of the oil before hose articulation is attempted. The hose liner (core tube) of choice for extremely high or low temperature is Teflon®. Teflon® is serviceable at temperatures as low as -100°F and as high as +450°. Consult the specific hose operating parameters for more information.

Bend radius
The minimum bend radii listed in this catalog are valid at rated working pressures and indicated service temperatures. Service life of a hose may be shortened if the minimum radius is exceeded or if the hose is flexed continuously in use.

Burst pressure and working pressure
The specified burst pressure for each hose style and dash size are for un-aged hoses tested at normal laboratory temperature in accordance with SAE J343 specification for normal service and technically ideal installations. The maximum recommended working pressure is 1/4 of the minimum rated burst pressure, except as otherwise specifically stated in those product specifications. For more severe service, a higher rated working pressure hose may have to be selected.

Hose installation tips
Establish hose size (I. D.) and style based upon flow rate (GPM), pressure drop, and chemical compatibility with fluid medium. Other significant factors to be considered in hose selection and installation are discussed briefly as follows:

Operating temperature
The temperature range for satisfactory service (maximum hose life) depends to a great extent upon the fluid being conveyed. Use of a hose above maximum specified temperature ratings will shorten hose life due, but not limited, to oxidation, chemical degradation and loss of compression within the coupling.

Pressure effects
Pressure surges and system shocks (spikes) are common in hydraulic systems. The normal 4:1 design factor should reflect these transient pressures. Where these surges and shocks are considered severe or hazardous, the design factor should be increased.
When hose is under pressure, it may change in length by as much as ±3%. Installation should compensate for shortening by providing an appropriate amount of slack and for lengthening by allowing space for this growth to be absorbed.

Routing and clamping
Whenever possible, and maximum efforts should

be made to do so, hose should be routed to flex in a single plane. Routing hoses in flexure through compound bends results in torsions. When this is unavoidable, the torsion should be distributed over the maximum hose length possible. Wire reinforced hoses suffer the most rapid and severe loss of service life when applied in torsion. Extremely tight and improperly located clamps focus this torsion over short distances.

Analysis of the hose function is required before the proper clamping techniques can be selected. In some applications, hoses must be contained to stay out of harm's way and at the same time be free to rise and fall with equipment articulation. Other applications may require restrictive clamping, in which case a protective material should be used around the hose to provide the grasp without deformation of the hose by the clamp. These techniques also apply to the use of the popular method of clamping and clustering hoses with plastic tie straps.

Parker swivel adaptors feature 360° swiveling action that especially suits them for use in applications where the hose moves, bends or twists. Swivel adapters connected to hose assemblies relieve twisting, prevent excessive flexing of the hose, eliminate need for long radius bends, and cushion intraline shock caused by peak system pressure pulses.

High pressure adapters

It is critical that the adapter material be properly suited to the fluid media. Widely varying conditions frequently necessitate high pressure adapters constructed of materials other than conventional 316 stainless steel. Since many variables affect the corrosion resistance of metallic materials, it is Parker Hannifin's policy not to recommend materials based on corrosion resistance for specific fluid applications. The published recommended working pressure represent the capability of the subject fitting. Nevertheless, in some instances, the hose, hose fitting or other connector assembled to the adapter may dictate the maximum working pressure. The end-user should read and understand the Parker Safety Guide (Bulletin 4400-B.1) and follow its suggested practices and warnings.

UNIT CONVERSION TABLE

Physical value	Unit	Abbreviation	Conversion Unit	Factor
Length	1 inch	in	mm	25.4
	1 millimetre	mm	in	0.03934
	1 foot	ft	m	0.3048
	1 metre	m	ft	3.28084
Surface	1 square inch	sq in	cm^2	6.4516
	1 square centimetre	cm^2	sq in	0.1550
Cubic content	1 gallon (UK)	gal	l	4.54596
	1 litre	l	gal (UK)	0.219976
	1 gallon (US)	gal	l	3.78533
	1 litre	l	gal (US)	0.264177
Weight	1 pound	lb	kg	0.453592
	1 kilogramme	kg	lb	2.204622
Pressure	1 pound per square inch	psi	bar	0.06895
	1 bar	bar	psi	14.5035
	1 pound per square inch	psi	MPa	0.006895
	1 mega pascal	MPa	psi	145.035
	1 kilo pascal	kPa	bar	0.01
	1 bar	bar	kPa	100
	1 mega pascal	MPa	bar	10
	1 bar	bar	MPa	0.1
Velocity	1 foot per second	ft/s	m/s	0.3048
	1 metre per second	m/s	ft/s	3.28084
Flow rate	1 gallon per minute (UK)	gal/min.	l/min.	4.54596
	1 litre per minute	l/min.	gal/min. (UK)	0.219976
	1 gallon per minute (US)	gal/min.	l/min.	3.78533
	1 litre per minute	l/min.	gal/min. (US)	0.264178
Temperature	Fahrenheit	F	°C	$\frac{5}{9}$ (F-32)
	Celsius	°C	F	$\frac{°C \times 9}{5}$ +32

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FOR YOUR SAFETY

The hose assemblies listed in this catalogue are all special constructions with the hose having up to eight spiral layers of steel wire. Due to this construction, pressures are achieved which far exceed German and international standards. These hose types are manufactured and tested according to the PHDE Polyflex standards which have proved to be effective over many years.

PHDE Polyflex hose assemblies are used at considerable working pressures. The critical area of a hose assembly is the connection between flexible hose and rigid fitting (crimping area). Only the use of original PHDE Polyflex components (hose, fittings and tooling) and full compliance with the PHDE Polyflex assembly instructions can guarantee safety and conformity with standards. It is essential that training be given to customers in the hose assembly process in order to make high quality PHDE Polyflex maximum pressure hose assemblies.

For the production and testing of the hose assemblies relevant to the applications, the guidelines and technical regulations as well as the protection and hazard prevention rulings must be adhered to.

The manufacturers of PHDE Polyflex hose assemblies are obliged to mark these hose assemblies according to the regulations and to verify their safety by a final pressure test.

Non-compliance with these rules can lead to the premature failure of the hose assembly and the loss of warranty.



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