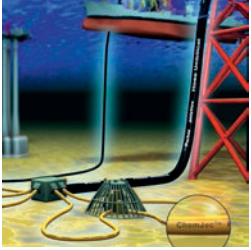
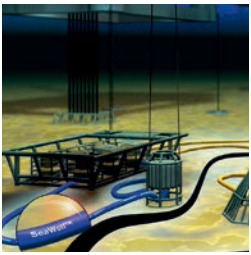
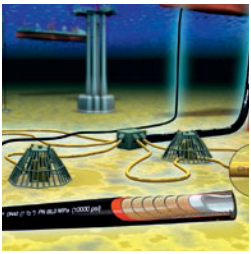




aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Thermoplastic Hoses for the Oil and Gas Industry

Oil & Gas Catalogue 4465 –
Global Edition 2015

Parker

ENGINEERING YOUR SUCCESS.

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

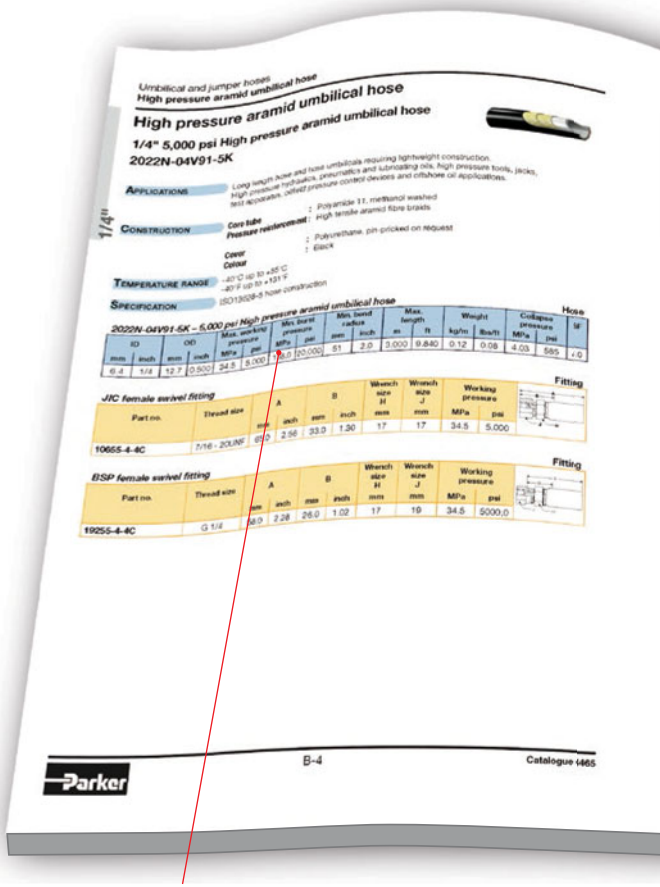
Overall structure of the catalogue:

General Info

Products

Detailed Technical Info

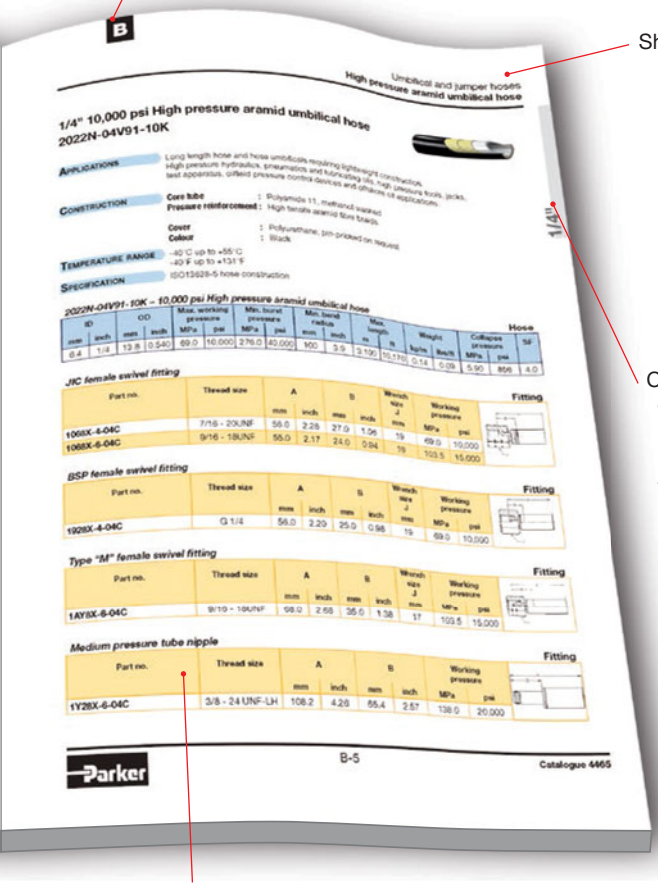
Index



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

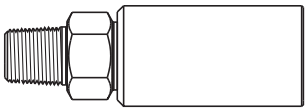
Part number system

Hoses

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	Connection 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

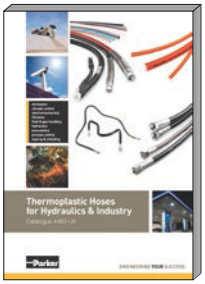
Parker Hannifin – Polyflex Division

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 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

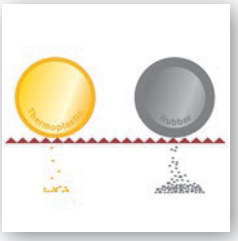
Catalogue 4466-UK

Why use Parker thermoplastic hoses?

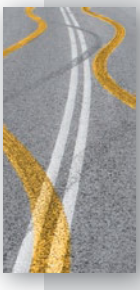
Parker thermoplastic hose is the right answer for many technical challenges. With unique features and performance characteristics thermoplastic hose outrivals even established alternatives. Whether the task requires extreme temperatures, pressures, robustness or special custom designs, these hoses will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

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

Abrasion



- Outer covers to withstand extreme wear
- Superior cut resistance and extended service life



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

Why use Parker thermoplastic hoses?

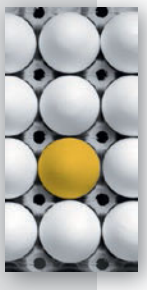
Small ID

- Only thermoplastic materials allow small IDs down to below 2mm
- Space saving
- Technical solutions otherwise often not possible

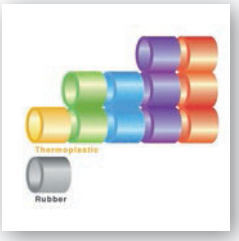
Low Weight

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

Customization



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



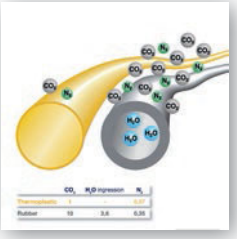
Preforming

- Preformed hoses are maintaining their full performance
- Combining the advantages of bent metal pipe with the flexibility of hose
- Reducing weight, noise and vibration compared to bent metal pipe solutions

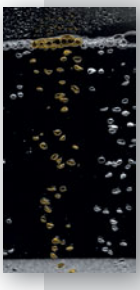
Cleanliness

- 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

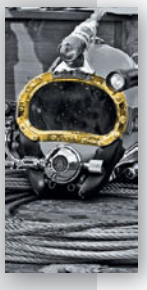


Why use Parker thermoplastic hoses?

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

Wide range of general applications

- Standard hydraulics
- Mini hydraulics
- Industrial hydraulics
- Mobile hydraulics
- Chemical industry
- Process engineering
- Industrial gases
- Alternative fuels
- Automotive and truck industry
- Boats and yachts
- Pneumatics
- Wind power
- Life Science
- Media Transfer versus Hydraulics

Value added services

Parker 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/Polyflex.***

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. Hose-Finder 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

Parker Store Container Service

available in the market today.

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

Chapter A

Hose and Fitting Overview

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

Pressure and size overview

Dimension →	inch	1/4		5/16		
	size	-04		-05		
pressure	mm	6.4		7.9		
rating psi ↓	DN	6		8		
3,000						
4,000						
5,000		2022N-04V91-5K	B-4			
6,000		2240N-04V91 2240M-04V38	C-4 C-23			
7,000		2390N-04Vxy	D-4			
8,000				2380M-05V38	C-28	
10,000		2022N-04V91-10K 2022N-04V91-10K-13MM 2340N-04V91 2380N-04V91 2340M-04V38 2380M-04V38	B-5 B-6 C-5 C-6 C-24 C-25	2440M-05V38	C-29	
12,500		2440N-04V91 2440M-04V38	C-7 C-26			
15,000		2448N-04V91 2448M-04V38	C-8 C-27	2448M-05V38	C-30	

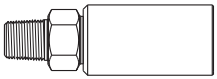
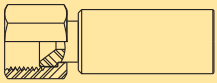
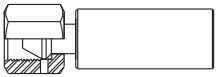
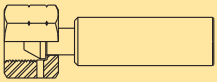
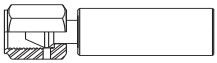
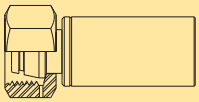
	3/8		1/2		3/4	
	-06		-08		-12	
	9.5		12.7		19	
	10		12		20	
3,000						
4,000						
5,000	2022N-06V91-5K	B-7	2022N-08V91-5K 57CR-8-BLU	B-9 B14	575X-12 2390N-12V91 2390M-12V38 2390N-12Vxy	B-11 C-17 C-36 D-7
6,000	2370N-06V91 2390N-06V91 2370M-06V38 2390N-06Vxy	C-9 C-10 C-31 D-5	2390N-08V91 2390N-08Vxy	C-13 D-6		
7,000	2380N-06V91	C-11	2380N-08V91	C-14		
8,000						
10,000	2022N-06V91-10K 2440M-06V38	B-8 C-32	2022N-08V91-10K 2440N-08V91-10K 2440M-08V38	B-10 C-15 C-34	2440N-12V91 2440M-12V38	C-18 C-37
12,500	2440N-06V91	C-12	2448N-08V91	C-16	2640N-12V91	C-19
15,000	2448M-06V38	C-33	2640M-08V38	C-35		

Pressure and size overview (continued)

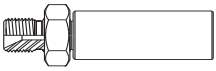
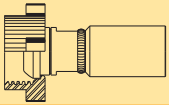
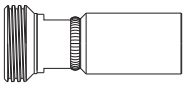
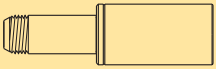
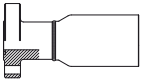
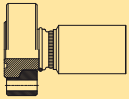
Dimension ▶	inch	1		1 1/4		1 1/2		
	size	-16		-20		-24		
pressure	mm	25.4		32.2		38.1		
rating psi ▼	DN	25		32		40		
3,000		573X-16	B-12					
4,000		2390N-16V91 2390M-16V38 2390N-16Vxx	C-20 C-38 D-9					
5,000		575X-16 57CR-16-BLU 2440M-16V38-5K 2380N-16Vxy	B-13 B-14 C-39 D-8					
6,000								
7,000								
8,000		2440N-16V91	C-21					
10,000		2440N-16V91-10K	C-22	2448N-20V80	F-8	2640N-24V80 2640M-24V88	F-9 F-19	
12,500								
15,000						2640N-24V80-15K	F-10	

	2		3	
	-32		-48	
	50.8		76.0	
	50		78	
3,000	2240N-32V10	F-6		
4,000				
5,000	2248N-32V10 2448N-32V80 2448M-32V88	F-7 F-11 F-20	2240N-48V80	F-16
6,000				
7,000				
8,000				
10,000	2580N-32V80 2580M-32V88	F-13 F-22	2440N-48V80	F-17
12,500				
15,000	2648N-32V80	F-15	2640N-48V80	F-18

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

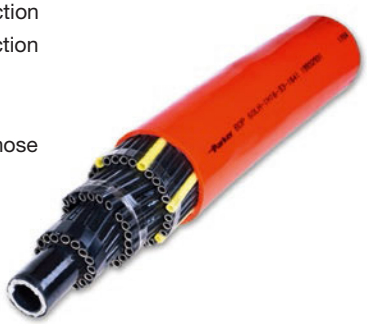
polyflex high pressure aramid hoses are available in different designs and configurations for a wide range of applications.

- Hose series 2022N, available in long continuous lengths is designed and qualified acc. ISO 13628-5 / API 17E. It is often used in umbilicals for hydraulic control or MEG / methanol injection
- Hose type SeaWolf is especially designed as HCR hose for applications where collapse resistance is required
- 575X is a compact light weight hose available in larger sizes up to 1”

Application

2022N and 575X 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



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 (PA12, PA11 and methanol washed PA11)
- Unique designs to increase collapse resistance
- High strength aramid fibers for high working pressures
- Long continuous lengths up to 3,300 m without splicing

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

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

1/4"

CONSTRUCTION

Core tube	:	Methanol washed PA11
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

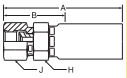
SPECIFICATION
Fully compliant with ISO 13628-5 / API 17E

2022N-04V91-5K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
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

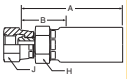
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	inch	inch	MPa	psi	
10655-4-4C	7/16 - 20UNF	60.0	2.36	31.0	1.22	9/16	5/8	34.5	5,000	

BSP female swivel fitting

Material: AISI 316 / 316Ti

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	PF 1/4-19	55.9	2.20	27.0	1.06	17	19	34.5	5,000	

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

CONSTRUCTION

Core tube : Methanol washed PA11
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

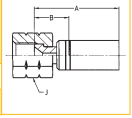
Fully compliant with ISO 13628-5

2022N-04V91-10K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.8	0.540	69.0	10,000	276.0	40,000	100	3.9	3,100	10,170	0.14	0.09	5.90	856	4.0

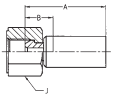
JIC female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1068X-4-04C	7/16 - 20UNF	68.5	2.70	35.5	1.40	19	69.0	10,000
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



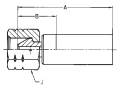
BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000



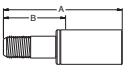
Type "M" female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		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"

1/4" 10,000 psi High pressure aramid hose
2022N-04V91-10K-13MM

CONSTRUCTION

Core tube	:	Methanol washed PA11
Pressure reinforcement	:	High tensile aramid fibre braids
Cover	:	Polyurethane, pin-pricked on request
Colour	:	Black

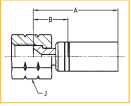
TEMPERATURE RANGE
-40°C up to +55°C
-40°F up to +131°F

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

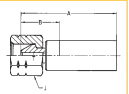
2022N-04V91-10K-13MM

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.9	0.508	69.0	10,000	276.0	40,000	100	3.9	3,300	10,800	0.12	0.08	7.50	1,088	4.0

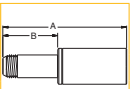
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-6-04C	9/16 - 18UNF	77.0	3.03	32.0	1.26	19	103.5	15,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-6-04C	9/16 - 18UNF	79.0	3.11	34.0	1.34	22	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-3-04C	3/8 - 24 UNF-LH	109.0	4.29	64.0	2.52	138.0	20,000	

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

CONSTRUCTION

Core tube : Methanol washed PA11
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

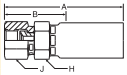
Fully compliant with ISO 13628-5 / API 17E

2022N-06V91-5K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.7	3/8	16.1	0.630	34.5	5,000	138.0	20,000	76	3.0	3,000	9,840	0.15	0.10	1.40	203	4.0

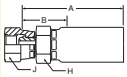
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	inch	inch	MPa	psi	
10655-6-6C	9/16 - 18UNF	68.6	2.70	33.0	1.30	11/16	11/16	34.5	5,000	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	mm	MPa	psi	
19255-6-6C	PF 3/8-19	62.0	2.44	27.0	1.06	19	22	34.5	5,000	

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

CONSTRUCTION

Core tube	:	Methanol washed PA11
Pressure reinforcement	:	High tensile aramid fibre braids
Cover	:	Polyurethane, pin-pricked on request
Colour	:	Black

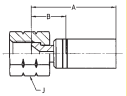
TEMPERATURE RANGE
-40°C up to +55°C
-40°F up to +131°F

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

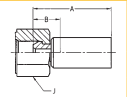
2022N-06V91-10K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.7	3/8	19.0	0.750	69.0	10,000	276.0	40,000	100	3.9	1,950	6,390	0.24	0.16	3.50	508	4.0

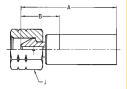
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1063X-6-06C	9/16 - 18UNF	74.5	2.93	27.5	1.08	22	69.0	10,000	

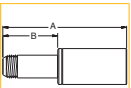
BSP female swivel fitting (60° cone) — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1923X-8-06C	G 1/2	67.0	2.64	21.5	0.85	30	69.0	10,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AY3X-8-06C	3/4 - 16UNF	71.0	2.80	25.5	1.00	24	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y23X-9-06C	9/16 - 18 UNF-LH	137.0	5.40	85.0	3.35	138.0	20,000	

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

CONSTRUCTION

Core tube : Methanol washed PA11
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

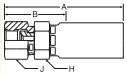
Fully compliant with ISO 13628-5 / API 17E

2022N-08V91-5K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.9	1/2	20.8	0.819	34.5	5,000	138.0	20,000	102	4.0	1,500	4,920	0.17	0.11	<1.00	<145	4.0

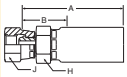
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	inch	inch	MPa	psi	
10655-8-8C	3/4 - 16UNF	78.1	3.08	38.0	1.50	7/8	7/8	34.5	5,000	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	mm	MPa	psi	
19255-8-8C	PF 1/2-14	70.6	2.78	31.0	1.22	24	27	34.5	5,000	

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

CONSTRUCTION

Core tube	:	Methanol washed PA11
Pressure reinforcement	:	High tensile aramid fibre braids
Cover	:	Polyurethane, pin-pricked on request
Colour	:	Black

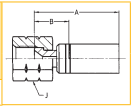
TEMPERATURE RANGE
-40°C up to +55°C
-40°F up to +131°F

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

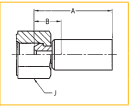
2022N-08V91-10K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.8	1/2	23.1	0.910	69.0	10,000	276.0	40,000	100	3.9	1,000	3,280	0.34	0.23	1.61	233	4.0

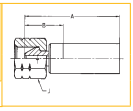
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-8-08C	3/4 - 16UNF	94.0	3.70	39.4	1.55	27	69.0	10,000	

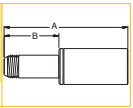
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
192LX-8-08C	G 1/2	76.0	2.99	21.0	0.83	30	69.0	10,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-11-08C	1 - 12UNF	90.5	3.56	36.5	1.44	32	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-12-08C	3/4 - 16 UNF-LH	157.5	6.20	103.5	4.07	138.0	20,000	

3/4" 5,000 psi High pressure aramid hose
575X-12

CONSTRUCTION

Core tube : Polyamide
Pressure reinforcement : High tensile aramid fibre braids

Cover : Polyurethane
Colour : Black

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

SPECIFICATION

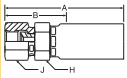
ISO 13628-5 / API 17E compliant hose construction

575X-12

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
19	3/4	29	1.15	34.5	5,000	138.0	20,000	203	8.0	760	2,500	0.36	0.24	–	–	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	mm	MPa	psi	
10658H-12-12C	1-1/16-12UNF	105	4.14	46	1.81	32	34	34.5	5,000	

1" 3,000 psi High pressure aramid hose
573X-16

CONSTRUCTION

Core tube	:	Polyamide
Pressure reinforcement	:	High tensile aramid fibre braids
Cover	:	Polyurethane
Colour	:	Black

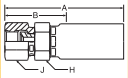
TEMPERATURE RANGE -40°C up to +93°C
-40°F up to +200°F

SPECIFICATION ISO 13628-5 / API 17E compliant hose construction

573X-16

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25	1	37	1.46	20.7	3,000	82.5	12,000	254	10	–	–	0.60	0.41	–	–	4.0

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

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	mm	MPa	psi	
106LV-16-16C	1-5/16-12UNF	122	4.81	46	1.81	35	38	34.5	5,000	

1" 5,000 psi High pressure aramid hose
575X-16

CONSTRUCTION

Core tube : Polyamide
Pressure reinforcement : High tensile aramid fibre braids

Cover : Polyurethane
Colour : Black

TEMPERATURE RANGE

-40°C up to +100°C
-40°F up to +212°F

SPECIFICATION

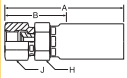
ISO 13628-5 / API 17E compliant hose construction

575X-16

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25	1	40	1.59	34.5	5,000	138.0	20,000	254	10	4,260	14,000	0.54	0.36	–	–	4.0

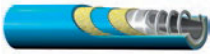
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	mm	MPa	psi	
10658H-16-16C	1-5/16-12UNF	124	4.89	49	1.81	45	42	34.5	5,000	

High collapse resistant hose SeaWolf

1/2" 5,000 psi High collapse resistant hose “Sea Wolf”
57CR-8-BLU



1/2"

CONSTRUCTION

Core tube : Polyamide with stainless steel helix support (pat. pend.)
Pressure reinforcement : High tensile aramid fibre

Cover : Polyurethane
Colour : Standard: blue, Safety identification: yellow

TEMPERATURE RANGE

-40°C up to +60°C
-40°F up to +140°F

SPECIFICATION

ISO 13628-5 / API 17E compliant hose construction

CERTIFICATES

ABS Product Design Assessment (PDA) Certificate 13-HS930315-1-PDA

57CR-8-BLU

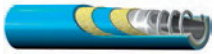
ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.7	1/2	30.0	1.180	34.5	5,000	138.0	20,000	159	6.3	200	656	0.87	0.58	23.00	3,335	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
606CR-8-8C	3/4 - 16UNF	98.6	3.88	54.1	2.13	25	34.5	5,000	

1“ 5,000 psi High collapse resistant hose “Sea Wolf”
57CR-16-BLU



CONSTRUCTION

Core tube : Polyamide with stainless steel helix support (pat. pend.)
Pressure reinforcement : High tensile aramid fibre

Cover : Polyurethane
Colour : Standard: blue, Safety identification: yellow

TEMPERATURE RANGE

-40°C up to +60°C
-40°F up to +140°F

SPECIFICATION

ISO 13628-5 / API 17E compliant hose construction

CERTIFICATES

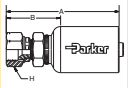
ABS Product Design Assessment (PDA) Certificate 13-HS930315-1-PDA

57CR-16-BLU

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.4	1	50.8	2.000	34.5	5,000	138.0	20,000	273	10.8	200	656	1.97	1.32	21.00	3,045	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
606CR-16-16C	1 5/16 - 12UNF	137.0	5.39	67.0	2.64	41	34.5	5,000	

Chapter C

Wire Hoses

High pressure wire hoses

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

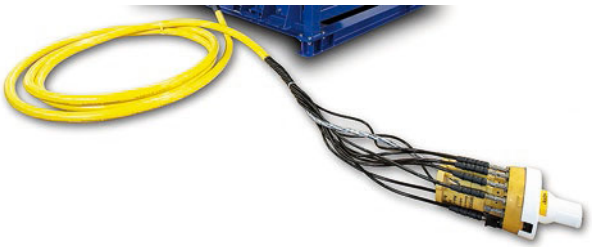
polyflex High pressure wire hoses combine the most required features to form unique products for the Oil&Gas market:

- 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

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.

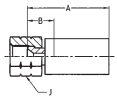
SPECIFICATION

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

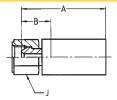
2240N-04V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.5	1/4	11.6	0.460	43.0	6,250	172.5	25,000	70	2.8	3,500	11,500	0.17	0.11	10.00	1,450	4.0

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106RX-4-04C	7/16 - 20UNF	52.0	2.05	23.0	0.91	17	43.0	6,250	
106RX-6-04C	9/16 - 18UNF	53.5	2.11	24.5	0.96	19	43.0	6,250	

BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		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	

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.

SPECIFICATION

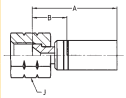
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2340N-04V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.5	0.490	69.0	10,000	276.0	40,000	70	2.8	3,500	11,500	0.23	0.15	15.4	2,234	4.0

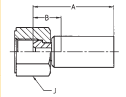
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1068X-4-04C	7/16 - 20UNF	68.5	2.70	35.5	1.40	19	69.0	10,000
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



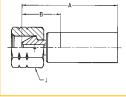
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000



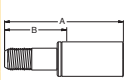
Type "M" female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		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 wire hose
2380N-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.

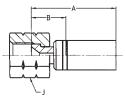
SPECIFICATION Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380N-04V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	69.0	10,000	276.0	40,000	70	2.8	3,200	10,500	0.27	0.18	22.4	3,249	4.0

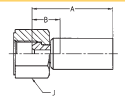
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1068X-4-04C	7/16 - 20UNF	68.5	2.70	35.5	1.40	19	69.0	10,000
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



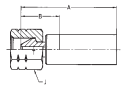
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000



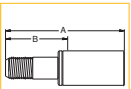
Type "M" female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		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

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.

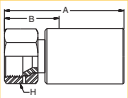
SPECIFICATION

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

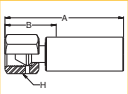
2440N-04V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,000	9,840	0.31	0.21	24.7	1,812	4.0

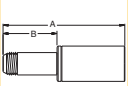
JIC female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-6-04C	9/16 - 18UNF	77.0	3.03	32.0	1.26	19	103.5	15,000	

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-6-04C	9/16 - 18UNF	79.0	3.11	34.0	1.34	22	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-3-04C	3/8 - 24 UNF-LH	109.0	4.29	64.0	2.52	138.0	20,000	

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

SPECIFICATION

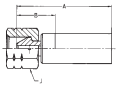
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448N-04V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	2,750	9,000	0.38	0.26	44.80	6,497	4.0

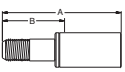
Type "M" female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000	

Medium pressure tube nipple

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Working pressure		
		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	

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

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.

SPECIFICATION

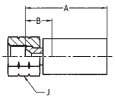
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2370N-06V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.9	3/8	16.5	0.650	43.0	6,250	172.5	25,000	120	4.7	4,000	13,100	0.33	0.22	9.40	1,363	4.0

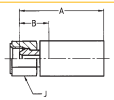
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106RX-6-06C	9/16 - 18UNF	58.0	2.28	28.0	1.10	19	43.0	6,250	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
192RX-6-06C	G3/8	55.0	2.17	25.0	0.98	22	43.0	6,250	

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

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.

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

2390N-06V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,500	11,500	0.41	0.28	15.00	2,175	4.0

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-8-06C	3/4 - 16UNF	74.0	2.91	31.0	1.22	24	69.0	10,000	

BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1929X-6-06C	G 3/8	63.5	2.50	24.5	0.96	22	69.0	10,000	

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

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.

SPECIFICATION

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

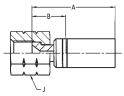
2380N-06V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,500	11,500	0.44	0.30	12.5	1,812	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

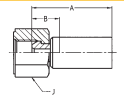
Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1068X-8-06C	3/4 - 16UNF	69.5	2.74	30.5	1.20	24	69.0	10,000



BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-6-06C	G 3/8	57.5	2.26	18.5	0.73	22	69.0	10,000



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

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.

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

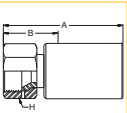
3/8"

2440N-06V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	5,000	16,400	0.73	0.49	32.20	4,670	4.0

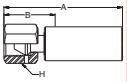
JIC female swivel fitting — **Material: Special Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-06C4462	9/16 - 18UNF	74.5	2.93	29.0	1.14	22	69.0	10,000
106LX-8-06C4462	3/4 - 16UNF	78.0	3.07	32.5	1.28	24	86.5	12,500



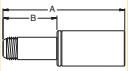
Type "M" female swivel fitting — **Material: Special Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-8-06C4462	3/4 - 16UNF	78.0	3.07	32.5	1.28	27	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1Y2LX-9-06C4462	9/16 - 18 UNF-LH	137.0	5.4	91.5	3.60	138.0	20,000



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.

SPECIFICATION

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

CERTIFICATES

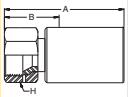
ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

2390N-08V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	5,000	16,400	0.57	0.38	7.80	1,131	4.0

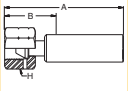
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-8-08C	3/4 - 16UNF	81.0	3.19	38.0	1.50	27	69.0	10,000	
E213JFC4	3/4 - 16UNF	85.0	3.35	41.0	1.61	24	69.0	10,000	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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	

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

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

2380N-08V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,000	9,840	0.68	0.46	16.4	2,378	4.0

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-8-08C	3/4 - 16UNF	94.0	3.7	39.4	1.55	27	69.0	10,000	

BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
192LX-8-08C	G 1/2	76.0	2.99	21.0	0.83	30	69.0	10,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-11-08C	1 - 12UNF	90.5	3.56	36.5	1.44	32	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-12-08C	3/4 - 16 UNF-LH	157.5	6.20	103.5	4.07	138.0	20,000	

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

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.

SPECIFICATION

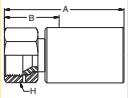
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440N-08V91-10K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.6	0.89	69.0	10,000	276.0	40,000	200	7.9	5,000	16,400	0.94	0.63	19.8	2,871	4.0

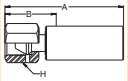
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-8-08C	3/4 - 16UNF	94.0	3.7	39.4	1.55	27	69.0	10,000	

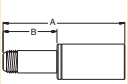
Type "M" female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-11-08C	1 - 12UNF	90.5	3.56	36.5	1.44	32	103.5	15,000	

Medium pressure tube nipple

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-12-08C	3/4 - 16 UNF-LH	157.5	6.20	103.5	4.07	138.0	20,000	

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

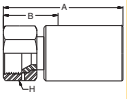
SPECIFICATION Meets or exceeds performance requirements of ISO 13628-5 / API 17E

1/2"

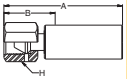
2448N-08V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.7	0.89	86.5	12,500	345.0	50,000	200	7.9	5,000	16,400	0.94	0.63	22.5	3,260	4.0

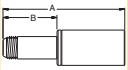
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-8-08C	3/4 - 16UNF	94.0	3.7	39.4	1.55	27	69.0	10,000	

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-11-08C	1 - 12UNF	90.5	3.56	36.5	1.44	32	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-12-08C	3/4 - 16 UNF-LH	157.5	6.20	103.5	4.07	138.0	20,000	

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

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.

SPECIFICATION

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

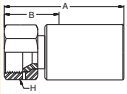
CERTIFICATES

ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

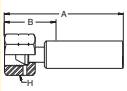
2390N-12V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
19.4	3/4	28.8	1.130	35.0	5,075	140.0	20,300	300	11.8	3,200	10,500	0.90	0.60	7.50	1,088	4.0

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-12-12C	1 1/16 - 12UNF	96.0	3.78	43.0	1.69	36	34.5	5,000	

BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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

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.

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

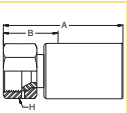
3/4"

2440N-12V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
19.8	3/4	30.2	1.19	69.0	10,000	250.0	36,250	250	9.8	4,000	13,100	1.46	0.98	10.5	1,520	3.6

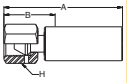
JI female swivel fitting **Material: Special Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
106LX-12-12C4462	1 1/16 - 12UNF	95.0	3.74	41.0	1.61	36	34.5	5,000
106LX-16-12C4462	1 5/16 - 12UNF	99.0	3.90	43.0	1.69	41	69.0	10,000



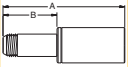
Type "M" female swivel fitting **Material: Special Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AYLX-16-12C4462	1 5/16 - 12UNF	92.0	3.62	38.0	1.49	41	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1Y2LX-12-12C4462	3/4 - 16 UNF-LH	161.0	6.34	107.0	4.21	138.0	20,000
1Y2LX-16-12C4462	1-14 UNS - LH	181.0	7.13	127.0	5.00	138.0	20,000



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

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.

SPECIFICATION

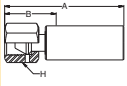
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2640N-12V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,500	11,500	2.16	1.45	12.00	1,740	4.0

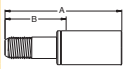
Type "M" female swivel fitting

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
6AY5X-16-12C	1 5/16 - 12UNF	108.0	4.25	40.6	1.60	38	103.5	15,000	

Medium pressure tube nipple

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
6Y25X-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

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.

SPECIFICATION

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

CERTIFICATES

ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

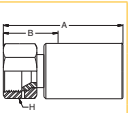
2390N-16V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	35.0	1.380	28.0	4,060	112.0	16,240	280	11.0	5,000	16,400	1.17	0.79	3.90	566	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

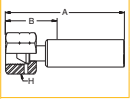
Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1069X-16-16C	1 5/16 - 12UNF	102.5	4.04	47.5	1.87	41	34.5	5,000
E225JIC3	1 5/16 - 12UNF	109.0	4.29	53.0	2.09	41	45.0	6,500



BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		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" 8,120 psi High pressure wire hose
2440N-16V91

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.

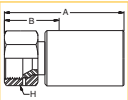
SPECIFICATION

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

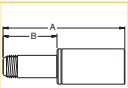
2440N-16V91

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	56.0	8,120	225.0	32,625	300	11.8	4,000	13,100	2.0	1.33	6.00	870	4.0

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-16-16C4462	1 5/16 - 12UNF	77.0	3.03	25.5	1.00	41	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

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

CONSTRUCTION

Core tube	:	Methanol washed PA11
Pressure reinforcement	:	High strength wire
Cover	:	PA12
Colour	:	Black

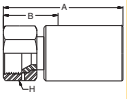
TEMPERATURE RANGE -40°C up to +100°C, max. 70°C for water or methanol based fluids.
-40°F up to +212°F, max. 158°F for water or methanol based fluids.

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

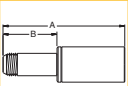
2440N-16V91-10K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	69.0	10,000	225.0	32,625	300	11.8	4,000	13,100	2.00	1.34	6.00	870	3.3

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-16-16C4462	1 5/16 - 12UNF	77.0	3.03	25.5	1.00	41	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

High pressure wire hoses *ChemJec*

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

SPECIFICATION

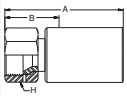
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2240M-04V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.5	1/4	11.6	0.457	43.0	6,250	172.5	25,000	70	2.76	3,500	11,500	0.17	0.11	10.50	1,523	4.0

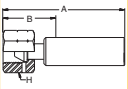
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106RX-4-04C	7/16 - 20UNF	52.0	2.05	23.0	0.91	17	43.0	6,250	
106RX-6-04C	9/16 - 18UNF	53.5	2.11	24.5	0.96	19	43.0	6,250	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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	

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 Polyflex Division

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

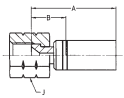
1/4"

2340M-04V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	12.5	0.490	69.0	10,000	276.0	40,000	70	2.76	3,500	11,500	0.23	0.15	20.50	2,973	4.0

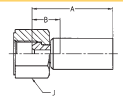
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1068X-4-04C	7/16 - 20UNF	68.5	2.7	35.5	1.40	19	69.0	10,000
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



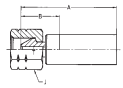
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000



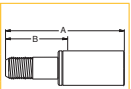
Type "M" female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		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

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 Polyflex Division

SPECIFICATION

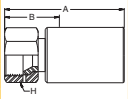
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2380M-04V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	69.0	10,000	276.0	40,000	230	9.1	3,000	9,840	0.27	0.18	40.00	5,800	4.0

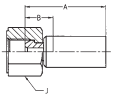
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1068X-4-04C	7/16 - 20UNF	68.5	2.7	35.5	1.40	19	69.0	10,000	
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000	



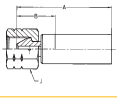
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000



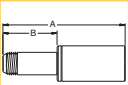
Type "M" female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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

Part no.	Thread size	A		B		Working pressure	
		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

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 Polyflex Division

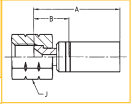
SPECIFICATION Meets or exceeds performance requirements of ISO 13628-5 / API 17E

1/4"

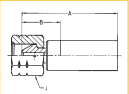
2440M-04V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.5	1/4	13.1	0.520	86.5	12,500	345.0	50,000	150	5.9	3,000	9,840	0.31	0.21	29.50	4,278	4.0

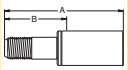
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1068X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		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

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 Polyflex Division

SPECIFICATION

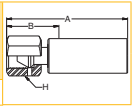
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448M-04V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.5	1/4	13.7	0.540	103.5	15,000	414.0	60,000	230	9.1	3,000	9,840	0.38	0.26	37.80	5,481	4.0

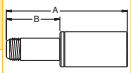
Type "M" female swivel fitting

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYUX-6-04C	9/16 - 18UNF	86.0	3.39	34.0	1.34	19	103.5	15,000	

Medium pressure tube nipple

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2UX-6-04C	3/8 - 24UNF-LH	131.5	5.18	63.5	2.50	138.0	20,000	
1Y2UX-6-04-INC625	3/8 - 24UNF-LH	131.5	5.18	63.5	2.50	138.0	20,000	

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

CONSTRUCTION

Core tube	:	Fluoropolymer based core tube
Pressure reinforcement	:	High strength wire
Cover	:	PA12
Colour	:	Golden

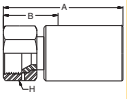
TEMPERATURE RANGE -40°C up to +100°C; -40°F up to +212°F
For higher temperature requirements please contact Polyflex Division

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

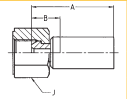
2380M-05V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
8.3	5/16	15.8	0.620	60.0	8,700	240.0	34,800	90	3.5	2,000	6,560	0.35	0.24	16.7	2,421	4.0

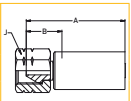
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-6-05C	9/16 - 18UNF	78.0	3.07	33.0	1.30	19	69.0	10,000	

BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
192LX-6-05C	G 3/8	69.0	2.72	35.0	1.38	27	69.0	10,000	

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-8-05C	3/4 - 16UNF	82.2	3.24	37.2	1.46	27	69.0	10,000	

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

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 Polyflex Division

SPECIFICATION

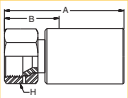
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-05V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
8.3	5/16	16.2	0.637	69.0	10,000	276.0	40,000	175	6.9	2,500	8,200	0.49	0.33	26.0	3,771	4.0

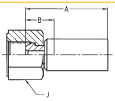
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-6-05C	9/16 - 18UNF	78.0	3.07	33.0	1.30	19	69.0	10,000	

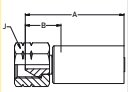
BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
192LX-6-05C	G 3/8	69.0	2.72	35.0	1.38	27	69.0	10,000	

Type "M" female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYLX-8-05C	3/4 - 16UNF	82.2	3.24	37.2	1.46	27	69.0	10,000	

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

CONSTRUCTION

Core tube	:	Fluoropolymer based core tube
Pressure reinforcement	:	High strength wire
Cover	:	PA12
Colour	:	Golden

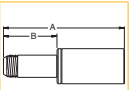
TEMPERATURE RANGE -40°C up to +100°C; -40°F up to +212°F
For higher temperature requirements please contact Polyflex Division

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

2448M-05V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
8.2	5/16	16.3	0.640	103.5	15,000	414.0	60,000	230	9.1	2,500	8,200	0.52	0.35	38.50	5,583	4.0

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2UX-6-05-INC625	3/8 - 24UNF-LH	125.4	4.94	63.5	2.50	138.0	20,000	

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

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 Polyflex Division

SPECIFICATION

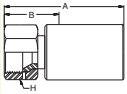
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2370M-06V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.9	3/8	16.5	0.650	43.0	6,250	172.5	25,000	120	4.7	4,000	13,100	0.33	0.22	15.00	2,175	4.0

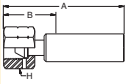
JIC female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106RX-6-06C	9/16 - 18UNF	58.0	2.28	28.0	1.10	19	43.0	6,250	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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

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 Polyflex Division

SPECIFICATION

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

3/8"

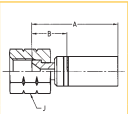
2440M-06V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.9	3/8	19.5	0.770	69.0	10,000	276.0	40,000	190	7.5	5,000	16,400	0.73	0.49	37.0	5,400	4.0

JIC female swivel fitting

Material: Special Stainless Steel Material

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
106LX-6-06C-M-Subsea	9/16 - 18UNF	87.0	3.43	34.0	1.34	19	69.0	10,000
106LX-8-06C-M-Subsea	3/4 - 16UNF	87.0	3.43	34.0	1.34	24	69.0	10,000



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

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 Polyflex Division

SPECIFICATION

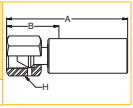
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2448M-06V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.8	3/8	20.1	0.800	103.5	15,000	414.0	60,000	200	7.9	5,000	16,400	0.83	0.56	39.00	5,655	4.0

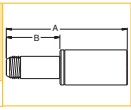
Type "M" female swivel fitting

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AYUX-8-06C	3/4 - 16UNF	93.5	3.68	38.5	1.52	27	103.5	15,000	

Medium pressure tube nipple

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2UX-9-06C	9/16 - 18UNF-LH	151.0	5.94	72.0	2.83	138.0	20,000	

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

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 Polyflex Division

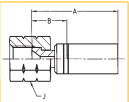
SPECIFICATION Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2440M-08V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.9	1/2	22.7	0.890	69.0	10,000	276.0	40,000	200	7.9	5,000	16,400	0.94	0.63	25.20	3,654	4.0

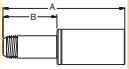
JIC female swivel fitting **Material: Special Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
106LX-8-08C-M-Subsea	3/4 - 16UNF	100.0	3.94	35.0	1.38	24	69.0	10,000
106LX-8-08INC625-M-SUBSEA	3/4 - 16UNF	111.0	4.37	42.0	1.65	24	69.0	10,000



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

Part no.	Thread size	A		B		Working pressure	
		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



1/2" 15,000 psi High pressure *ChemJec* hose
2640M-08V38

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 Polyflex Division

SPECIFICATION

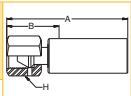
Meets or exceeds performance requirements of ISO 13628-5 / API 17E

2640M-08V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
12.9	1/2	24.7	0.970	103.5	15,000	414.0	60,000	290	11.4	2,500	8,200	1.34	0.90	30.00	4,350	4.0

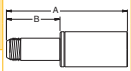
Type "M" female swivel fitting

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1AY5X-11-08C-M-Subsea	1 - 12 UNF-2B	111.0	4.37	56.0	2.20	32	103.5	15,000	

Medium pressure tube nipple

Material: Special Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y25X-9-08C-M-Subsea	9/16 - 18UNF- LH	164.2	6.46	72.0	2.83	103.5	15,000	
1Y25X-12-08C-M-Subsea	3/4 - 16UNF- LH	174.2	6.86	84.0	3.31	103.5	15,000	

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

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 Polyflex Division

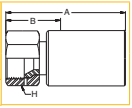
SPECIFICATION Meets or exceeds performance requirements of ISO 13628-5 / API 17E

3/4"

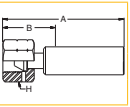
2390M-12V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
20.0	3/4	29.0	1.140	34.5	5,000	138.0	20,000	250	9.8	3,200	10,500	0.90	0.60	7.50	1,088	4.0

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-12-12C	1 1/16 - 12UNF	96.0	3.78	43.0	1.69	36	34.5	5,000	

BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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

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 Polyflex Division

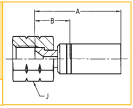
SPECIFICATION

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

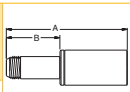
2440M-12V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
19.8	3/4	30.2	1.190	69.0	10,000	250.0	36,250	250	9.8	2,500	8,200	1.46	0.98	11.00	1,595	3.6

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-16-12C4462	1 5/16 - 12UNF	99.0	3.99	43.0	1.69	41	69.0	10,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1Y2LX-12-12C4462	3/4 - 16 UNF-LH	161.0	6.34	107.0	4.21	138.0	20,000	
1Y2LX-16-12C4462	1 - 14 UNS-LH	181.0	7.13	119.4	4.70	138.0	20,000	

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

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 Polyflex Division

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

2390M-16V38

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.3	1	35.0	1.380	28.0	4,060	112.0	16,240	280	11.0	4,000	13,100	1.19	0.79	3.50	508	4.0

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

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-16-16C	1 5/16 - 12UNF	102.5	4.04	47.5	1.87	41	34.5	5,000	

BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size H	Working pressure		
		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

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 Polyflex Division

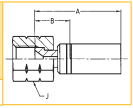
SPECIFICATION

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

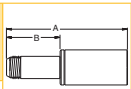
2440M-16V38-5K

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	37.2	1.460	34.5	5,000	225.0	32,625	300	11.8	4,000	13,100	2,05	1.36	6.50	943	6.5

JIC female swivel fitting — **Material: Special Stainless Steel Material**

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
106LX-16-16C4462	1 5/16 - 12UNF	77.0	3.03	25.5	1.00	41	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

Chapter D

Subsea BOP Hoses

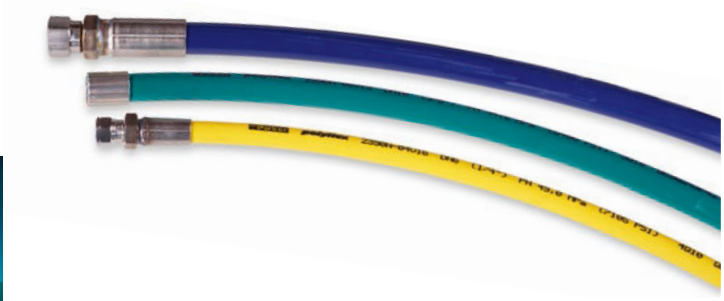
Subsea BOP hoses

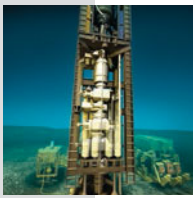
polyflex BOP hoses are in use since many years. Both on subsea BOPs for hydraulic applications and as hot-lines in long continuous lengths up to 4,200m for MUX system applications.

Crimp your own assembly: BOP hose 2390N and suitable fittings are available as bulk hose and single components. Hose and E2 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

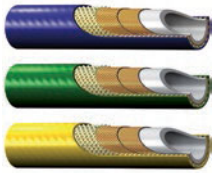
- Suitable for Parker ParKrimp System
- Very compact hose construction
- Long contiuous lengths up to 4,200 m without splicing
- Seamless Polyamide core tube of high chemical resistance
- Seawater resistant cover material in various colors
- Improved collapse resistance

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



CONSTRUCTION

Core tube	:	Polyamide
Pressure reinforcement	:	High strength wire
Cover	:	Polyurethane
Colour	:	V12: blue; V13: green; V16: yellow

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

CERTIFICATES ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

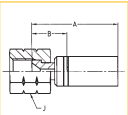
1/4"

2390N-04Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
6.4	1/4	13.4	0.530	49.0	7,105	195.0	28,420	160	6.3	3,500	11,480	0.25	0.17	—	—	4.0

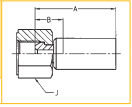
JIC female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
E206JCC3	7/16 - 20UNF	54.0	2.13	30.0	1.18	16	69.0	10,000
E206JEC3	9/16 - 18UNF	56.0	2.20	28.0	1.10	19	69.0	10,000



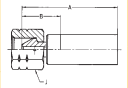
BSP female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1928X-4-04C	G 1/4	56.0	2.20	32.0	1.26	19	69.0	10,000

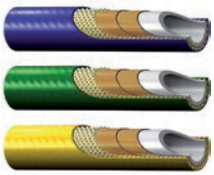


Type "M" female swivel fitting — **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1AY8X-6-04C	9/16 - 18UNF	66.0	2.60	33.0	1.30	19	103.5	15,000



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



CONSTRUCTION

Core tube : Polyamide
Pressure reinforcement : High strength wire

Cover : Polyurethane
Colour : V12: blue; V13: green; V16: yellow

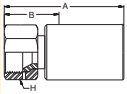
TEMPERATURE RANGE -40°C up to +100°C, max. 70°C for water or methanol based fluids.

2390N-06Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
9.8	3/8	18.1	0.71	44.5	6,450	178.0	25,800	120	4.7	3,500	11,480	0.41	0.28	15.0	2,175	4.0

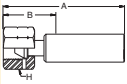
JIC female swivel fitting

Material: AISI 316 / 316Ti

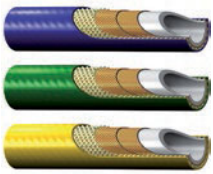
Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1069X-8-06C	3/4 - 16UNF	74.0	2.91	31.0	1.22	24	69.0	10,000	

BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1929X-6-06C	G 3/4	56.0	2.20	19.0	0.75	22	69.0	10,000	

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



CONSTRUCTION

Core tube	:	Polyamide
Pressure reinforcement	:	High strength wire
Cover	:	Polyurethane
Colour	:	V12: blue; V13: green; V16: yellow

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

CERTIFICATES ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

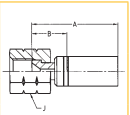
1/2"

2390N-08Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	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	3,500	11,480	0.57	0.38	7.8	1,131	4.0

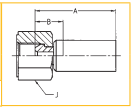
JIC female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1069X-8-08C	3/4 - 16UNF	81.0	3.19	38.0	1.50	27	69.0	10,000
E213JFC4	3/4 - 16UNF	85.0	3.35	41.0	1.61	24	69.0	10,000

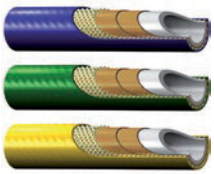


BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		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



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



CONSTRUCTION

Core tube : Polyamide
Pressure reinforcement : High strength wire

Cover : Polyurethane
Colour : V12: blue; V13: green; V16: yellow

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

CERTIFICATES ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

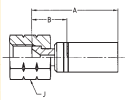
2390N-12Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
19.6	3/4	28.9	1.14	35.0	5,075	140.0	20,300	300	11.8	3,200	10,500	0.90	0.61	5.3	768	4.0

JIC female swivel fitting

Material: AISI 316 / 316Ti

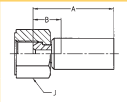
Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1069X-12-12C	1 1/16 - 12UNF	96.0	3.78	43.0	1.69	36	34.5	5,000
E220JHC1	1 1/16 - 12UNF	102.0	4.01	55.0	2.16	36	34.5	5,000



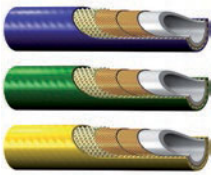
BSP female swivel fitting

Material: AISI 316 / 316Ti

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		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



1" 4,060 psi Subsea BOP hose
2390N-16Vxy



CONSTRUCTION

Core tube	:	Polyamide
Pressure reinforcement	:	High strength wire
Cover	:	Polyurethane
Colour	:	V12: blue; V13: green; V16: yellow

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

CERTIFICATES ABS Product Design Assessment (PDA) Certificate 13-HS930314-1-PDA

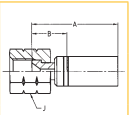
1

2390N-16Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	34.9	1.374	28.0	4,060	112.0	16,240	280	11.0	4,200	13,800	1.17	0.78	3.9	565	4.0

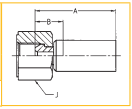
JIC female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1069X-16-16C	1 5/16 - 12UNF	102.5	4.04	47.5	1.87	41	34.5	5,000
E225JIC3	1 5/16 - 12UNF	109.0	4.29	53.0	2.09	41	45.0	6,530

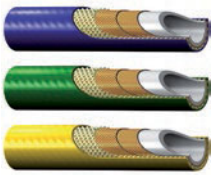


BSP female swivel fitting **Material: AISI 316 / 316Ti**

Part no.	Thread size	A		B		Wrench size J	Working pressure	
		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" 5,510 psi Subsea BOP hose
2380N-16Vxy



CONSTRUCTION

Core tube : Polyamide
Pressure reinforcement : High strength wire

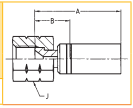
Cover : Polyurethane
Colour : V12: blue; V13: green; V16: yellow

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

2380N-16Vxy

ID		OD		Max. working pressure		Min. burst pressure		Min. bend radius		Max. length		Weight		Collapse pressure		DF
mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	m	ft	kg/m	lbs/ft	MPa	psi	
25.2	1	36.8	1.45	38.0	5,510	152.0	22,040	290	11.4	4,000	13,000	1.49	1.0	4.8	696	4.0

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

Part no.	Thread size	A		B		Wrench size J	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1068X-16-16C-SUBSEA	1 5/16 - 12UNF	97.0	3.8	44.0	1.7	41	34.5	5,000	

Chapter E

Hydrostatic Testing Hose

Ultra high pressure hoses and fittings

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.

Part number	Size		Max. working pressure	Min. burst pressure	Min. bend radius	Weight	Nipple ID	Ferrule OD	DF
#									

DN3	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2240D-02V32	-02	3.0	1/8	7.0	0.276	110.0	15,950	275.0	39,875	60	2.36	0.07	0.05	1.60	0.06	9.10	0.36	2.5
2240D-02V32-TC	-02	3.0	1/8	7.0	0.276	110.0	15,950	275.0	39,875	60	2.36	0.07	0.05	1.60	0.06	9.10	0.36	2.5
2440D-02V32	-02	3.0	1/8	7.9	0.311	207.0	30,000	518.0	75,000	100	3.94	0.12	0.08	1.50	0.06	9.80	0.39	2.5

DN4	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2244N-025V00	-025	3.9	5/32	9.6	0.378	75.0	10,875	300.0	43,500	55	2.17	0.19	0.13	2.30	0.09	13.20	0.52	4.0
2380N-025V10	-025	3.9	5/32	9.7	0.382	75.0	10,875	300.0	43,500	55	2.17	0.16	0.11	2.30	0.09	13.00	0.51	4.0
2240D-025V32	-025	4.0	5/32	7.7	0.303	120.0	17,400	300.0	43,500	75	2.95	0.10	0.07	2.30	0.09	9.90	0.39	2.5
2240D-025V32-TC	-025	4.0	5/32	7.7	0.303	120.0	17,400	300.0	43,500	75	2.95	0.10	0.07	2.30	0.09	9.90	0.39	2.5
2380N-025V10W	-025	4.0	5/32	9.7	0.382	140.0	20,300	350.0	50,750	55	2.17	0.16	0.11	2.10	0.08	13.00	0.51	2.5
2248D-025V32	-025	4.0	5/32	7.9	0.311	150.0	21,750	375.0	54,375	75	2.95	0.11	0.07	2.30	0.09	9.80	0.39	2.5
2248D-025V32-TC	-025	4.0	5/32	7.9	0.311	150.0	21,750	375.0	54,375	75	2.95	0.11	0.07	2.30	0.09	9.80	0.39	2.5
2440D-025V32	-025	4.0	5/32	10.4	0.409	220.0	31,900	550.0	79,750	100	3.94	0.21	0.14	1.40	0.06	14.60	0.57	2.5
2440D-025V32-TC	-025	3.9	5/32	10.4	0.409	220.0	31,900	550.0	79,750	100	3.94	0.21	0.14	1.40	0.06	14.60	0.57	2.5
2640D-025V32	-025	3.9	5/32	12.0	0.472	280.0	40,600	700.0	101,500	140	5.51	0.29	0.19	1.90	0.07	15.60	0.61	2.5
2740D-025V16	-025	3.9	5/32	12.0	0.472	300.0	43,500	780.0	113,100	120	4.72	0.40	0.27	1.90	0.07	15.60	0.61	2.6
2448D-025V32-TC	-025	4.0	5/32	9.9	0.39	325.0	47,120	650.0	94,240	100	3.94	0.21	0.14	1.80	0.07	12.80	0.50	2.0

DN5	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2240D-03V32	-03	4.7	3/16	9.5	0.374	100.0	14,500	250.0	36,250	95	3.74	0.13	0.09	2.80	0.11	12.00	0.47	2.5
2240D-03V32-TC	-03	4.8	3/16	9.5	0.374	100.0	14,500	250.0	36,250	95	3.74	0.13	0.09	2.80	0.11	12.00	0.47	2.5
2248D-03V32	-03	4.9	3/16	9.5	0.374	140.0	20,300	350.0	50,750	95	3.74	0.14	0.09	2.8	0.11	12.1	0.48	2.5
2248D-03V32-TC	-03	4.9	3/16	9.5	0.374	140.0	20,300	350.0	50,750	95	3.74	0.14	0.09	2.8	0.11	12.1	0.48	2.5
2440D-03V32	-03	4.8	3/16	11.5	0.453	180.0	26,100	450.0	65,250	130	5.12	0.28	0.19	1.40	0.06	15.30	0.60	2.5
2440D-03V32-TC	-03	4.7	3/16	11.5	0.453	180.0	26,100	450.0	65,250	130	5.12	0.28	0.19	1.40	0.06	15.30	0.60	2.5
2640D-03V32	-03	4.8	3/16	13.0	0.512	250.0	36,250	625.0	90,625	175	6.89	0.41	0.28	2.30	0.09	18.60	0.73	2.5
2740D-03V34	-03	4.8	3/16	13.2	0.520	280.0	40,600	700.0	101,500	200	7.87	0.47	0.32	2.30	0.09	18.80	0.74	2.5
2749D-03V34	-03	4.8	3/16	13.3	0.524	301.0	43,645	700.0	101,500	200	7.87	0.47	0.32	2.30	0.09	18.80	0.74	2.3
2840D-03V34	-03	4.6	3/16	15.0	0.591	400.0	58,000	800.0	116,000	200	7.87	0.66	0.44	2.30	0.09	19.60	0.77	2.0

DN6	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2380N-04V00	-04	6.3	1/4	13.3	0.524	70.0	10,150	280.0	40,600	70	2.76	0.27	0.18	3.60	0.14	18.50	0.73	4.0
2380N-04V10	-04	6.3	1/4	13.3	0.524	70.0	10,150	280.0	40,600	70	2.76	0.27	0.18	3.60	0.14	18.10	0.71	4.0
2380N-04V10-MSHA	-04	6.3	1/4	13.3	0.524	70.0	10,150	280.0	40,600	70	2.76	0.28	0.19	3.60	0.14	18.50	0.73	4.0
2388N-04V00	-04	6.3	1/4	13.3	0.524	80.0	11,600	320.0	46,400	80	3.15	0.30	0.20	3.60	0.14	18.30	0.72	4.0
2240D-04V32	-04	6.3	1/4	11.5	0.453	110.0	15,950	275.0	39,875	110	4.33	0.20	0.13	3.80	0.15	13.60	0.54	2.5
2240D-04V32-TC	-04	6.4	1/4	11.5	0.453	110.0	15,950	275.0	39,875	110	4.33	0.20	0.13	3.80	0.15	13.60	0.54	2.5
2380M-04V30W	-04	6.3	1/4	15.8	0.622	110.0	15,950	280.0	40,600	70	2.76	0.28	0.19	4.00	0.16	17.40	0.69	2.5
2380N-04V00W	-04	6.3	1/4	13.3	0.524	110.0	15,950	280.0	40,600	70	2.76	0.28	0.19	3.80	0.15	18.00	0.71	2.5
2388N-04V12W	-04	6.3	1/4	13.3	0.524	128.0	18,560	320.0	46,400	80	3.15	0.30	0.20	3.60	0.14	18.20	0.72	2.5
2440D-04V32	-04	6.4	1/4	12.5	0.492	164.0	23,780	410.0	59,450	155	6.10	0.33	0.22	2.90	0.11	17.00	0.67	2.5
2440D-04V32-TC	-04	6.3	1/4	12.5	0.492	164.0	23,780	410.0	59,450	155	6.10	0.33	0.22	2.90	0.11	17.00	0.67	2.5

DN8	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2380N-05V00	-05	8.3	5/16	15.8	0.622	62.5	9,060	250.0	36,250	90	3.54	0.35	0.24	4.80	0.19	20.10	0.79	4.0
2240D-05V32	-05	8.0	5/16	13.3	0.524	90.0	13,050	225.0	32,625	120	4.72	0.25	0.17	5.30	0.21	16.10	0.63	2.5
2240D-05V32-TC	-05	8.1	5/16	13.3	0.524	90.0	13,050	225.0	32,625	120	4.72	0.25	0.17	5.30	0.21	16.10	0.63	2.5
2248D-05V32-TC	-05	8.1	5/16	13.4	0.528	100.0	14,500	250.0	36,250	120	4.72	0.25	0.17	4.80	0.19	16.10	0.63	2.5
2380M-05V30W	-05	8.3	5/16	15.8	0.622	100.0	14,500	250.0	36,250	90	3.54	0.35	0.24	5.30	0.21	20.20	0.80	2.5
2380N-05V00W	-05	8.3	5/16	15.8	0.622	100.0	14,500	250.0	36,250	90	3.54	0.35	0.24	4.90	0.19	20.00	0.79	2.5
2440D-05V32	-05	8.1	5/16	15.1	0.594	150.0	21,750	375.0	54,375	175	6.89	0.44	0.30	3.70	0.15	21.00	0.83	2.5
2440D-05V32-TC	-05	8.0	5/16	15.1	0.594	150.0	21,750	375.0	54,375	175	6.89	0.44	0.30	3.70	0.15	21.00	0.83	2.5
2640D-05V32	-05	8.0	5/16	16.9	0.665	210.0	30,450	525.0	76,125	225	8.86	0.68	0.46	3.70	0.15	22.00	0.87	2.5

Part number #	Size		Max. working pressure	Min. burst pressure	Min. bend radius	Weight	Nipple ID	Ferrule OD	DF

DN8 cont.	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2740D-05V34	-05	7.8	5/16	17.2	0.677	250.0	36,250	625.0	90,625	200	7.87	0.83	0.56	3.70	0.15	22.80	0.90	2.5
2741D-05V34/10	-05	7.7	5/16	21.2	0.835	250.0	36,250	625.0	90,625	200	7.87	0.95	0.64	3.70	0.15	22.80	0.90	2.5
2748D-05V34	-05	7.8	5/16	17.3	0.681	280.0	40,600	700.0	101,500	230	9.06	0.83	0.56	3.70	0.15	22.80	0.90	2.5
2748D-05V34/16	-05	7.8	5/16	21.8	0.858	280.0	40,600	700.0	101,500	230	9.06	0.99	0.67	3.70	0.15	22.80	0.90	2.5
2840D-05V36	-05	7.8	5/16	19.5	0.768	300.0	43,500	700.0	101,500	250	9.84	1.10	0.74	3.70	0.15	24.00	0.94	2.3
2841D-05V36/17	-05	7.7	5/16	23.5	0.925	300.0	43,500	700.0	101,500	250	9.84	1.38	0.93	3.70	0.15	24.00	0.94	2.3
2749D-05V34	-05	7.8	5/16	17.3	0.681	301.0	43,645	700.0	101,500	230	9.06	0.83	0.56	3.70	0.15	22.80	0.90	2.3
2848D-05V34	-05	7.8	5/16	19.6	0.772	320.0	46,400	800.0	116,000	280	11.02	1.10	0.74	3.60	0.14	24.00	0.94	2.5
2849D-05V34	-05	7.8	5/16	19.6	0.772	380.0	55,000	800.0	116,000	280	11.02	1.10	0.74	3.60	0.14	24.00	0.94	2.1

DN10	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2244N-06V00	-06	9.8	3/8	18.0	0.709	53.5	7,755	215.0	31,175	120	4.72	0.50	0.34	6.80	0.27	23.80	0.94	4.0
2380N-06V10	-06	9.8	3/8	17.9	0.705	57.5	8,337	230.0	33,350	120	4.72	0.44	0.30	6.80	0.27	23.40	0.92	4.0
2022N-06V15-10K	-06	9.7	3/8	19.0	0.748	69.0	10,000	276.0	40,000	100	3.94	0.24	0.16	5.30	0.21	23.20	0.91	4.0
2580N-06V10-MSHA	-06	9.8	3/8	21.6	0.850	70.0	10,150	280.0	40,600	95	3.74	0.94	0.63	5.50	0.22	28.50	1.12	4.0
2244N-06V10W	-06	9.7	3/8	18.0	0.709	86.0	12,470	215.0	31,175	120	4.72	0.50	0.34	7.00	0.28	23.50	0.93	2.5
2440N-06V30	-06	9.7	3/8	19.4	0.764	140.0	20,300	350.0	50,750	190	7.48	0.73	0.49	5.80	0.23	26.90	1.06	2.5
2580N-06V12	-06	9.8	3/8	21.6	0.850	160.0	23,200	400.0	58,000	95	3.74	0.94	0.63	5.50	0.22	28.50	1.12	2.5

DN12	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2244N-08V10	-08	12.9	1/2	22.7	0.894	55.0	7,975	220.0	31,900	150	5.91	0.80	0.54	8.80	0.35	29.50	1.16	4.0
2380N-08V10	-08	12.9	1/2	22.9	0.902	55.0	7,975	220.0	31,900	150	5.91	0.68	0.46	6.60	0.26	30.00	1,18	4.0
2022N-08V15-10K	-08	12.9	1/2	23.0	0.906	69.0	10,000	276.0	40,000	100	3.94	0.34	0.23	6.50	0.26	30.50	1.20	4.0
2580N-08V10-MSHA	-08	12.9	1/2	25.0	0.984	70.0	10,150	280.0	40,600	110	4.33	1.19	0.80	6.90	0.27	30.00	1.18	4.0
2244N-08V10W	-08	12.8	1/2	22.7	0.894	88.0	12,760	220.0	31,900	150	5.91	0.80	0.54	9.30	0.37	29.00	1.14	2.5
2380N-08V10W	-08	13.0	1/2	22.9	0.900	88.0	12,760	220.0	31,900	150	5.91	0.68	0.46	6.60	0.26	30.20	1.19	2.5
2388N-08V12W	-08	13.0	1/2	23.0	0.906	110.0	15,950	275.0	39,875	100	3.94	0.80	0.54	7.50	0.30	28.50	1.12	2.5
2440N-08V30	-08	12.8	1/2	22.5	0.886	140.0	20,300	350.0	50,750	200	7.87	0.94	0.63	6.70	0.26	30.70	1.21	2.5
2580N-08V12	-08	12.9	1/2	25.0	0.984	140.0	20,300	350.0	50,750	110	4.33	1.19	0.80	7.50	0.30	30.50	1.20	2.5
2640N-08V32	-08	12.8	1/2	24.5	0.965	180.0	26,100	450.0	65,250	290	11.42	1.36	0.91	6.80	0.27	34.00	1.34	2.5
2740D-08V30	-08	12.7	1/2	27.0	1.063	200.0	29,000	500.0	72,500	300	11.81	1.85	1.24	7.50	0.30	31.80	1.25	2.5
2748D-08V30	-08	13.0	1/2	27.1	1.067	250.0	36,250	625.0	90,625	300	11.81	1.85	1.24	7.50	0.30	31.90	1.26	2.5
2840D-08V30	-08	12.7	1/2	29.8	1.173	250.0	36,250	625.0	90,625	350	13.78	2.50	1.68	7.60	0.30	34.20	1.35	2.5
2848D-08V30	-08	13.0	1/2	29.9	1.177	300.0	43,500	625.0	90,625	350	13.78	2.50	1.68	7.50	0.30	33.80	1,33	2.1

DN20	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2440N-12V30	-12	19.6	3/4	30.0	1.181	100.0	14,500	250.0	36,250	250	9.84	1.39	0.93	12.70	0.50	38.50	1.52	2.5
2580N-12V12	-12	19.8	3/4	32.6	1.283	120.0	17,400	300.0	43,500	170	6.69	1.76	1.18	12.50	0.49	39.80	1.57	2.5
2640N-12V32	-12	19.6	3/4	33.0	1.299	140.0	20,300	350.0	50,750	350	13.78	2.10	1.41	12.50	0.49	40.60	1.60	2.5
2648N-12V32	-12	19.8	3/4	33.7	1.327	160.0	23,200	400.0	58,000	350	13.78	2.28	1.53	12.50	0.49	41.10	1.62	2.5

DN25	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2440N-16V30	-16	25.0	1	37.0	1.457	90.0	13,050	225.0	32,625	300	11.81	2.00	1.34	17.20	0.68	45.30	1.78	2.5
2640N-16V32	-16	25.0	1	40.0	1.575	120.0	17,400	300.0	43,500	400	15.75	2.90	1.95	17.30	0.68	49.00	1.93	2.5
2648N-16V32	-16	25.0	1	40.8	1.606	150.0	21,750	375.0	54,375	400	15.75	3.10	2.08	16.50	0.65	49.00	1.93	2.5

DN32	size	mm	inch	mm	inch	MPa	psi	MPa	psi	mm	inch	kg/m	lbs/ft	mm	inch	mm	inch	
2244N-20V30	-20	31.8	1 1/4	44.0	1.732	27.5	3,990	110.0	15,950	400	15.75	1.83	1.23	25.30	1.00	50.00	1.97	4.0
2380N-20V30	-20	31.8	1 1/4	44.0	1.732	27.5	3,990	110.0	15,950	400	15.75	1.83	1.23	24.90	0.98	49.40	1.94	4.0

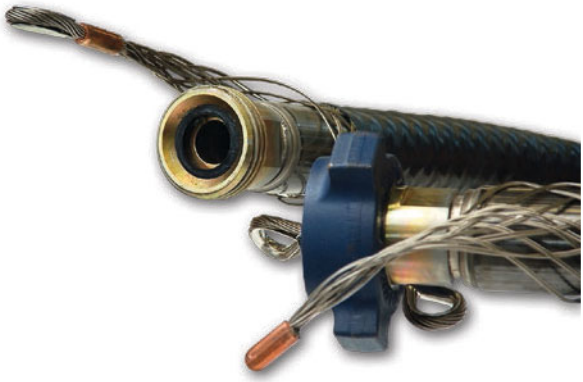
General remark on column **DF** in the tables:
Ultra high pressure hoses are normally used with a design factor of 2.5:1 according to ISO 7751.
For hydraulic hoses, a design factor of 4:1 applies.

Chapter F

*The **Black Eagle** Hose Family for Well Services*

The ***Black Eagle*** hose family for well services

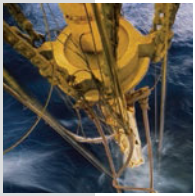
The ***Black Eagle*** family is a range of multispiral, wire reinforced hoses specifically designed for the oil and gas market, covering applications in offshore projects and land operations.
For many years this range of hoses has enabled our customers to optimize well production by performing operations 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 core tube – either seamless PA11 or fluoropolymer based
- 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

Construction

Polyflex Black Eagle hoses are designed for oilfield applications. For each application different demands need to be considered regarding:

– Composition of fluids
– Temperatures and pressures
– Short term pressure fluctuations
– Static and dynamic loads
– Safety requirements and standards

To be able to cover these requirements the construction of Black Eagle hose has the following functionality:

Thermoplastic core tube

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 available materials are:

– 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.
– Fluoropolymer designed for use in chemical injection systems at high temperature levels, the tubing shows low permeation rates and an excellent chemical resistance. Proven to handle methanol at 100°C and 15,000 psi working pressure.

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. 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™ 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.

Hose overview

Black Eagle Light

#						Bend radius	Max. length		Collapse pressure
	size *DN*	inch *mm*	inch *mm*	psi *MPa*	psi *MPa*	inch *mm*	ft *m*	lbs/ft *kg/m*	psi *MPa*
2240N-32V10	-32 *50*	2 *51*	2.70 *68.5*	3,000 *20.7*	12,000 *82.5*	19.7 *500*	3,281 *1000*	2.96 *4.40*	– –
2248N-32V10	-32 *50*	2 *51*	2.70 *68.5*	5,000 *34.5*	12,500 *86.2*	19.7 *500*	3,281 *1000*	2.96 *4.40*	– –

Black Eagle

	size *DN*	inch *mm*	inch *mm*	psi *MPa*	psi *MPa*	inch *mm*	ft *m*	lbs/ft *kg/m*	psi *MPa*
2448N-20V80	-20 *32*	1 1/4 *32.2*	2.19 *55.5*	10,000 *69.0*	25,000 *172.5*	15.8 *400*	4,921 *1500*	2.55 *3.80*	827 *5.7*
2640N-24V80	-24 *40*	1 1/2 *38.0*	2.78 *70.5*	10,000 *69.0*	33,350 *230.0*	19.7 *500*	3,281 *1000*	4.84 *7.20*	950 *6.5*
2640N-24V80-15K	-24 *40*	1 1/2 *38.0*	2.60 *66.0*	15,000 *103.5*	33,750 *233.0*	19.7 *500*	3,281 *1000*	4.37 *6.50*	957 *6.6*
2448N-32V80	-32 *50*	2 *50.5*	3.17 *80.5*	5,000 *34.5*	20,000 *138.0*	19.7 *500*	3,281 *1000*	5.71 *8.50*	710 *4.9*
2580N-32V80	-32 *50*	2 *50.5*	3.33 *84.5*	10,000 *69.0*	25,000 *172.5*	31.5 *800*	3,281 *1000*	6.32 *9.40*	826 *5.7*
2648N-32V80	-32 *50*	2 *50.5*	3.39 *86.0*	15,000 *103.5*	33,750 *233.0*	31.5 *800*	2,625 *800*	8.13 *12.10*	870 *6.0*
2240N-48V80	-48 *78*	3 *75.0*	4.49 *114.0*	5,000 *34.5*	12,500 *86.2*	40.0 *1000*	1,148 *350*	7.73 *11.50*	– –
2440N-48V80	-48 *78*	3 *75.0*	4.80 *122.0*	10,000 *69.0*	20,000 *138.0*	43.3 *1100*	984 *300*	12.57 *18.70*	957 *6.6*
2640N-48V80	-48 *78*	3 *75.0*	5.12 *130.0*	15,000 *103.5*	33,750 *233.0*	47.2 *1200*	820 *250*	18.48 *27.50*	1,160 *8.0*

Golden Eagle

	size *DN*	inch *mm*	inch *mm*	psi *MPa*	psi *MPa*	inch *mm*	ft *m*	lbs/ft *kg/m*	psi *MPa*
2640M-24V88	-24 *40*	1 1/2 *38.0*	2.78 *70.5*	10,000* *69.0**	33,350 *230.0*	19.7 *500*	1,970 *600*	4.84 *7.20*	950 *6.5*
2448M-32V88	-32 *50*	2 *51.0*	3.23 *82.0*	5,000 *34.5*	20,000 *138.0*	19.7 *500*	1,970 *600*	5.71 *8.50*	710 *4.9*
2580M-32V88	-32 *50*	2 *51.0*	3.33 *84.5*	10,000* *69.0**	25,000 *172.5*	31.5 *800*	1,970 *600*	6.32 *9.40*	825 *5.7*

Hose specifications

2" – 3,000 psi ***Black Eagle*** Light Hose with inner ColorGard™ 2240N-32V10

CONSTRUCTION

Core tube : PA11 with inner ColorGard™
Pressure reinforcement : 2 layers of high tensile steel wire

Cover : Extra thick TPU sheath
Colour : Black

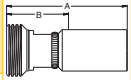
TEMPERATURE RANGE -40°C up to +100°C / -40°F up to 212°F

2240N-32V10

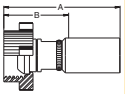
ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
51	2	68.5	2.70	20.7	3,000	31.1	4,500	82.7	12,000	500	19.7	1,000	4.4	2.96	–	–

Available Onshore Fittings:

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

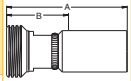
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNS6-32-32	4 1/8"-3 ACME	190.0	7.50	94.4	3.80	103.5	15,000	

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

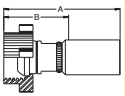
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HES6-32-32-FLAT	4 1/8"-3 ACME	207.0	8.15	113.0	4.45	103.5	15,000	

Available Offshore Fittings*:

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNS6-32-32-SC	4 1/8"-3 ACME	190.0	7.50	94.4	3.80	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HES6-32-32-FLAT-SC	4 1/8"-3 ACME	207.0	8.15	113.0	4.45	103.5	15,000	

* Fittings must not be used subsea. For subsea applications please use the products page F-8 et sqq. in this chapter.

2" – 5,000 psi ***Black Eagle*** Light Hose with inner ColorGard™ 2248N-32V10

CONSTRUCTION

Core tube : PA11 with inner ColorGard™
Pressure reinforcement : 2 layers of high tensile steel wire

Cover : Extra thick TPU sheath
Colour : Black

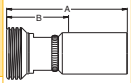
TEMPERATURE RANGE -40°C up to +100°C / -40°F up to 212°F

2248N-32V10

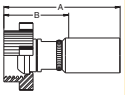
ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
51	2	68.5	2.70	34.5	5,000	51.8	7,500	86.2	12,500	500	19.7	1,000	4.4	2.96	–	–

Available Onshore Fittings:

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

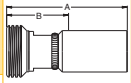
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNS6-32-32	4 1/8"-3 ACME	190.0	7.50	94.4	3.80	103.5	15,000	

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

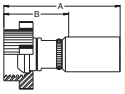
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HES6-32-32-FLAT	4 1/8"-3 ACME	207.0	8.15	113.0	4.45	103.5	15,000	

Available Offshore Fittings*:

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNS6-32-32-SC	4 1/8"-3 ACME	190.0	7.50	94.4	3.80	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HES6-32-32-FLAT-SC	4 1/8"-3 ACME	207.0	8.15	113.0	4.45	103.5	15,000	

* Fittings must not be used subsea. For subsea applications please use the products page F-8 et sqq. in this chapter.

1 1/4" – 10,000 psi ***Black Eagle*** Hose with ColorGard™ 2448N-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

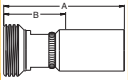
TEMPERATURE RANGE -40°C up to +100°C / -40°F up to 212°F

2448N-20V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
32.2	1 1/4	55.5	2.19	69.0	10,000	103.5	15,000	172.5	25,000	400	15.8	1,500	3.8	2.55	6.0	870

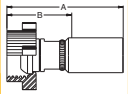
1502 Hammerlug union female

Material: Special Steel and Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		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	

1502 Hammerlug union male

Material: Special Steel and Stainless Steel Materials

Part no.	Thread size	A		B		Working pressure		
		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	

1 1/2" – 10,000 psi ***Black Eagle*** Hose with ColorGard™ 2640N-24V80

CONSTRUCTION

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

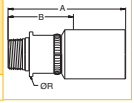
Cover : Extra thick dual layer TPU sheath
Colour : ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

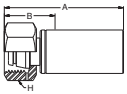
2640N-24V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
38.0	1 1/2	70.5	2.78	69.0	10,000	103.5	15,000	230.0	33,350	500	19.7	1,000	7.20	4.84	6.5	950

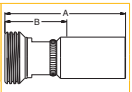
NPT Male fitting — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		ØR		Working pressure		
		mm	inch	mm	inch	mm	inch	MPa	psi	
6015X-32-24-TC	2" NPT	231.0	9.09	107.0	4.21	85.0	3.35	69.0	10,000	

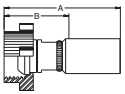
Metric swivel fitting with O-ring — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1C95X-38-24COSK-TC	M52 x 2	143.0	5.63	50.0	1.97	65	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

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

Part no.	Thread size	A		B		Working pressure		
		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	

1 1/2" – 15,000 psi ***Black Eagle*** Hose with ColorGard™ 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

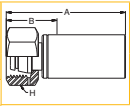
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

2640N-24V80-15K

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
38.0	1 1/2	66.0	2.60	103.5	15,000	155.3	22,500	233.0	33,750	500	19.7	1,000	6.50	4.37	6.6	957

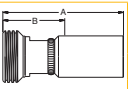
Metric swivel fitting with O-ring **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Wrench size H	Working pressure	
		mm	inch	mm	inch	mm	MPa	psi
1C95X-38-24COSK-15K	M52 x 2	143.0	5.63	50.0	1.97	65	103.5	15,000



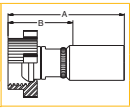
1502 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure	
		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



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

Part no.	Thread size	A		B		Working pressure	
		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



2" – 5,000 psi ***Black Eagle*** Hose with ColorGard™ 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

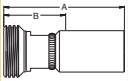
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

CERTIFICATES DNV Type approval (API 7K and API 17J) with Fitting series BL

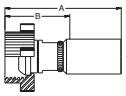
2448N-32V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
50.5	2	80.5	3.17	34.5	5,000	51.8	7,500	138.0	20,000	500	19.7	1,000	8.50	5.71	4.9	710

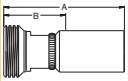
602 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
6HN5X-32-32-602TC	3 13/16" - 3 ACME	245.1	9.65	106.0	4.17	34.5	5,000	

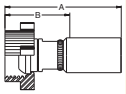
602 Hammerlug union male **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
6HE5X-32-32-602FLATTC	3 13/16" - 3 ACME	280.0	11.0	141.0	5.55	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	
6HN5X-32-32-TC	4 1/8"-3 ACME	243.0	9.57	106.0	4.17	103.5	15,000	

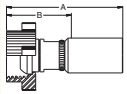
1502 Hammerlug union male **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		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	
6HE5X-32-32-FLATTC	4 1/8"-3 ACME	292.0	11.50	155.0	6.10	103.5	15,000	

2" – 5,000 psi ***Black Eagle*** Hose with ColorGard™ 2448N-32V80

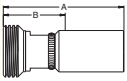
1502 Hammerlug union male, segmented — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure	
		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



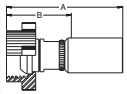
2202 Hammerlug union female — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32-2202	3 5/8-5 ACME – 2G	265.0	10.43	119.0	4.68	103.5	15,000



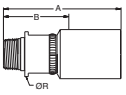
2202 Hammerlug union male — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT-2202	3 5/8-5 ACME – 2G	290.0	11.42	144.0	5.67	103.5	15,000



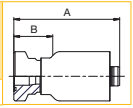
NPT Male fitting — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		ØR		Working pressure	
		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	69.0	10,000
6015X-32-32	2" NPT	244.0	9.61	107.0	4.22	82.5	3.25	69.0	10,000



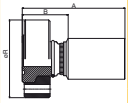
API Hub — **Material: Special Steel and Stainless Steel Materials**

Part no.	API size	A		B		Seal	Working pressure	
		mm	inch	mm	inch		MPa	psi
1HBBL-29-32-10K	1 13/16" 10000 psi	275.0	10.8	129	5.08	BX151	69.0	10,000



API flange, swivel — **Material: Special Steel and Stainless Steel Materials**

Part no.	API size	A		B		ØR		Seal	Working pressure	
		mm	inch	mm	inch	mm	inch		MPa	psi
18KBL-33-32-API17DSV-10K	2-1/16" 10000psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000
68K5X-29-32-API17DSV	1-13/16" 10000psi	250.0	9.84	113.2	4.46	185.0	7.28	BX151	69.0	10,000



2" – 10,000 psi ***Black Eagle*** Hose with ColorGard™ 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

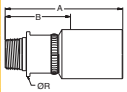
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

CERTIFICATES DNV Type approval (API 7K and API 17J) with Fitting series BL
ABS Product Design Assessment (PDA) Certificate 13-HS1036876-PDA

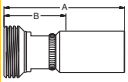
2580N-32V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
50.5	2	84.5	3.33	69.0	10,000	103.5	15,000	172.5	25,000	800	31.5	1,000	9.40	6.32	5.7	825

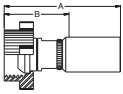
NPT Male fitting — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		ØR		Working pressure		
		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	69.0	10,000	
6015X-32-32	2" NPT	244.0	9.61	107.0	4.22	82.5	3.25	69.0	10,000	

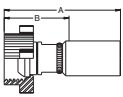
1502 Hammerlug union female — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		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	
6HN5X-32-32-TC	4 1/8"-3 ACME	243.0	9.57	106.0	4.17	103.5	15,000	

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

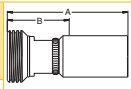
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-FLAT	4 1/8"-3 ACME	278.3	10.9	132,3	5,21	103.5	15,000	
6HE5X-32-32-FLATTC	4 1/8"-3 ACME	292.0	11.50	155.0	6.10	103.5	15,000	

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

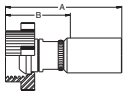
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-SEG	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000	

2" – 10,000 psi ***Black Eagle*** Hose with ColorGard™ 2580N-32V80

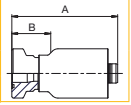
2202 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNBL-32-32-2202	3 5/8-5 ACME – 2G	265.0	10.43	119.0	4.68	103.5	15,000	

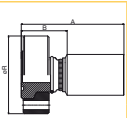
2202 Hammerlug union male **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-FLAT-2202	3 5/8-5 ACME – 2G	290.0	11.42	144.0	5.67	103.5	15,000	

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

Part no.	API size	A		B		Seal	Working pressure		
		mm	inch	mm	inch		MPa	psi	
1HBBL-29-32-10K	1 13/16" 10000 psi	275.0	10.8	129	5,08	BX151	69.0	10,000	

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

Part no.	API size	A		B		ØR		Seal	Working pressure		
		mm	inch	mm	inch	mm	inch		MPa	psi	
18KBL-33-32-API17DSV-10K	2-1/16" 10000psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000	
68K5X-29-32-API17DSV	1-13/16" 10000psi	250.0	9.84	113.2	4.46	185.0	7.28	BX151	69.0	10,000	

2"

2" – 15,000 psi ***Black Eagle*** Hose with ColorGard™ 2648N-32V80

CONSTRUCTION

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

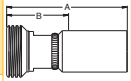
Cover : Extra thick dual layer TPU sheath
Colour : ColorGard™ – red inner sheath and black outer sheath

TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

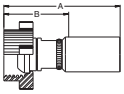
2648N-32V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
50.5	2	86.0	3.39	103.5	15,000	155.3	22,500	233.0	33,750	800	31.0	800	12.1	8.13	6.0	870

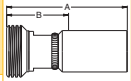
1502 Hammerlug union female — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		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	

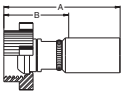
1502 Hammerlug union male — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		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	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNCX-32-32-2202	3 5/8-5 ACME – 2G	265.0	10.4	99.0	3.90	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HECX-32-32-FLAT-2202	3 5/8-5 ACME – 2G	290.0	11.4	124.0	4.88	103.5	15,000	

3" – 5,000 psi ***Black Eagle*** Hose with ColorGard™ 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

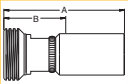
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

CERTIFICATES DNV Type approval (API 7K and API 17J) with Fitting series BL

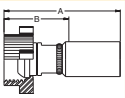
2240N-48V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
75.0	3	114.0	4.49	34.5	5,000	51.8	7,500	86.2	12,500	1000	40.0	350	11.50	7.73	–	–

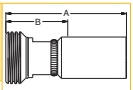
1502 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNTX-48-48	5 3/8" - 3 1/2 - ACME	350	13.78	184	7.25	103.5	15,000	

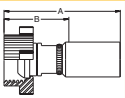
1502 Hammerlug union male **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HETX-48-48-FLAT	5 3/8" - 3 1/2 - ACME	378	14.88	212	8.35	103.5	15,000	

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

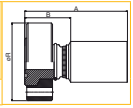
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNTX-48-48-602	5 3/8" - 3 ACME	350	13.78	184	7.25	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HETX-48-48-FLAT-602	5 3/8" - 3 ACME	372	14.65	206	8.11	34.5	5,000	

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

Part no.	API size	A		B		ØR		Seal	Working pressure	
		mm	inch	mm	inch	mm	inch		MPa	psi
18KTX-65-48-API17DSV-10K-L	4 1/16" 10,000 psi	427	16.81	261	10.28	315	12.4	BX155	69	10000



3" – 10,000 psi ***Black Eagle*** Hose with ColorGard™ 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

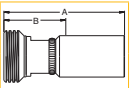
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

CERTIFICATES DNV Type approval (API 7K and API 17J) with Fitting series BL

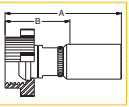
2440N-48V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
75.0	3	122.0	4.80	69.0	10,000	103.5	15,000	138.0	20,000	1100	43.3	300	18.70	12.57	6.6	957

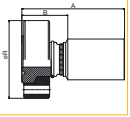
1502 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNLX-48-48	5 3/8 - 3 1/2 ACME	405.0	15.95	194.0	7.64	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

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

Part no.	API size	A		B		ØR		Seal	Working pressure		
		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	12.4	BX155	69.0	10,000	

3" – 15,000 psi ***Black Eagle*** Hose with ColorGard™ 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

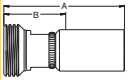
TEMPERATURE RANGE -40°C up to +70°C / -40°F up to 158°F

CERTIFICATES DNV Type approval (API 7K and API 17J) with Fitting series BL

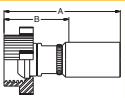
2640N-48V80

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
75.0	3	130.0	5.12	103.5	15,000	155.3	22,500	233.0	33,750	1200	47.2	250	27.50	18.48	8.0	1,160

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HN5X-48-48	5 3/8 - 3 1/2 ACME	405.0	15.95	194.0	7.64	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HE5X-48-48-FLAT	5 3/8 - 3 1/2 ACME	395.0	15.55	184.0	7.24	103.5	15,000	

1 1/2" – 10,000 psi ***Golden Eagle*** Hose with ColorGard™ 2640M-24V88

CONSTRUCTION

Core tube : Fluorpolymer based inner core
Pressure reinforcement : 6 layers of high tensile steel wire

Cover : Extra thick dual layer TPU sheath
Colour : ColorGard™ – red inner sheath and golden outer sheath

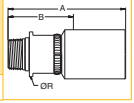
TEMPERATURE RANGE

-40°C up to +70°C / -40°F up to 158°F,
for higher temperature requirements please contact Polyflex Division

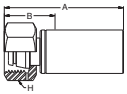
2640M-24V88

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
38.0	1 1/2	70.5	2.78	69.0	10,000	103.5	15,000	230.0	33,350	500	19.7	600	7.20	4.84	6.5	950

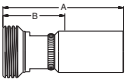
NPT Male fitting — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		ØR		Working pressure		
		mm	inch	mm	inch	mm	inch	MPa	psi	
6015X-32-24-TC	2" NPT	231.0	9.09	107.0	4.21	85.0	3.35	69.0	10,000	

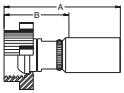
Metric swivel fitting with O-ring — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		H	Working pressure		
		mm	inch	mm	inch	mm	MPa	psi	
1C95X-38-24COSK-TC	M52 x 2	143.0	5.63	50.0	1.97	65	103.5	15,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

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

Part no.	Thread size	A		B		Working pressure		
		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	

2" – 5,000 psi ***Golden Eagle*** Hose with ColorGard™
2448M-32V88

CONSTRUCTION

Core tube : Fluorpolymer based inner core
Pressure reinforcement : 4 layers of high tensile steel wire

Cover : Extra thick dual layer TPU sheath
Colour : ColorGard™ – red inner sheath and golden outer sheath

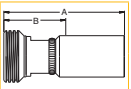
TEMPERATURE RANGE

-40°C up to +70°C / -40°F up to 158°F,
for higher temperature requirements please contact Polyflex Division

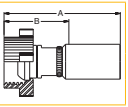
2448M-32V88

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
50.5	2	82.0	3.23	34.5	5,000	51.8	7,500	138.0	20,000	500	19.7	600	8.50	5.71	4.9	710

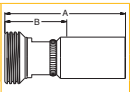
602 Hammerlug union female — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
6HN5X-32-32-602TC	3 13/16" - 3 ACME	245.1	9.65	106.0	4.17	34.5	5,000	

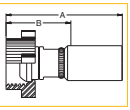
602 Hammerlug union male — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
6HE5X-32-32-602FLATTC	3 13/16" - 3 ACME	280.0	11.0	141.0	5.55	34.5	5,000	

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

Part no.	Thread size	A		B		Working pressure		
		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	

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

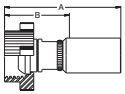
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-FLAT	4 1/8"-3 ACME	278.3	10.9	132.3	5.21	103.5	15,000	

2" – 5,000 psi ***Golden Eagle*** Hose with ColorGard™ 2448M-32V88

1502 Hammerlug union male, segmented

Material: Special Steel and Stainless Steel Materials

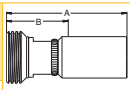
Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-SEG	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000



2202 Hammerlug union female

Material: Special Steel and Stainless Steel Materials

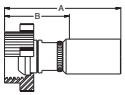
Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1HNBL-32-32-2202	3 5/8-5 ACME – 2G	265.0	10.43	119.0	4.68	103.5	15,000



2202 Hammerlug union male

Material: Special Steel and Stainless Steel Materials

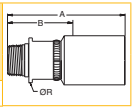
Part no.	Thread size	A		B		Working pressure	
		mm	inch	mm	inch	MPa	psi
1HEBL-32-32-FLAT-2202	3 5/8-5 ACME – 2G	290.0	11.42	144.0	5.67	103.5	15,000



NPT Male fitting

Material: Special Steel and Stainless Steel Materials

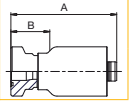
Part no.	Thread size	A		B		ØR		Working pressure	
		mm	inch	mm	inch	mm	inch	MPa	psi
101BL-32-32	2" NPT	275.0	10.8	129.0	5.08	83.0	3.27	69.0	10,000



API Hub

Material: Special Steel and Stainless Steel Materials

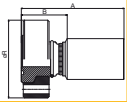
Part no.	API size	A		B		Seal	Working pressure	
		mm	inch	mm	inch		MPa	psi
1HBBL-29-32-10K	1 13/16" 10000 psi	275.0	10.8	129	5,08	BX151	69.0	10,000



API flange, swivel

Material: Special Steel and Stainless Steel Materials

Part no.	API size	A		B		ØR		Seal	Working pressure	
		mm	inch	mm	inch	mm	inch		MPa	psi
18KBL-33-32-API17DSV-10K	2-1/16" 10000psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000



2" – 10,000 psi ***Golden Eagle*** Hose with ColorGard™
2580M-32V88

CONSTRUCTION

Core tube	:	Fluorpolymer based inner core
Pressure reinforcement	:	6 layers of high tensile steel wire
Cover	:	Extra thick dual layer TPU sheath
Colour	:	ColorGard™ – red inner sheath and golden outer sheath

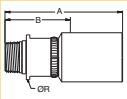
TEMPERATURE RANGE

-40°C up to +70°C / -40°F up to 158°F,
for higher temperature requirements please contact Polyflex Division

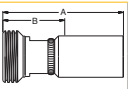
2580M-32V88

ID		OD		Max. working pressure		Test pressure		Min. burst pressure		Min. bend radius		Max. length	Weight		Collapse pressure	
mm	inch	mm	inch	MPa	psi	MPa	psi	MPa	psi	mm	inch	m	kg/m	lbs/ft	MPa	psi
50.5	2	84.5	3.33	69.0	10,000	107.5	15,000	172.5	25,000	800	31.5	600	9.40	6.32	5.7	825

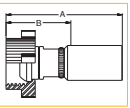
NPT Male fitting — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		ØR		Working pressure		
		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	69.0	10,000	

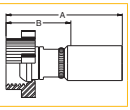
1502 Hammerlug union female — **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		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	

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

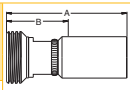
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-FLAT	4 1/8"-3 ACME	278.3	10.9	132.3	5.21	103.5	15,000	

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

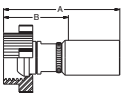
Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-SEG	4 1/8" - 3 ACME	278.3	10.9	132.3	5.21	103.5	15,000	

2" – 10,000 psi ***Golden Eagle*** Hose with ColorGard™ 2580M-32V88

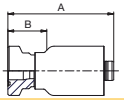
2202 Hammerlug union female **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HNBL-32-32-2202	3 5/8-5 ACME – 2G	265.0	10.43	119.0	4.68	103.5	15,000	

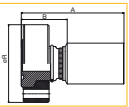
2202 Hammerlug union male **Material: Special Steel and Stainless Steel Materials**

Part no.	Thread size	A		B		Working pressure		
		mm	inch	mm	inch	MPa	psi	
1HEBL-32-32-FLAT-2202	3 5/8-5 ACME – 2G	290.0	11.42	144.0	5.67	103.5	15,000	

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

Part no.	API size	A		B		Seal	Working pressure		
		mm	inch	mm	inch		MPa	psi	
1HBBL-29-32-10K	1 13/16" 10000 psi	275.0	10.8	129	5,08	BX151	69.0	10,000	

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

Part no.	API size	A		B		ØR		Seal	Working pressure		
		mm	inch	mm	inch	mm	inch		MPa	psi	
18KBL-33-32-API17DSV-10K	2-1/16" 10000psi	275.0	10.83	129.0	5.08	210.0	8.27	BX152	69.0	10,000	

Notes

Chapter G

Hose Umbilicals

Overview

polyflex offers production and design capacity to manufacture offshore umbilicals and jumpers.
Based on our hose portfolio customers can get customized products with high resistant core tubes capable to withstand aggressive fluids and gases often encountered in offshore applications.

Application

- Jumpers
- Flying Leads
- Electro/Hydraulic Workover
- Chemical Injection
- Pipeline Testing
- Lubrication
- BOP Controls

Features

- Designed according customer requirements like number and pressure rating of lines
- Made from original ***polyflex*** high pressure hoses
- Optional electric cables, fibre optics, tension members or other features

Benefits

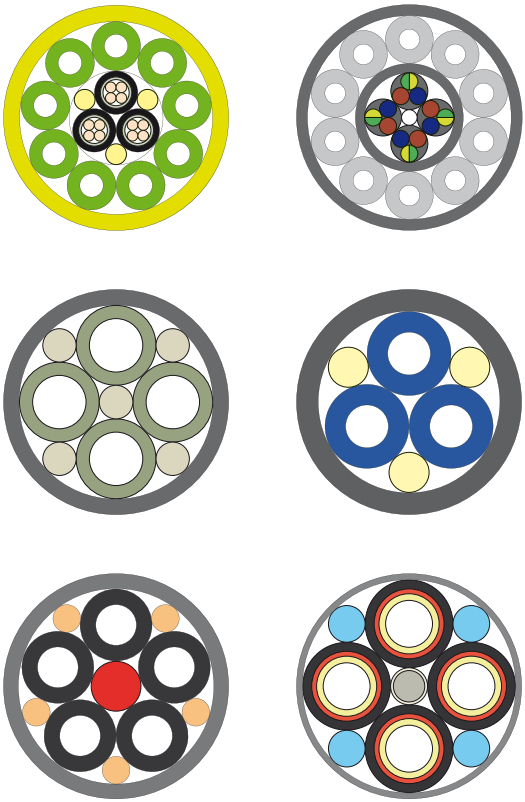
- Customized solutions
- Reliable manufacturing
- High quality hoses suitable for usage in umbilicals

Typical bundle configurations

We offer a broad range of bundle configurations:

- 12 carriers + center filling hose
- max. hose OD 32 mm
- max. OD for guiding 80 mm
- max. OD extrusion 140 mm
- max. umbilical length between 1400 m (1/4” hoses) and 300 m (3/4” hoses)

The figures below show some typical examples.



Chapter H

Workshop Equipment

Parker Polyflex guidelines for hose assembly and workshop certification

Information on workshop equipment, hose assembly, and workshop certification is contained in the following manual:

“Parker Polyflex Guidelines for Hose Assembly and Workshop Certification”.

Please ask your local Parker distributor.

Chapter I

Accessories & Tooling

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

Consult Parker for more detailed information.

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REVISED / CHECKED M. Levin 08. Oct. 2014	**Parker Hannifin Corporation Polyflex Division Europe**	REVISION M
SUBJECT: **Instructions for handling, maintenance, inspection and repair of Parker Polyflex 1-3" Large bore hoses and assemblies used in oil & gas applications**		PAGE: 1 of 16

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1 Scope

This engineering standard is focused mainly on larger bore (1"-3") long length Parker Polyflex multispiral wire reinforced hoses used in well service operations. It is also relevant for shorter length hose assembly applications such as chemical injection, stimulation, cementing, flexible and testing lines. It provides information on recommended practices for handling, maintenance, inspection, and repair of hose assemblies.

Deployed as single line hoses or used in bundles, these hoses are available in sizes from 3/16" to 3" inside diameter and working pressures up to 1035 bar / 15,000 psi and continuous lengths greater than 3000 m depending on size.

Hose can be self-supporting, clamped, supported by a guide wire or strengthened with an additional tensile reinforcement.

Parker Polyflex have certified several specialized testing facilities and their personnel to assemble, inspect, test and repair hose assemblies. Hose management is an essential part of the service they provide.

SAE J1273, ISO 17165-2, API RP 17B and ISO 13628 are excellent documents providing general guidelines for selection, routing, fabrication, installation, replacement, maintenance, and storage of hose and hose assemblies. Together with Parker Polyflex field experience, they provide the basis for the recommendations included in this engineering standard.

2 Hose Features

Parker Polyflex Oil & Gas multispiral wire reinforced hoses have been used for over 30 years in both onshore and offshore applications. They are proven to be tough, easy to handle, lightweight compared with alternatives and offer excellent chemical resistance, integral external collapse, ozone and microbiological resistance.

In extreme, abrasive applications, Polyflex offers an additional extra thick ColorGard™ sheath incorporating a dual colour "early warning" safety feature.

2.1 Design life

Parker Polyflex large bore hoses are designed for prolonged service life. The prerequisite for this design life is that the hoses are used within the operating limits, stated in the hose specification sheets. These limits include, but are not limited to working pressure, number of pressure cycles, temperature range and bending radius.

In order to ensure a long service life, Parker Polyflex incorporates a combination of raw material suppliers testing and data, fatigue testing, accelerated and specialized testing into the design of the hoses.

Obviously, due to many other factors, affecting the service life, it is not possible to predict or guarantee service life of each individual hose assembly.

These factors may include, but are not limited to mechanical loads (bending, torsion, tensile loads), frequent changes of temperature within the specified range, improper handling and storage, chemical attack, abrasive fluids, hose damage etc.

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3 Storage

Hoses and hose assemblies should be stored, wherever possible, empty and protected from the elements in a stress free condition either straight, in a coil, or on a drum. The inside diameter of the coil or drum should not be less than two times the minimum bend radius. If a hose assembly has been used with chemicals, it shall be flushed with water before putting it to storage (see also P.5.4).

Example: hose with minimum bend radius 800 mm; minimum size of drum core/belly should be 2 × 800 mm = 1,6 m.

The fittings should be capped to prevent ingress of dirt or other contamination and any exposed threads protected from damage.

Storage of hoses and hose assemblies should take into account potential exposure to corrosive liquids, rodents, insects, UV light and high temperatures. Storage temperatures should be in the range of hose operating temperatures.

4 Handling

4.1 Personnel

Only trained personnel shall handle and connect hose assemblies.

Incorrect handling will seriously reduce the lifetime of the hose and could cause dramatic failure. The use of wire rope or chains directly against the outer cover should be avoided, and the routing of the assembly should ensure the hose is never bent below its minimum bend radius or twisted. Special attention should be paid to the area at the back of the fitting.

4.2 Spooling and reeling

When reeling long length hose onto a drum it is essential to minimize the tension on the hose. Proof testing of a "stretched" hose while on the drum can cause premature failure of the hose or damage to the drum.

When operating from a vessel it is recommended that the hose is pressurized during the subsea deployment and retrieving operation. This recommendation is based on the fact that during these operations the hose is always subjected to tensile force, at least due to its own weight. Tensile forces will result in hose elongation and possible deformation.

This is significantly reduced by pressurizing the hose, especially important if it is planned to proof test the hose assembly while coiled on a drum or winch. Deployment and retrieving pressures up to 200 bar had been found to be sufficient but this depends on the hose type and local safety regulations. For recommendations of pressure / load values see Appendix 2.

When re-spooling a long length assembly, the pay-off and take-up drums should be inline and a minimum of 10m apart. Depending on how the hose was delivered or re-spooled, the hose shall be spooled from either the top of the pay-off drum onto the top of the take-up drum or from bottom to bottom. See Fig. 1 and Fig. 2. These recommendations minimize the possibility of inducing twist into the hose.

When re-spooling a new hose that has a polyurethane cover, it is recommended to lubricate the hose cover with soapy water or other suitable lubricant so the hose will traverse more easily and position itself correctly onto the take-up drum/winch. See Fig. 1.

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It is also recommended, when deploying the hose though a moon pool or over the side of a vessel, to align the hose routing in the same manner. See Fig. 2.

Note:
When first supplied, the layline printed on the hose is normally straight and visible. Twisting of the layline is an early indication of poor alignment or high tensile loading.

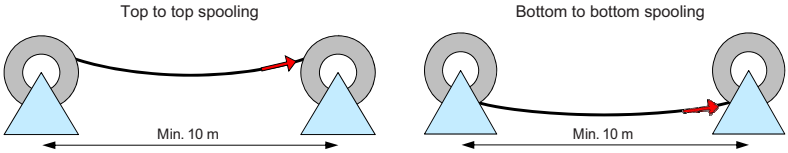

Fig. 1 Hose re-spooling

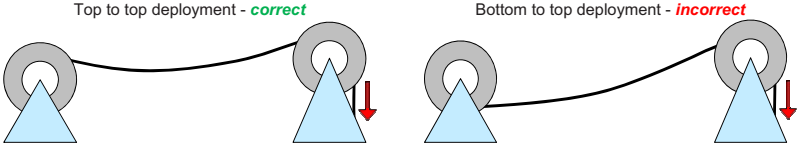

Fig. 2 Hose deployment

5 Possible causes of premature failure, and suggested preventative measures.

5.1 Bending the hose below the minimum bend radius

This is most likely to occur if the end fitting is not supported during lifting, a support sling wrongly positioned, or the hose being pulled around a tight corner. It is important that hose should not be bent close to the end fittings. The straight section should be at least two times the outside diameter of the hose before it starts to bend.

Bend restrictors, lifting clamps and containment grips are useful accessories that help to reduce this type of handling problem.

5.2 Damage of the hose cover

Polyflex ColorGard™ extra thick, dual colour cover significantly reduces the risk of exposing the reinforcing wires. If the outer black cover has been abraded to the point that the "early warning" red inner cover can be seen, but the wire reinforcement has not been exposed, the assembly is still fit for use but shall be scheduled for inspection. Alternatively, a repair according to section 8.1.1 may be considered.

If the hose cover is damaged to the extent that the reinforcing wires are exposed, localized corrosion of the wires could occur causing a progressive reduction in burst pressure, and ultimately failure.

If used subsea, a damaged cover will allow water to ingress into the carcass of the hose and could cause the corrosion of the wire reinforcement and/or collapse of the core tube.

It is strongly recommended to immediately remove from service any hose assembly with exposed wires. See also section 8.1.2 for details. A Parker Polyflex specialized testing facility should be contacted and the procedure described in section 7.1.shall be followed.

5.3 Kinked, crushed, or twisted hose

If a visible distortion of the hose occurred (kinked, crushed, twisted) it will have an impact on the function and lifetime of the hose. Reduction of burst pressure and external collapse pressure could result in a sudden failure of the hose assembly. This distortion can be caused by a high tensile load or other factors.

Maintaining pressure in the hose will significantly reduce the risk of such distortion occurring.

5.4 Chemical attack or ageing of the core tube

The use of chemicals at differing concentrations and/or temperatures can have a major effect on the life of a hose assembly and may cause dramatic hose failure. It is important to reference the chemical compatibility chart in the appendix of this document and keep the temperatures and concentrations within the specified limits.

Note:
It is critical that the hose is thoroughly flushed with water after each use.

If the hose is not flushed, the concentration of the fluid that is left in the assembly can increase and cause localised failure of the core tube.

5.5 Damage or corrosion of the end fitting

Incorrect handling or insufficient flushing after use could result in damage or corrosion of the end fitting. This will make connection difficult, probably cause leakage, and could result in sudden failure of the connection.

5.6 Flow rates

Depending on the abrasive properties of the fluid, high flow rates can result in erosion in the core tube or in the bore of the end fitting.

The maximum recommended flow rate is 15 m/sec, although much higher rates have been used short term with non abrasive fluids.

Note:
The condition of the core tube and end fittings are checked as part of the full inspection.

6 Routine in-field Pre Job and Post Job Maintenance, Inspection and testing

6.1 Routine in-field Pre Job Maintenance, Inspection and testing

The operator shall visually inspect the hose assembly during every deployment. If any of the following conditions are found the hose shall be removed from service and scheduled for inspection.

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- Damage to the outer cover which exposes the reinforcing wires.
- Kinked, crushed, or twisted hose.
- Reduction in the outside diameter of the hose.
- Blistered, soft, degraded, or loose outer cover.
- Cracked, damaged, or badly corroded fittings.

If in doubt, contact the original supplier or a Parker Polyflex specialized testing facility for advice.

Regular in-field pressure testing, (normally required after attaching connectors prior to hose deployment), should be restricted to a test pressure of 1,1× actual operating pressure, or the maximum stated working pressure of the hose assembly.

Prior to all pressure testing it must be ensured that all air is purged out of the hose. Failure to do so may result in core tube failure. To control that all air is removed it is sufficient to observe that the fluid flow leaving the hose is steady and constant for minimum of 5 minutes without any air bubbles or pulsations.

6.2 Routine in-field Post Job Maintenance, Inspection and testing

On completion of each operation both inside and outside hose surfaces should be flushed / cleaned with sufficient clean water to ensure that all chemicals or residues are fully removed from the hose assembly.

The operator shall visually inspect the hose assembly during every recovery. If any of the following conditions are found the assembly shall be removed from service and scheduled for inspection.

- Damage to the outer cover which exposes the reinforcing wires.
- Kinked, crushed, or twisted hose.
- Reduction in the outside diameter of the hose.
- Blistered, soft, degraded, or loose outer cover.
- Cracked, damaged, or badly corroded fittings.

If in doubt, contact the original supplier or a Parker Polyflex specialized testing facility for advice.

6.3 Recertification of hose assemblies

Parker Polyflex recommend that all hose assemblies shall be returned to the original supplier or a Parker Polyflex specialized testing facility at least once a year for full inspection/recertification.

The supplier will issue a report detailing the condition of the assembly, and recommend recertification, repair, or replacement.

7 Procedure for Full inspection

Note:
In addition to the standard marking (WP, month and year of production, hose assembly manufacturer and serial number) all hose assemblies will be marked with the recertification date (RECERT. MM/YYYY).

It is the responsibility of the purchaser to track the location of the hose assembly and the responsibility of the supplier to inform the purchaser a month before the hose assembly is due for full inspection/recertification.

Parker Polyflex have trained and certified specialized facilities and their personnel to assemble, inspect, test, repair and recertify hose assemblies.

Hose management is an essential part of the service they provide.

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The history of each assembly must be logged showing the results of previous inspections and any repairs.

7.1 Customer Pre-dispatch procedure before returning a hose assembly for inspection/repair

- The object is to make sure the hose assembly can be safely handled and the condition of the assembly will justify the transportation and inspection costs.
- The chosen inspection facility should be contacted if doubtful about any of the points below.
- Check and record assembly serial number (send information to test facility).
- Assembly must be free of chemical residues inside and outside. (could result in refusal to handle returned assembly)
- Report on any findings out of section 6.1
- Method of transport, size and weight, (Long length hose assemblies on drums or reels may require special handling equipment such as drums and re-spooling machinery).
- Customer will receive a budget price for inspection based on the information given by the end user.

7.2 Full inspection of the returned hose assembly includes the following:

- Safety inspection, condition of assembly as received.
  - Check for chemical residue inside and outside (may require flushing or cleaning).
  - Assembly serial number (check assembly history including previous repairs).
- External inspection
- Internal inspection
- Inspection report

7.2.1 External inspection

- Damage to the outer cover (abrasion, incorrect routing)
- Exposed reinforcing wires. (damaged outer cover)
- Kinked, crushed, or twisted hose. (high tensile loading, incorrect routing)
- Reduction in the outside diameter of the hose (high tensile loading with no pressure)
- Blistered, soft, degraded, or loose outer cover. (chemical attack, leaking fitting, permeation or high temperature)
- Cracked, damaged, or badly corroded fittings (chemical attack, poor handling, old hose assembly)
- Damage or wear on fitting threads (poor handling, old hose assembly)
- Condition of containment grips / clamps. (abrasion, frayed wires, distortion)

7.2.2 Internal inspection

Internal inspection shall be done with an endoscope.

- Check for damage to bore of fittings, cracks, severe abrasion, corrosion.
- Check condition of core tube at the back of fittings (critical area).
- Scope maximum length of the core tube possible. Recommended minimum is 10 m both sides.
- Hose assemblies shorter than 20 m should be scoped on the complete length.
- Look for uneven surface (sign of wire fatigue, abrasion, chemical attack).

7.2.3 Inspection report

The testing facility will advise on the overall condition of the hose and end connections.

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Customer will receive detailed report of the findings, including recommended actions:

- repair
- recertification
- scrapping

8 Procedure for repair and recertification

8.1 Repair

It is recommended, that all repairs are done by certified specialized testing facilities. Some repairs (see examples below) could be done in field. Be sure to maintain safety requirements.

8.1.1 Twisted hose, hose with the reduced OD, flattened hose

A hose with signs of twisting or deformation will need to be unreeled, as straight as possible, from the winch/drum in a safe environment and pressurized to working pressure for at least 1 hour and then pressure released. The hose shall be re-inspected to see if the hose has returned to its "untwisted, undistorted" original shape. If so the hose should be again pressurized before rewinding back onto the winch/drum. Any sections of hose still misshapen should be cut out of the assembly.

8.1.2 Hose with cover damage

- No reinforcement wires exposed.

Temporary solution, the damaged area can be cleaned and protected by wrapping with a strong adhesive "duct / riggers" tape. If abraded to the point where the red ColorGard is visible, the damaged area should be thoroughly cleaned with mild solvent, a thin plastic sheet wrapped around the hose to form a mould. A two pack polyurethane mixture can then be poured into the mould and allowed to set. Remove mould after the polyurethane is set.

- Reinforcement wires exposed.

It is strongly recommended to remove the hose assembly from service immediately. Any ingress of water into hose carcass will initiate corrosion of the reinforcement wire. It is difficult to estimate the rate of corrosion. At best, the hose could function for months, at worst, possibly less than one week. It is also possible that the core tube could have collapsed if the external pressure acting within the carcass is greater than internal pressure within the hose.

In any case, the lifetime of the hose assembly will be significantly reduced, and the hose assembly shall be immediately scheduled for inspection at certified specialized testing facility.

Decision to further use a hose assembly with exposed wire shall be based on a proof pressure test for 1,1× maximum working pressure of the hose assembly. This test shall be conducted prior to every further job.

Repair of such a hose assembly is possible, but it will include cutting out the section of the hose, where the wires have been subjected to water. Obviously, this will require new fittings to be crimped and hose assembly to be proof pressure tested. Procedure for proof pressure testing in this case is specified in the assembly instructions for the appropriate hose type.

After successfully passing pressure test, hose assembly shall be permanently marked with the new recertification date (see section 7).

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The testing facility will recommend if the condition of the hose warrants the cost of assembling new fittings, joining the lengths together and proof testing.

8.2 Recertification

Recertification shall include full inspection acc. to section 7.2 and a hydrostatic pressure test.

Unless otherwise agreed between customer and test facility, test conditions are:

Test pressure = 1,5× maximum working pressure of hose assembly. Allow for at least 30 minutes stabilization time before starting recording pressure decay.

Pressure hold time = 1 hour

Pressure decrease of maximum 5% is allowed.

After successfully passing pressure test, hose assembly shall be permanently marked with the new recertification date (see section 7).

The maximum number of pressurizations to 1,5× maximum working pressure is limited to 20.

Note:
The 20× 1,5 WP pressurizations is likely to be a combination of annual inspections, re-ending damaged fittings, or cutting off damaged hose. Example 1 – undamaged hose and fittings tested once a year give an estimated lifetime of 20 years. Example 2 - after 5 years, – fitting re-ended 4 times, hose damaged 3 times, 5× annual pressurizations at 1,5xWP (tip, re-ending of both fittings would only require one pressure test) result in the total number of pressurizations at 1,5× WP of 12.

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Appendix 1: Chemical resistance chart

The below chart contains chemical resistance information for Polyamide 11 (Nylon 11) and Fluoropolymer.

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.

Material code for hose core tube

N Polyamide

M Coextruded core tube with Fluorpolymer inner liner

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, the cover may be pin-pricked. Pin-pricking reduces the potential of cover blistering due to permeation. However, pin-pricked wire reinforced hoses are not suitable for subsea use. Parker Polyflex wire reinforced hoses may be used without pin-pricking. In this case, time of permanent use with gas should be limited to 30 days. Hoses with ColorGard will not be pin-pricked. No special precautions on decompression rate are required, however, explosive decompression rate (>200 bar/sec) is not recommended. Note that hoses with coextruded core tube with Fluorpolymer inner liner are not recommended for gas applications.

For fluids, not listed or for advice on particular applications, please contact Parker Hannifin, Polyflex Division in Lampertheim, Germany.

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Chemical	Concentration	N				M
		20°C (68°F)	40°C (104°F)	60°C (140°F)	90°C (194°F)	100°C (212°F)
Acetaldehyde		A	B	X	X	A
Acetic Acid	5%	A	A	A	B	E
Acetic Acid	10%	A	A	B	X	E
Acetic Acid	50%	B	X	X	X	E
Acetic Anhydride		B	X	X	X	E
Acetone	Pure	A	A	B	X	A
Acetylene		A	A	A	-	A
Air		A	A	A	A	A
Aluminium Sulfate	Saturated Solution	A	A	A	A	A
Ammonia	Liquid or Gas	A	A	A	X	A
Ammonium Chloride		A	A	A	-	A
Ammonium Hydroxide	Concentrated	A	A	A	A	A
Ammonium Nitrate		A	A	A	A	A
Ammonium Sulfate	Saturated Solution	A	A	B	-	E
Amyl Acetate		A	A	A	B	A
Aniline		B*	X	X	X	E
Asphalt		A	A	A	A	A
Barium Chloride	Saturated Solution	A	A	A	A	A
Benzaldehyde		A	B	X	X	E
Benzene		A	A*	B	X	E
Butane		A	A	A	A	A
Butyl Alcohol		A*	B	X	X	E
Calcium Arsenate		A	A	A	-	A
Calcium Chloride	Saturated Solution	A	A	A	A	A
Calcium Nitrate		A	A	A	-	A
Camphor		A	-	-	-	A
Carbon Dioxide		A	A	A	A	A
Carbon Monoxide		A	A	A	A	A
Carbon Disulfide		A*	B*	B	X	A

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Carbon Tetrachloride		X	X	X	X	A
Cement Slurries		A	A	A	-	A
Chlorinated Solvents		B	X	X	X	E
Chloroform		B	X	X	X	E
Chromic Acid		X	X	X	X	E
Citric Acid	Saturated Solution	A	A	B	X	E
Copper Sulfate		A	A	A	A	A
Cyclohexane		A	A	A	B	A
Cyclohaxanol		A	B	X	X	E
Cyclohexanone		A	B	X	X	E
Diammonium Phosphate		A	A	B	-	E
Dichloroethylene		B	X	X	X	E
Diesel		A	A	A	A	A
Diester Oils		A	A	A	B	A
Diethanolamine	20%	A	A*	A*	B	A
Diethyl Ether		A	-	-	-	E
Dioctylphthalate		A	A	A	B	A
Ethanol	Pure	A*	B	B	X	E
Ethyl Acetate		A	A	A	-	A
Ethylene Glycol		A*	A*	B	X	E
Ethylene Oxide		A	A	X	X	E
Fatty Acid Esters		A	A	A	A	A
Formaldehyde	Technical	A	B	X	X	E
Formic Acid	10%	X	X	X	X	E
Furfuryl Alcohol		A	A*	B	X	E
Gas (Coal)		A	A	-	-	A
Gasoline (High Octane)		A	A	A*	-	A
Glucose		A	A	A	A	A
Glycerine	Pure	A	A	B	X	E
Glycol		A	A	B	X	A
Heptane		A	A	A*	-	A
Hexane		A	A	A	A	A

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Hydrogen		A	A	A	A	A
Hydraulik Fluid (petroleum base)		A	A	A	A	A
Hydraulik Fluid (phosphate ester base)		A	A	A	B	A
Hydraulik Fluid (water base)		A	A	A	A	A
Hydrogen Peroxide	20%	A	B	-	-	E
Hydrochloric Acid	15%	A	B	X	X	E
Hydrochloric Acid	28%	X	X	X	X	E
Hydrochloric Acid	37%	X	X	X	X	A
Hydrofloric Acid	3%	A	B	X	X	E
Isocyanates		B	X	X	X	E
Isooctane		A	A	A	A	A
Isopropyl Alcohol		A	B	X	X	E
Kerosene		A	A	A*	B	A
Lactic Acid		A	A	A	B	E
LP Gas		A	A	A	A	E
Magnesium Chloride	50%	A	A	A	A	A
Mercury		A	A	A	A	A
Methane		A	A	A	A	E
Methanol	Pure	A	B	B*	X	E
Methyl-Cellosolve		A	A	A	X	A
Methyl Acetate		A	A	A	-	A
Methyl Bromide		A	X	X	X	E
Methyl Chloride		A	X	X	X	E
Methyl Sulfate		A	B	-	-	E
Methyl Ethyl Ketone		A	A	B	X	-
Methyl Isobutyl Ketone		A	A	B	X	E
Methylene Chloride		X	X	X	X	A
Monochlorobenzene		B	X	X	X	A
Naphta		A	A	A	-	A
Naphtalene		A	A	A	B	A

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Natural Gas		A	A	A	A	E
Nitric Acid		X	X	X	X	A
Nitrobenzene		B	X	X	X	A
Nitrogen Gas		A	A	A	A	E
Oil Crude		A	A	A	B	A
Oils Refined		A	A	A	B	A
Oleic Acid		A	A	A	B	A
Oxalic Acid		A	A	B	X	E
Oxygen Gas		A	A	B	X	A
Perchloric Acid		B	X	X	X	B
Perchloroethylene		B	X	X	X	E
Petroleum Ether		A	A	A	B	E
Phosphoric Acid	50%	A	B	X	X	E
Picric Acid		B	X	X	X	E
Potassium Carbonate		A	A	B	X	E
Potassium Chloride		A	A	B	X	E
Potassium Hydroxide	50%	A	B	X	X	E
Potassium Nitrate		A*	B*	X	X	E
Potassium Sulfate		A	A	A	A	A
Propane		A	A	A	A	A
Propylen Glycol		A	B	X	X	A
Pydraul F9		A	A	A	-	A
Pyridine	Pure	B	X	X	X	E
Sodium Borate		A	A	A	-	A
Sodium Carbonate	Saturated Solution	A	A	B	X	E
Sodium Chloride	Saturated Solution	A	A	A	A	A
Sodium Hydroxide	50%	A	B	X	X	E
Sodium Hypochlorite	Concentrated	B	X	X	X	E
Sodium Hypochlorite	Dilute Commercial	A	B	X	X	E
Sodium Sulfide		A	A	B	-	E
Stearin		A	B	B	-	E
Stearic Acid		A	A	A	B	A

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Styrene Monomer		A	A*	-	-	E
Sulphur Dioxide		B	X	X	X	A
Sulphur Hexafluoride Gas		A	A	A	A	A
Sulphuric Acid	10%	A	B	X	X	A
Sulfic Anhydride		B	X	X	X	E
Tartaric Acid		A	A	A	B	A
Tettraethyl Lead		A	-	-	-	E
Tetrahydrofurane		A	A	B	X	E
Toluene		A	A*	B	B	E
Trichloroethane		B	X	X	X	E
Trichloroethylene		B	X	X	X	E
Tricresyl Phosphate		A	A	A	B	A
Tributyl Phosphate		A	A	A	B	A
Trisodium Phosphate		A	A	A	A	A
Triphenyl Phosphate		A	A	B	-	A
Turpentine		A	A	B	-	A
Urea		A	A	B	B	E
Uric Acid		A	A	A	B	A
Vinegar		A	A	A	-	A
Water		A	A	A	A	A
Water Glycols		A	A	A	B	A
Water, Sea		A	A	A	A	A
Water, Soda		A	A	A	A	A
Xylene		A	A*	B	B	E
Zinc Chloride		A	A	B	X	E

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Appendix 2: Data for tensile loading and weights of Polyflex hoses

Note that all below values of tensile forces include the own weight of the hoses.

Pressurized hose can take higher tensile load, it will elongate less. All values below have been confirmed by testing. In all cases the hoses will not elongate more than 10%.

2448N-32V80	Pressure [bar]	0	100 and above		
	Max. tensile force [kN]	15	20		
2580N-32V80	Pressure [bar]	0	100	200	300 and above
	Max. tensile force [kN]	25	30	35	40
2240N-48V80	Pressure [bar]	0	100 and above		
	Max. tensile force [kN]	15	20		
2440N-48V80	Pressure [bar]	0	100	200 and above	
	Max. tensile force [kN]	30	40	50	
2640N-48V80	Pressure [bar]	0	100	200	350 and above
	Max. tensile force [kN]	30	40	50	100

In the table below some figures are put together for information

	Hose ID [mm]	**Hose OD** [mm]	**Hose weight in air empty** [kg/m]	**Hose weight in air, full of water** [kg/m]	**Hose weight in water empty** [kg/m]	**Hose weight in water full of water** [kg/m]
2448N-32V80	50,5	80,5	8,5	10,5	3,3	5,3
2580N-32V80	50,5	84,5	9,4	11,5	3,7	5,7
2240N-48V80	75,0	114,0	11,5	16,0	1,1	5,6
2440N-48V80	75,0	122,0	18,7	23,2	6,7	11,3
2640N-48V80	75,0	130,0	27,5	32,0	14,0	18,4

1st Example: No pressure. 300 m length of 2240N-48V80 shall be deployed. Hose weight in water, full of water, 5,6 kg/m × 300 m = 1680 kg. Max tensile force is 15 kN, therefore a 300m length is too heavy to deploy in these conditions.

2nd Example: Pressure 100 bar. 300 m length of 2240N-48V80 shall be deployed. Hose weight in water, full of water, 5,6 kg/m × 300 m = 1680 kg max. tensile force is 20 kN, so a 300 m length of 2240N-48V80 is OK to deploy when pressurized at 100 bar, and an additional weight of 2000-1680=320 kg may be added.

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)

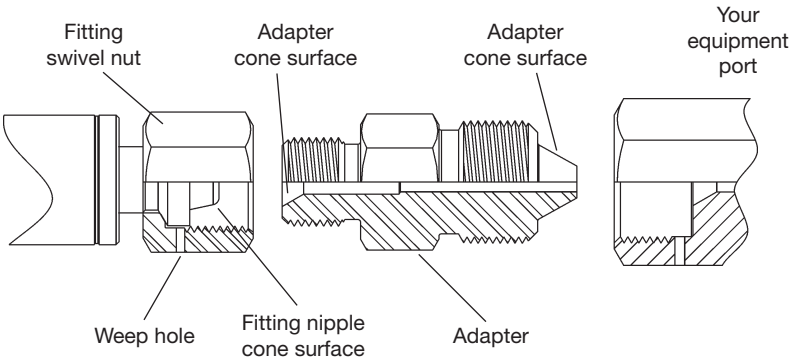
Flowrate			Pressure drop in bar/m				
			nominal IDs				
l/min	US Gal/min	Oilfield BBL/min	5 mm -03	6 mm -04	8 mm -05	10 mm -06	13 mm -08
5	1.32		0.48	0.16	0.05		
10	2.64		1.68	0.55	0.17	0.07	
15	3.96		3.53	1.14	0.36	0.14	
20	5.28		6.00	1.93	0.60	0.23	0.07
25	6.60			2.91	0.90	0.34	0.10
30	7.93			4.01	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 ***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 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.

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 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 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.

Parker Safety Guide

For selecting and using Hose, Tubing, Fittings, and Related Accessories

⚠ 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 by the 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.

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.org) and ISO 17165 2 (www.ansi.org) also provide 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 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 Fittings and properly grounded in order to dissipate 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

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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 selected to 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 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 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 cleanliness levels. 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 be considered where there is a potential for accidental uncoupling.

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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, 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 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.

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. Also see section 2.5.

See section 1.2.

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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 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.

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

Notes

Chapter K

Index of Part Numbers

Index of part numbers

Part number — page

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 Polyflex standards which have proved to be effective over many years.

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 Polyflex components (hose, fittings and tooling) and full compliance with the 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 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 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.

Part number	Size		Max. working pressure	Min. burst pressure	Max. length	Weight	Collapse pressure	DF
#								

Aramid Hoses

Part no.	size	mm	inch	mm	inch	MPa	psi	MPa	psi	m	ft	kg/m	lbs/ft	MPa	psi	
2022N-04V91-5K	-04	6.4	1/4	12.7	0.500	34.5	5,000	138.0	20,000	3,000	9,840	0.12	0.08	4.03	585	4.0
2022N-04V91-10K	-04	6.4	1/4	13.8	0.540	69.0	10,000	276.0	40,000	3,100	10,170	0.14	0.09	5.90	856	4.0
2022N-04V91-10K-13MM	-04	6.4	1/4	12.9	0.508	69.0	10,000	276.0	40,000	3,300	10,800	0.12	0.08	7.50	1,088	4.0
2022N-06V91-5K	-06	9.7	3/8	16.1	0.630	34.5	5,000	138.0	20,000	3,000	9,840	0.15	0.10	1.40	203	4.0
2022N-06V91-10K	-06	9.7	3/8	19.0	0.750	69.0	10,000	276.0	40,000	1,950	6,390	0.24	0.16	3.50	508	4.0
2022N-08V91-5K	-08	12.9	1/2	20.8	0.819	34.5	5,000	138.0	20,000	1,500	4,920	0.17	0.11	<1.00	<145	4.0
2022N-08V91-10K	-08	12.8	1/2	23.1	0.910	69.0	10,000	276.0	40,000	1,000	3,280	0.34	0.23	1.61	233	4.0
575X-12	-12	19	3/4	29	1.15	34.5	5,000	138.0	20,000	760	2,500	0.36	0.24	–	–	4.0
573X-16	-16	25	1	37	1.46	20.7	3,000	82.5	12,000	–	–	0.60	0.41	–	–	4.0
575X-16	-16	25	1	40	1.59	34.5	5,000	138.0	20,000	4,260	14,000	0.54	0.36	–	–	4.0
57CR-8-BLU	-08	12.7	1/2	30.0	1.180	34.5	5,000	138.0	20,000	200	656	0.87	0.58	23.00	3,335	4.0
57CR-16-BLU	-16	25.4	1	50.8	2.000	34.5	5,000	138.0	20,000	200	656	1.97	1.32	21.00	3,045	4.0

Wire Hoses

Part no.	size	mm	inch	mm	inch	MPa	psi	MPa	psi	m	ft	kg/m	lbs/ft	MPa	psi	
2240N-04V91	-04	6.5	1/4	11.6	0.460	43.0	6,250	172.5	25,000	3,500	11,500	0.17	0.11	10.00	1,450	4.0
2340N-04V91	-04	6.4	1/4	12.5	0.490	69.0	10,000	276.0	40,000	3,500	11,500	0.23	0.15	15.4	2,234	4.0
2380N-04V91	-04	6.4	1/4	13.4	0.530	69.0	10,000	276.0	40,000	3,200	10,500	0.27	0.18	22.4	3,249	4.0
2440N-04V91	-04	6.4	1/4	13.1	0.520	86.5	12,500	345.0	50,000	3,000	9,840	0.31	0.21	24.7	1,812	4.0
2448N-04V91	-04	6.4	1/4	13.7	0.539	103.5	15,000	414.0	60,000	2,750	9,000	0.38	0.26	44.80	6,497	4.0
2370N-06V91	-06	9.9	3/8	16.5	0.650	43.0	6,250	172.5	25,000	4,000	13,100	0.33	0.22	9.40	1,363	4.0
2390N-06V91	-06	9.8	3/8	18.1	0.710	44.5	6,450	178.0	25,800	3,500	11,500	0.41	0.28	15.00	2,175	4.0
2380N-06V91	-06	9.8	3/8	17.9	0.700	51.7	7,500	207.0	30,000	3,500	11,500	0.44	0.30	12.5	1,812	4.0
2440N-06V91	-06	9.8	3/8	19.5	0.770	86.5	12,500	345.0	50,000	5,000	16,400	0.73	0.49	32.20	4,670	4.0
2390N-08V91	-08	12.9	1/2	21.2	0.830	41.5	6,015	166.0	24,070	5,000	16,400	0.57	0.38	7.80	1,131	4.0
2380N-08V91	-08	12.9	1/2	22.9	0.900	51.7	7,500	207.0	30,000	3,000	9,840	0.68	0.46	16.4	2,378	4.0
2440N-08V91-10K	-08	12.9	1/2	22.6	0.89	69.0	10,000	276.0	40,000	5,000	16,400	0.94	0.63	19.8	2,871	4.0
2448N-08V91	-08	12.9	1/2	22.7	0.89	86.5	12,500	345.0	50,000	5,000	16,400	0.94	0.63	22.5	3,260	4.0
2390N-12V91	-12	19.4	3/4	28.8	1.130	35.0	5,075	140.0	20,300	3,200	10,500	0.90	0.60	7.50	1,088	4.0
2440N-12V91	-12	19.8	3/4	30.2	1.19	69.0	10,000	250.0	36,250	4,000	13,100	1.46	0.98	10.5	1,520	3.6
2640N-12V91	-12	19.8	3/4	33.2	1.310	86.5	12,500	345.0	50,000	3,500	11,500	2.16	1.45	12.00	1,740	4.0
2390N-16V91	-16	25.2	1	35.0	1.380	28.0	4,060	112.0	16,240	5,000	16,400	1.17	0.79	3.90	566	4.0
2440N-16V91	-16	25.2	1	37.2	1.460	56.0	8,120	225.0	32,625	4,000	13,100	2.0	1.33	6.00	870	4.0
2440N-16V91-10K	-16	25.2	1	37.2	1.460	69.0	10,000	225.0	32,625	4,000	13,100	2.00	1.34	6.00	870	3.3
2240M-04V38	-04	6.5	1/4	11.6	0.457	43.0	6,250	172.5	25,000	3,500	11,500	0.17	0.11	10.50	1,523	4.0
2340M-04V38	-04	6.4	1/4	12.5	0.490	69.0	10,000	276.0	40,000	3,500	11,500	0.23	0.15	20.50	2,973	4.0
2380M-04V38	-04	6.4	1/4	13.4	0.530	69.0	10,000	276.0	40,000	3,000	9,840	0.27	0.18	40.00	5,800	4.0
2440M-04V38	-04	6.5	1/4	13.1	0.520	86.5	12,500	345.0	50,000	3,000	9,840	0.31	0.21	29.50	4,278	4.0
2448M-04V38	-04	6.5	1/4	13.7	0.540	103.5	15,000	414.0	60,000	3,000	9,840	0.38	0.26	37.80	5,481	4.0
2380M-05V38	-05	8.3	5/16	15.8	0.620	60.0	8,700	240.0	34,800	2,000	6,560	0.35	0.24	16.7	2,421	4.0
2440M-05V38	-05	8.3	5/16	16.2	0.637	69.0	10,000	276.0	40,000	2,500	8,200	0.49	0.33	26.0	3,771	4.0
2448M-05V38	-05	8.2	5/16	16.3	0.640	103.5	15,000	414.0	60,000	2,500	8,200	0.52	0.35	38.50	5,583	4.0
2370M-06V38	-06	9.9	3/8	16.5	0.650	43.0	6,250	172.5	25,000	4,000	13,100	0.33	0.22	15.00	2,175	4.0
2440M-06V38	-06	9.9	3/8	19.5	0.770	69.0	10,000	276.0	40,000	5,000	16,400	0.73	0.49	37.0	5,400	4.0
2448M-06V38	-06	9.8	3/8	20.1	0.800	103.5	15,000	414.0	60,000	5,000	16,400	0.83	0.56	39.00	5,655	4.0
2440M-08V38	-08	12.9	1/2	22.7	0.890	69.0	10,000	276.0	40,000	5,000	16,400	0.94	0.63	25.20	3,654	4.0
2640M-08V38	-08	12.9	1/2	24.7	0.970	103.5	15,000	414.0	60,000	2,500	8,200	1.34	0.90	30.00	4,350	4.0
2390M-12V38	-12	20.0	3/4	29.0	1.140	34.5	5,000	138.0	20,000	3,200	10,500	0.90	0.60	7.50	1,088	4.0
2440M-12V38	-12	19.8	3/4	30.2	1.190	69.0	10,000	250.0	36,250	2,500	8,200	1.46	0.98	11.00	1,595	3.6
2390M-16V38	-16	25.3	1	35.0	1.380	28.0	4,060	112.0	16,240	4,000	13,100	1.19	0.79	3.50	508	4.0
2440M-16V38-5K	-16	25.2	1	37.2	1.460	34.5	5,000	225.0	32,625	4,000	13,100	2,05	1.36	6.50	943	6.5

Part number	Size		Max. working pressure	Min. burst pressure	Max. length	Weight	Collapse pressure	DF
#								

Subsea BOP Hoses

Part no.	size	mm	inch	mm	inch	MPa	psi	MPa	psi	m	ft	kg/m	lbs/ft	MPa	psi	
2390N-04Vxy	-04	6.4	1/4	13.4	0.530	49.0	7,105	195.0	28,420	3,500	11,480	0.25	0.17	—	—	4.0
2390N-06Vxy	-06	9.8	3/8	18.1	0.71	44.5	6,450	178.0	25,800	3,500	11,480	0.41	0.28	15.0	2,175	4.0
2390N-08Vxy	-08	12.9	1/2	21.1	0.833	41.5	6,020	166.0	24,080	3,500	11,480	0.57	0.38	7.8	1,131	4.0
2390N-12Vxy	-12	19.6	3/4	28.9	1.14	35.0	5,075	140.0	20,300	3,200	10,500	0.90	0.61	5.3	768	4.0
2390N-16Vxy	-16	25.2	1	34.9	1.374	28.0	4,060	112.0	16,240	4,200	13,800	1.17	0.78	3.9	565	4.0
2380N-16Vxy	-16	25.2	1	36.8	1.45	38.0	5,510	152.0	22,040	4,000	13,000	1.49	1.0	4.8	696	4.0

Black Eagle Family

Part no.	size	mm	inch	mm	inch	MPa	psi	MPa	psi	m	ft	kg/m	lbs/ft	MPa	psi	
2240N-32V10	-32	51	2	68.5	2.70	20.7	3,000	82.7	12,000	1,000	3,280	4.4	2.96	–	–	4.0
2248N-32V10	-32	51	2	68.5	2.70	34.5	5,000	86.2	12,500	1,000	3,280	4.4	2.96	–	–	2.5
2448N-20V80	-20	32.2	1 1/4	55.5	2.19	69.0	10,000	172.5	25,000	1,500	4,920	3.8	2.55	6.0	870	2.5
2640N-24V80	-24	38.0	1 1/2	70.5	2.78	69.0	10,000	230.0	33,350	1,000	3,280	7.20	4.84	6.5	950	3.3
2640N-24V80-15K	-24	38.0	1 1/2	66.0	2.60	103.5	15,000	233.0	33,750	1,000	3,280	6.50	4.37	6.6	957	2.3
2448N-32V80	-32	50.5	2	80.5	3.17	34.5	5,000	138.0	20,000	1,000	3,280	8.50	5.71	4.9	710	4.0
2580N-32V80	-32	50.5	2	84.5	3.33	69.0	10,000	172.5	25,000	1,000	3,280	9.40	6.32	5.7	825	2.5
2648N-32V80	-32	50.5	2	86.0	3.39	103.5	15,000	233.0	33,750	800	2,625	12.1	8.13	6.0	870	2.3
2240N-48V80	-48	75.0	3	114.0	4.49	34.5	5,000	86.2	12,500	350	1,150	11.50	7.73	–	–	2.5
2440N-48V80	-48	75.0	3	122.0	4.80	69.0	10,000	138.0	20,000	300	985	18.70	12.57	6.6	957	4.0
2640N-48V80	-48	75.0	3	130.0	5.12	103.5	15,000	233.0	33,750	250	820	27.50	18.48	8.0	1,160	2.3
2640M-24V88	-24	38.0	1 1/2	70.5	2.78	69.0	10,000	230.0	33,350	600	1,970	7.20	4.84	6.5	950	3.3
2448M-32V88	-32	50.5	2	82.0	3.23	34.5	5,000	138.0	20,000	600	1,970	8.50	5.71	4.9	710	4.0
2580M-32V88	-32	50.5	2	84.5	3.33	69.0	10,000	172.5	25,000	600	1,970	9.40	6.32	5.7	825	2.5

General remark on column **DF** in the tables:
Ultra high pressure hoses are normally used with a design factor of 2.5:1 according to ISO 7751.
For hydraulic hoses, a design factor of 4:1 applies.

Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 00800 27 27 5374

Aerospace

Key Markets

Aftermarket services
Commercial transports
Engines
General & business aviation
Helicopters
Launch vehicles
Military aircraft
Missiles
Power generation
Regional transports
Unmanned aerial vehicles

Key Products

Control systems & actuation products
Engine systems & components
Fluid conveyance systems & components
Fluid metering, delivery & atomization devices
Fuel systems & components
Fuel tank inerting systems
Hydraulic systems & components
Thermal management
Wheels & brakes

Climate Control

Key Markets

Agriculture
Air conditioning
Construction Machinery
Food & beverage
Industrial machinery
Life sciences
Oil & gas
Precision cooling
Process
Refrigeration
Transportation

Key Products

Accumulators
Advanced actuators
CO_2 controls
Electronic controllers
Filter driers
Hand shut-off valves
Heat exchangers
Hose & fittings
Pressure regulating valves
Refrigerant distributors
Safety relief valves
Smart pumps
Solenoid valves
Thermostatic expansion valves

Electromechanical

Key Markets

Aerospace
Factory automation
Life science & medical
Machine tools
Packaging machinery
Paper machinery
Plastics machinery & converting
Primary metals
Semiconductor & electronics
Textile
Wire & cable

Key Products

AC/DC drives & systems
Electric actuators, gantry robots & slides
Electrohydrostatic actuation systems
Electromechanical actuation systems
Human machine interface
Linear motors
Stepper motors, servo motors, drives & controls
Structural extrusions

Filtration

Key Markets

Aerospace
Food & beverage
Industrial plant & equipment
Life sciences
Marine
Mobile equipment
Oil & gas
Power generation & renewable energy
Process
Transportation
Water Purification

Key Products

Analytical gas generators
Compressed air filters & dryers
Engine air, coolant, fuel & oil filtration systems
Fluid condition monitoring systems
Hydraulic & lubrication filters
Hydrogen, nitrogen & zero air generators
Instrumentation filters
Membrane & fiber filters
Microfiltration
Sterile air filtration
Water desalination & purification filters & systems

Fluid & Gas Handling

Key Markets

Aerial lift
Agriculture
Bulk chemical handling
Construction machinery
Food & beverage
Fuel & gas delivery
Industrial machinery
Life sciences
Marine
Mining
Mobile
Oil & gas
Renewable energy
Transportation

Key Products

Check valves
Connectors for low pressure fluid conveyance
Deep sea umbilicals
Diagnostic equipment
Hose couplings
Industrial hose
Mooring systems & power cables
PTFE hose & tubing
Quick couplings
Rubber & thermoplastic hose
Tube fittings & adapters
Tubing & plastic fittings

Hydraulics

Key Markets

Aerial lift
Agriculture
Alternative energy
Construction machinery
Forestry
Industrial machinery
Machine tools
Marine
Material handling
Mining
Oil & gas
Power generation
Refuse vehicles
Renewable energy
Truck hydraulics
Turf equipment

Key Products

Accumulators
Cartridge valves
Electrohydraulic actuators
Human machine interfaces
Hybrid drives
Hydraulic cylinders
Hydraulic motors & pumps
Hydraulic systems
Hydraulic valves & controls
Hydrostatic steering
Integrated hydraulic circuits
Power take-offs
Power units
Rotary actuators
Sensors

Pneumatics

Key Markets

Aerospace
Conveyor & material handling
Factory automation
Life science & medical
Machine tools
Packaging machinery
Transportation & automotive

Key Products

Air preparation
Brass fittings & valves
Manifolds
Pneumatic accessories
Pneumatic actuators & grippers
Pneumatic valves & controls
Quick disconnects
Rotary actuators
Rubber & thermoplastic hose & couplings
Structural extrusions
Thermoplastic tubing & fittings
Vacuum generators, cups & sensors

Process Control

Key Markets

Alternative fuels
Biopharmaceuticals
Chemical & refining
Food & beverage
Marine & shipbuilding
Medical & dental
Microelectronics
Nuclear Power
Offshore oil exploration
Oil & gas
Pharmaceuticals
Power generation
Pulp & paper
Steel
Water/wastewater

Key Products

Analytical Instruments
Analytical sample conditioning products & systems
Chemical injection fittings & valves
Fluoropolymer chemical delivery fittings, valves & pumps
High purity gas delivery fittings, valves, regulators & digital flow controllers
Industrial mass flow meters/controllers
Permanent no-weld tube fittings
Precision industrial regulators & flow controllers
Process control double block & bleeds
Process control fittings, valves, regulators & manifold valves

Sealing & Shielding

Key Markets

Aerospace
Chemical processing
Consumer
Fluid power
General industrial
Information technology
Life sciences
Microelectronics
Military
Oil & gas
Power generation
Renewable energy
Telecommunications
Transportation

Key Products

Dynamic seals
Elastomeric o-rings
Electro-medical instrument design & assembly
EMI shielding
Extruded & precision-cut, fabricated elastomeric seals
High temperature metal seals
Homogeneous & inserted elastomeric shapes
Medical device fabrication & assembly
Metal & plastic retained composite seals
Shielded optical windows
Silicone tubing & extrusions
Thermal management
Vibration dampening

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