

# RYCO MINING



[www.ryco.com.au](http://www.ryco.com.au)

## **RYCO HYDRAULICS. THE COMPANY.**

RYCO Hydraulics started manufacturing hoses, fittings and filters in 1946. As the hydraulics industry evolved, the Company expanded its range and the main product line soon became high-pressure hydraulic hose and fittings.

RYCO Hydraulics' simple belief of "Higher Technology Equals Greater Performance" applies throughout the Company.

The Company's research and development centres and testing facilities are dedicated to developing innovative products and pioneering new processes in fluid conveying systems technology. Our specialised equipment and technology enable us to manufacture our large range of products efficiently and cost effectively.

*"Higher Technology Equals Greater Performance"*

## **RYCO HYDRAULICS. THE QUALITY.**

RYCO Hydraulics is certified to AS/NZS ISO 9001: 2000 "Quality Management Systems - Requirements" by NATA Certification Services International (NCSI - Registration No. 7029) and ISO 9002 "Quality Systems for Production and Installation" by the Department of Defence (Australia). Company Policy is to supply products and services that meet or exceed our industry standards. These standards include SAE, EN (DIN), AS, ISO, JIS, BS and BCS.

The bottom line in Quality Control (QC) & Quality Assurance (QA) is Customer Confidence & Customer Satisfaction.

### **OUR AIM IS ZERO DEFECTS**

## **RYCO HYDRAULICS. PRODUCT IDENTIFICATION.**

All RYCO Hydraulics products are clearly branded with a unique RYCO Hydraulics part number and batch code, where practical. In today's quality conscious world, RYCO's invaluable batch coding system takes traceability and customer assurance to new levels. Not everyone is an expert in thread identification. Time and money are often wasted identifying goods or despatching the wrong item. Using clearly branded RYCO products reduces the chance of error, saving you time and money.

### **IF IT'S NOT BRANDED - IT'S NOT RYCO**

## **RYCO HYDRAULICS. WAREHOUSE & DISTRIBUTION.**

At RYCO Hydraulics, we understand that when you need your product, you need it fast. Our network of warehouses and distributors gives the greatest product availability to our customers.

Our comprehensive ordering and despatch system ensures that your orders are correct before leaving the warehouse.

### **WE PRIDE OURSELVES ON SHIPPING CORRECTLY**

## **IMPORTANT NOTES – DO NOT MIX/MATCH PRODUCT**

Hydraulic Hose from one manufacturer is usually not compatible with fittings supplied by another manufacturer.

It is the responsibility of the hose assembly fabricator to consult the manufacturer's written assembly instructions or the manufacturers directly before intermixing hose and fittings from two manufacturers. Similarly, assembly equipment from one manufacturer is usually not interchangeable with that of another manufacturer. It is the responsibility of the hose assembly fabricator to consult the manufacturer's written instructions or the manufacturers directly for the proper assembly equipment. Always follow the manufacturer's instructions for proper preparation and fabrication of hose assemblies.

**Disclaimer:** We reserve the right to alter the design, or discontinue any of the company's products or services without notice.

Whilst every effort has been made to ensure the accuracy of the information contained in this publication, our Company Policy of continual research and product development necessitates changes and refinements which may not be reflected in the following pages. If in doubt, please contact your nearest sales office. Illustrations are not to scale, and are indicative only. Dimensions and Weights are nominal and may be subject to variation.

**HOW TO USE PRODUCT TECHNICAL MANUAL**

This Product Technical Manual is divided into eight Sections.

A Colour Coded Indicator Tab as shown along the side of this page, aids finding and identifying each Section.

Pictorial Indexes are at the start of each Product Section; HOSE, CROCBITE, STAPLELOK, SUPERLOK, RKVF/RKVP, ROTARY+DBB, TECHNICAL.

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INTRODUCTION

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CROCBITE

STAPLELOK

SUPERLOK

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RYCO IS A SPECIALIST SUPPLIER OF HYDRAULIC HOSE AND FITTINGS TO THE MINING INDUSTRY WITH OVER 60 YEARS EXPERIENCE.



**RYCO KNOW HOW**

RYCO is a specialist supplier of hydraulic hose and fittings to the mining industry with over 60 years experience. Whether it is for heavy off-road mining vehicles, underground mining equipment at the coal face, lifting buckets of ore, or shifting mountains of overburden, you will find RYCO products hard at work.

RYCO has offices around the world and is committed to long term support of the resource industry on a global scale. **“Our People Are Our Greatest Asset”**. Dynamic and dedicated our teams bring together the best and most experienced people in the industry.

The focus is to continually improve on our current business activities and ensure we offer quality, technology and service to the resource industry, with safety being our prime objective.

**MINING**

In today’s competitive international business environment the requirement for suppliers and clients to work closely together is greater than ever before; particularly in the resource industry. At RYCO we do more than simply supply a product; we understand that our success is dependent on our client’s success, safety and quality.

Our teams of field engineers proactively work with our clients **“Connecting Partnerships”** across a broad scope of services to provide complete port to port solutions. The resulting fluid connection systems are designed to work. They are reliable. They are safe and can operate at their maximum potential.

RYCO is a solution based supplier providing our clients with a complete range of services including; on-time delivery; solving difficult engineering problems; cost reduction activities; on-site hose management systems and asset management. Many Mining operations around the globe rely on RYCO’s extensive knowledge of the mining industry and RYCO’s large range of services to deliver them substantial cost reduction benefits.

**RYCO QUALITY ACCREDITATION**

RYCO Hydraulics is certified to AS/NZS ISO 9001:2000 "Quality Management Systems – Requirements" by NATA Certification Services International (NCSI – Registration No. 7029) and ISO 9002 "Quality Systems for Production and Installation" by the Department of Defence (Australia).

Company policy is to supply products and services that meet or exceed industry standards. These standards include SAE, EN (DIN), AS, ISO, JIS, BS and BCS.

Quality Control (QC) and Quality Assurance (QA) ensures customer confidence and customer satisfaction.

NCS International



**RYCO Hydraulics/RYCO 24•7**  
**19 Whitehall Street**  
**Footscray Vic 3011**

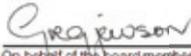
Operates a management system  
that complies with the requirements of:

**AS/NZS ISO 9001:2008**

The Scope of Certification is:

Design, development, manufacture and supply of hydraulic hose assemblies, hose couplings, fittings, adaptors and pneumatic couplings and adaptors for the marine, mining, agricultural, automotive and general industries. Capabilities include specialist CAD design and drafting, facilities for mass production to close tolerances, high pressure hose testing facilities, impulse testing, hydrostatic and external cyclic pressure testing. A complete range of hydraulic hose assembly equipment including hose crimping machines and hose cut off saws are supplied and supported. Management of franchised mobile connector specialist services which provide on-call, on-site servicing for emergency breakdown and/or repair maintenance work for hose and tube systems.

Date of Issue:	10 November 2009
Expiry Date:	31 October 2012
Certificate Number:	7029-30
Certification Number:	7029
Certification Date:	06 April 1995

  
 On behalf of the Board members





To confirm the currency of this certificate please email [certificate@ncsi.com.au](mailto:certificate@ncsi.com.au)  
 This Certificate remains the property of NCS International Pty Limited acn 078 664 211  
 A wholly owned subsidiary of The National Association of Testing Authorities, Australia acn 004 274 741  
 Accreditation by the Joint Accreditation System of Australia and New Zealand ([www.jas-anz.org/registered](http://www.jas-anz.org/registered))  
Rev 1.07.03



AS/NZS ISO 9001  
A Company Policy.

**Committed to Continual Improvement**

**RYCO QUALITY ACCREDITATION**

RYCO Hydraulics is committed to the objective of zero defects.

As a manufacturer of quality hydraulic hose and fittings, RYCO Hydraulics ensures that our products are accredited by independent third party organisations.

Some of the third party accreditations that RYCO Hydraulics manufactured product have achieved include:



RYCO Hydraulics recommends SAE J1273 as a guide to the selection, manufacture, installation and servicing of hydraulic hose assemblies. RYCO Hydraulics complies with and exceeds third party accreditations as well as international ISO and EN (DIN) standards.

RYCO Hydraulics specifically design and manufacture hydraulic hose and fittings to “match” each other for greater performance and safety. Use only hose assemblies that consist of RYCO “matched” hydraulic hose with RYCO “matched” fittings.

RYCO Hydraulics testing and evaluation processes guarantee the performance and quality required to meet the demands of today’s applications to safely convey fluids at high pressure.

RYCO Hydraulics are proud members of, and contribute to, the world’s main industry groups including:

- SAE** Society of Automotive Engineers
- MSHA** U.S. Department of Labor, Mine Safety and Health Administration
- NAHAD** National Association of Hose and Accessories Distributors (USA)
- NCS** NATA Certification Services (AS/NZS ISO 9001:2000)
- NFPA** National Fluid Power Association (USA)
- RMA** Rubber Manufacturers Association
- ABS** American Bureau of Shipping
- MED** Marine Equipment Directive
- AGA** Australian Gas Association
- GL** Germanischer Lloyd
- DNV** Det Norske Veritas
- LR** Lloyd's Register
- USCG** US Coast Guard

**RYCO Hydraulics**  
**complies with SAE J343**  
**and AS 3791 standards, and with**  
**the relevant ISO, EN and DIN standards**



INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

One of the many, well recognised advantages of RYCO Hydraulics products is that virtually all parts are branded with the RYCO name and Part Number, making for easy identification and reducing the chance for errors.

The Part Number includes the Size of the Hose, or Thread or Connector ("Dash Size Part Numbering").

**ESSENTIALLY:** IMPERIAL DIMENSIONS are expressed as the number of SIXTEENTHS of an inch.  
METRIC DIMENSIONS are expressed as the number of MILLIMETRES.  
Further explanation is given on the following pages.

**FOR EXAMPLE:**

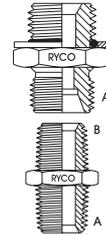
1. **T26D** is T2D Series two wire braid non-skive hose:  
-6 = 6/16" = 3/8" inside diameter.



2. **T204-0812** is a T204 JIC Female Coupling with:  
Hose Size -08 = 8/16" = 1/2"  
Thread Size -12 = 12/16" = 3/4"



3. **M75S-2208** is an M75S Adaptor with:  
Thread A -22 = 22 mm Metric thread one end and  
Thread B -08 = 8/16" = 1/2" BSPP thread other end.



4. **S27-0202**  
S27 is BSPT Male Nipple Series  
-0202 is size 1/8" by 1/8".

The size is clearly incorporated in the Part Number.

With a little familiarity, and by following the simple guidelines on the next pages, you will find that you can specify Part Numbers without needing to refer to the Product Technical Manual.

**EXAMPLES:**

**NPT T209**



60° SEAT

HOSE SIZE		THREAD SIZE	DASH SIZE	NPT MALE
DN	inch	inch		PART NO
6	1/4	1/8	-0402	T209-0402
6	1/4	1/4	-0404	T209-0404
6	1/4	3/8	-0406	T209-0406

**1. HOSE COUPLINGS**

Part No. T209-0406

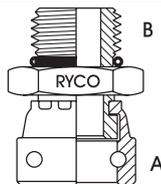
T209 is the Group Designator for NPT Male T200 Series BITELOK One-Piece Crimp Couplings.

T2 = T200 Series BITELOK One-Piece Crimp Couplings  
09 = NPT Male (End Style Termination)

-0406 is the Size Designator (Dash Size)  
(Hose Size then Thread Size)

-04 = Hose Size 4/16" = 1/4"  
-06 = Thread Size 6/16" = 3/8"

**STAPLELOK/UNO (O RING BOSS) RL100**



STRAIGHT

STAPLE SIZE	THREAD SIZE	TUBE SIZE	DASH SIZE	STAPLELOK FEMALE SWIVEL UN O RING MALE
mm	inch	inch		PART NO
A	B			
6	7/16	1/4	-0607	RL100-0607

**2. ADAPTORS**

Part No. RL100-0607

RL100 is the Group Designator for STAPLELOK Female Swivel to UNO Male (O Ring Boss)

-0607 is the Dash Size (A end then B end)

-06 = 6 mm Staple Size  
-07 = 7/16" UNO Male (O Ring Boss)

## RYCO “DASH SIZE” DEFINITIONS

The “Dash Size” of a Hose, Coupling, Thread or Connector is:

### 1. FOR HOSE

the number of SIXTEENTHS of an inch in the Inside Diameter.

### 2. FOR THREADS OR CONNECTORS WITH IMPERIAL DIMENSIONS

a) **JIC, SAE Threads, ORFS, UNO:** the number of SIXTEENTHS of an inch in the size of the Male Thread.

b) **BSP, NPT, SAE Flange:** the number of SIXTEENTHS of an inch in the Nominal Size of the Connector.

c) **Tubing and Tube Bite:** the number of SIXTEENTHS of an inch in the Outside Diameter of the Tube.

### 3. FOR THREADS OR CONNECTORS WITH METRIC DIMENSIONS

a) the number of MILLIMETRES in the OD of the Male Thread.  
(pitch of thread is sometimes included)

b) **Tubing and Tube Bite:** the number of MILLIMETRES in the Outside Diameter of the Tube.

### 4. FOR RYCO CROCBITE, STAPLELOK, SUPERLOK AND RYCO RKVF/RKVP COUPLINGS

the nominal size of the Coupling in MILLIMETRES.

### 5. FOR QUICK RELEASE COUPLINGS

the nominal size of the Coupling in SIXTEENTHS of an inch.

### 6. FOR HOSE PROTECTION

RCS - Inside Diameter in MILLIMETRES.

RSGF - Outside Diameter in MILLIMETRES.

### 7. FOR HYDRAULIC FILTERS EXCEPTION TO RULE.

Hydraulic Filters are dash sized for the number of EIGHTHS of an inch in the port size of the Filter.

## RULES FOR “DASH SIZE” PART NUMBERING

### 1. HYDRAULIC HOSE

Part Number comprises the Hose Series Number followed by the Dash Size.

Note: For Dash Sizes -02, -03, -04, -05, -06 and -08 the “0” is not included in the Part Number except for Spiral Hose.

Hose Series Numbers are shown in Hose Pictorial Index on pages 16 to 20.

Dash Sizes are shown in the Quick Reference Chart on page 9.

#### EXAMPLES

-16 size SRF Series Hose is **SRF16**

-8 size PL1D Series Hose is **PL18D**

-08 size H4000D Series (Spiral) Hose is **H4008D**

#### NOTE

If there are letters at the end of the Hose Series Number, Dash Size comes before letters.

DF2A, H12A, H12D, H12S, H13A, H13D, H13S, H15D, HSHA, HSPA, M2G, RT7N, RT7T, RT7TN, RT8N, RT8T, RT8TN, T1A, T1D, T1F, T2A, T2D, T2S, T3KA, T3KD, TJ2D, TXA2D.

#### EXAMPLES

-20 size H12D Series Hose is H1220D

-32 size H6000D Series Hose is H6032D

-06 size T2D Series Hose is T26D

**2. HOSE COUPLINGS**

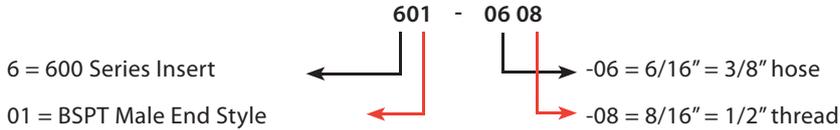
Part Numbers comprise Coupling Series and End Style Number followed by the Dash Size of the Hose and the Dash Size of either the Thread or Connector Size.

Coupling Series and End Style Numbers are described at start of Hose Coupling Section. (See page 86 and pages 96 to 98).

**Examples**

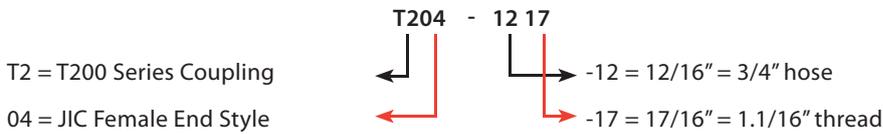
1. **FIELD ATTACHABLE INSERT 1/2" BSPT MALE FOR 3/8" HOSE.**

Order Part No. 601-0608



2. **T200 BITELOK ONE-PIECE CRIMP COUPLING 3/4" HOSE X 1.1/16" JIC FEMALE**

Order Part No. T204-1217



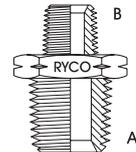
**3. ADAPTORS**

Part Numbers comprise of Group Designator followed by Dash Size.

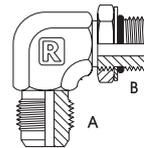
(Group Designators are shown in Adaptors Pictorial Index pages 228 to 236).

**Examples**

1. Group Designator for NPT Male Nipple
- S27N - 1208
- 12 = 12/16" = 3/4" thread (A)  
-08 = 8/16" = 1/2" thread (B)
- 



2. Group Designator for JIC Male UN O Ring Male 90° Elbow
- S91 - 1221
- 12 = 12/16" = 3/4" thread (JIC) (A)  
-21 = 21/16" = 1.5/16" thread (UNO) (B)
- 



The RYCO Product Technical Manual outlines additional supplementary rules which determine the listing order for multi-ended adaptors.

## QUICK REFERENCE CHART OF DASH SIZE EQUIVALENTS

**EXAMPLE:** Find Dash Size for 1.5/16" JIC thread. Read down JIC & UNO column until 1.5/16" is reached.  
Read off Dash Size in far left column (-21).

DASH SIZE	* INCH	BSP INCH-TPI	NPT INCH-TPI	JIC & UNO INCH-TPI
-02	1/8	1/8 - 28	1/8 - 27	
-03	3/16			
-04	1/4	1/4 - 19	1/4 - 18	
-05	5/16			5/16 - 24
-06	3/8	3/8 - 19	3/8 - 18	3/8 - 24
-07	7/16			7/16 - 20
-08	1/2	1/2 - 14	1/2 - 14	1/2 - 20
-09	9/16			9/16 - 18
-10	5/8	5/8 - 14		
-11	11/16			
-12	3/4	3/4 - 14	3/4 - 14	3/4 - 16
-13	13/16			
-14	7/8			7/8 - 14
-15	15/16			
-16	1	1 - 11	1 - 11.1/2	
-17	1.1/16			1.1/16 - 12
-18	1.1/8			
-19	1.3/16			
-20	1.1/4	1.1/4 - 11	1.1/4 - 11.1/2	
-21	1.5/16			1.5/16 - 12
-22	1.3/8			
-23	1.7/16			
-24	1.1/2	1.1/2 - 11	1.1/2 - 11.1/2	
-25	1.9/16			
-26	1.5/8			1.5/8 - 12
-27	1.11/16			
-28	1.3/4			
-29	1.13/16			
-30	1.7/8			1.7/8 - 12
-31	1.15/16			
-32	2	2 - 11	2 - 11.1/2	
-33	2.1/16			
-36	2.1/4			
-40	2.1/2	2.1/2 - 11	2.1/2 - 8	2.1/2 - 12
-42	2.5/8			
-48	3	3 - 11		3 - 8
-52	3.1/4			

DASH SIZE	** MM	METRIC MM X PITCH
-02	2	
-03	3	
-04	4	
-05	5	
-06	6	
-07	7	
-08	8	
-09	9	
-10	10	
-11	11	
-12	12	
-13	13	
-14	14	14 x 1,5 (-1415)
-15	15	
-16	16	16 x 1,5 (-1615)
-17	17	
-18	18	18 x 1,5 (-1815)
-19	19	
-20	20	20 x 1,5 (-2015)
-21	21	
-22	22	22 x 1,5 (-2215)
-23	23	
-24	24	24 x 1,5 (-2415)
-25	25	
-26	26	26 x 1,5 (-2615)
-27	27	
-28	28	
-29	29	
-30	30	30 x 1,5 (-3015) 30 x 2,0 (-3020)
-31	31	
-32	32	
-33	33	33 x 1,5 (-3315)
-36	36	36 x 1,5 (-3615) 36 x 2,0 (-3620)
-40	40	
-42	42	42 x 1,5 (-4215) 42 x 2,0 (-4220)
-48	48	
-52	52	52 x 2,0 (-5220)

**\* INCH COLUMN IS USED FOR:**

- Hose ID.
- Imperial Tube OD.
- Nominal size of SAE FLANGE.
- Nominal size of Quick Release Coupling.

**\*\*MM COLUMN IS USED FOR:**

- Metric Tube OD.
- Nominal size of STAPLELOK Couplings.

# RYCO IS MDG 41 SAFE

## MDG 41

MDG 41 is a document which was created in response to an increasing number of incidents involving high-pressure fluid injection injuries on mine sites. In response to this, the NSW Department of Primary Industries (DPI) established a joint committee with involvement from the Mining Industry, Equipment Manufacturers, Repairers, and Suppliers of Fluid Power components in order to formulate a 'best practice' document. The result is Mechanical Design Guideline Number 41 (MDG 41).

The Mechanical Design Guidelines are a series of tools to assist companies in achieving compliance with the OH&S Act and Regulations through implementing industry best practices. We all have a duty of care to assess the hazards in the workplace and to implement systems and programs in order to eliminate or minimise the risk they present.

This document prompts the review of many areas in fluid power systems that may present a risk and sets out guidelines of how they should be addressed using 'best industry practice'.

RYCO have a commitment to OH&S and to MDG 41, and as such have developed products and strategies to assist our customers in understanding the requirements of the guideline. We can assist you to adopt the recommended practices outlined in MDG 41.

### **MATCHED SYSTEM MDG 41 - CLAUSE 1.6.13**

Where the hose and fittings (insert/ferrule) are from the same manufacturer and are assembled and crimped using the method as specified by that manufacturer.

### **MATCHED SOLUTIONS**

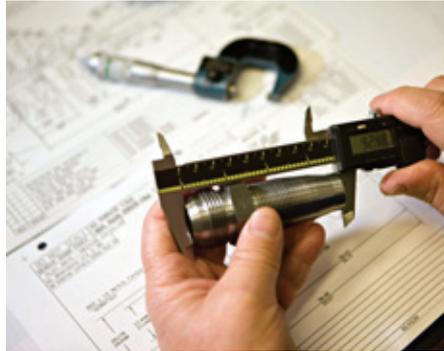
Today's hydraulic systems are required to withstand tremendous pressures. This means that the attachment of a fitting to the end of a hose becomes more critical. This may be a simple operation, but it is a complex engineering solution.

International Hose standards specify a set of materials and tolerances, such as internal and external dimensions and reinforcement types and patterns. The reality is that while these standards are adhered to by all manufacturers, the tolerances themselves are so broad that if the entire allowable tolerance was used in manufacturing, users would encounter a high failure rate due to hose and fitting tolerance mismatching. High quality hose manufacturers have to adopt their own tolerance limits which are often at least half of the allowed range.

This is where "Mixing and Matching" becomes an issue: Component manufacturer 'A' could produce parts on the lower limits of the tolerance, and manufacturer 'B' is on the upper end of the tolerance. If a fitting from 'B' was put on a hose from 'A' at the specified crimp diameter of 'B', there would be little chance of adequate fitting retention, which would most likely result in failure. Similarly if a fitting from 'A' was assembled to a hose from 'B' the likelihood is that the inner tube of the hose would be over-compressed or the hose reinforcement could be cut, again resulting in premature failure.

MDG 41 stipulates hose assemblies shall only be carried out using "Matched Hose and Fittings" (MDG 41 Clause 3.7.6.1k). MDG 41 defines a "Matched System" as "where the hose and fittings (insert/ferrule) are from the same manufacturer and are assembled and crimped using the method as specified by that manufacturer" (MDG 41 Clause 1.6.13).

Suppliers of manufactured hydraulic hose assemblies must be able to guarantee that the hose and fittings used are matched. RYCO products provide our customers with a matched system. Our design teams create and stringently test the hoses and fittings together to ensure optimum performance and reliability. All this is achieved using RYCO's assembly methods which are reliable and easy to follow.

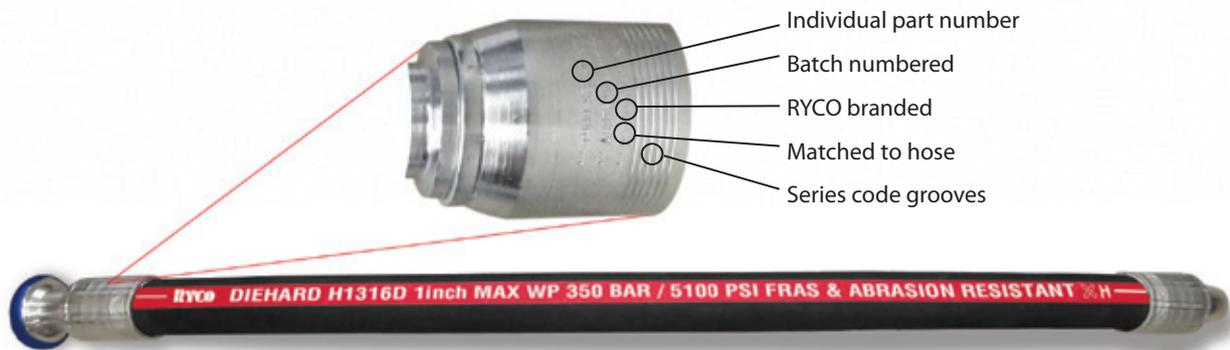


## HOSE ENDS

### MDG 41 - CLAUSE 3.7.6.2

Hose ends shall not be interchanged and shall be properly matched.

Note: Only select hose fittings compatible for the hose application.



## COMPETENCE

### MDG 41 CLAUSE - 3.7.6.6

Persons fabricating hose assemblies shall be competent and trained in the proper use of equipment, materials, assembly procedures and testing. People should be assessed in their competence for hose assembly and the assessment should be recorded.

## SAFETY SOLUTIONS

Our team of experienced engineering personnel can provide a engineering solution to suit your needs. Whether it's a simple question of product application, or the supply contract to multiple mine sites, we have the knowledge, experience and products to give you the most complete solution to your needs.

Experience is a very important quality in a supplier. The experience that RYCO has gained in many industries is a tangible asset, and one that keeps customer's coming back to us, because, like you, we've been out there working. The chances are that we've already supplied to someone who had exactly the same need for a solution as you, and that we've already helped someone else find that solution. "That's experience".

RYCO is aware of its responsibility to you the customer. We understand that the supply of our product does not finish with the goods being shipped.

Hydraulic hose assemblies can present a very real danger if misapplied. We understand this, and can provide you with the competence based training ensuring that you have the methods, products and knowledge to manufacture a matched hydraulic hose assembly each and every time.

## RESEARCH

RYCO is a specialist supplier of hydraulic hose and fittings to the mining industry; heavy-duty mining requires heavy-duty product.

RYCO is constantly working together with the mining industry to research and develop new technologies and solutions to your specific hydraulic requirements.

MDG 41 is just one of these solutions.

**HIGHER TECHNOLOGY EQUALS GREATER PERFORMANCE!**

A common misconception is that **IF** a coupling matches to a hose that meets SAE or EN (DIN) specification **THEN** that coupling will match with **ALL** hydraulic hoses that meet that specification. Conversely, **IF** a hose that meets SAE or EN (DIN) specification matches to a coupling **THEN** that hose will match with **ALL** couplings made for hoses within that specification. **THIS IS SIMPLY NOT TRUE.**

As stated in SAE J517, the specification for Hydraulic Hose:

**"SAE J517 HOSE FROM ONE MANUFACTURER IS USUALLY NOT COMPATIBLE WITH SAE J516 CONNECTORS SUPPLIED BY ANOTHER MANUFACTURER. IT IS THE RESPONSIBILITY OF THE (HOSE ASSEMBLY) FABRICATOR TO CONSULT THE MANUFACTURER'S WRITTEN INSTRUCTIONS OR THE MANUFACTURERS DIRECTLY BEFORE INTERMIXING HOSE AND CONNECTORS FROM TWO MANUFACTURERS".**

There are various societies and organisations that develop specifications for Hydraulic Hose. The major ones are:

- SAE** The Society of Automotive Engineers
- EN** European Normes (based on the former DIN German standards)
- ISO** International Organization for Standardization
- AS** Australian Standards

These standards cover the performance specifications and dimensional tolerances of Hydraulic Hose.

SAE dimensional tolerances are the most widely used. EN, ISO and AS dimensional tolerances are similar to the corresponding SAE standard. Therefore, it is generally possible to meet the dimensional tolerances of these standards with a single series of hose. In the main, EN (DIN) standards have higher working pressures than their corresponding SAE standards.

Dimensional tolerances of these standards are quite broad. Hoses not manufactured to tight tolerance control may still meet these standards, but will perform poorly due to compression variations and will have assembly difficulties. This is not commonly understood. Hence, the common misconception stated above.

**RYCO** Hydraulics has its own **HYDRAULIC HOSE SPECIFICATION**. **RYCO** dimensional tolerances are much tighter than SAE or EN, and often have higher maximum working pressures.

Close tolerancing enables **RYCO** to provide higher performance Hydraulic Hose. **RYCO** Couplings are designed to match technically superior **RYCO** Hydraulic Hose. Superior technology gives **SAFER, STRONGER AND LONGER LASTING HOSE ASSEMBLIES**.

**DO NOT MIX/MATCH HOSE AND  
COUPLINGS FROM ONE MANUFACTURER  
WITH HOSE AND COUPLINGS FROM  
ANOTHER MANUFACTURER.**



**RYCO Hose is matched to RYCO Couplings**

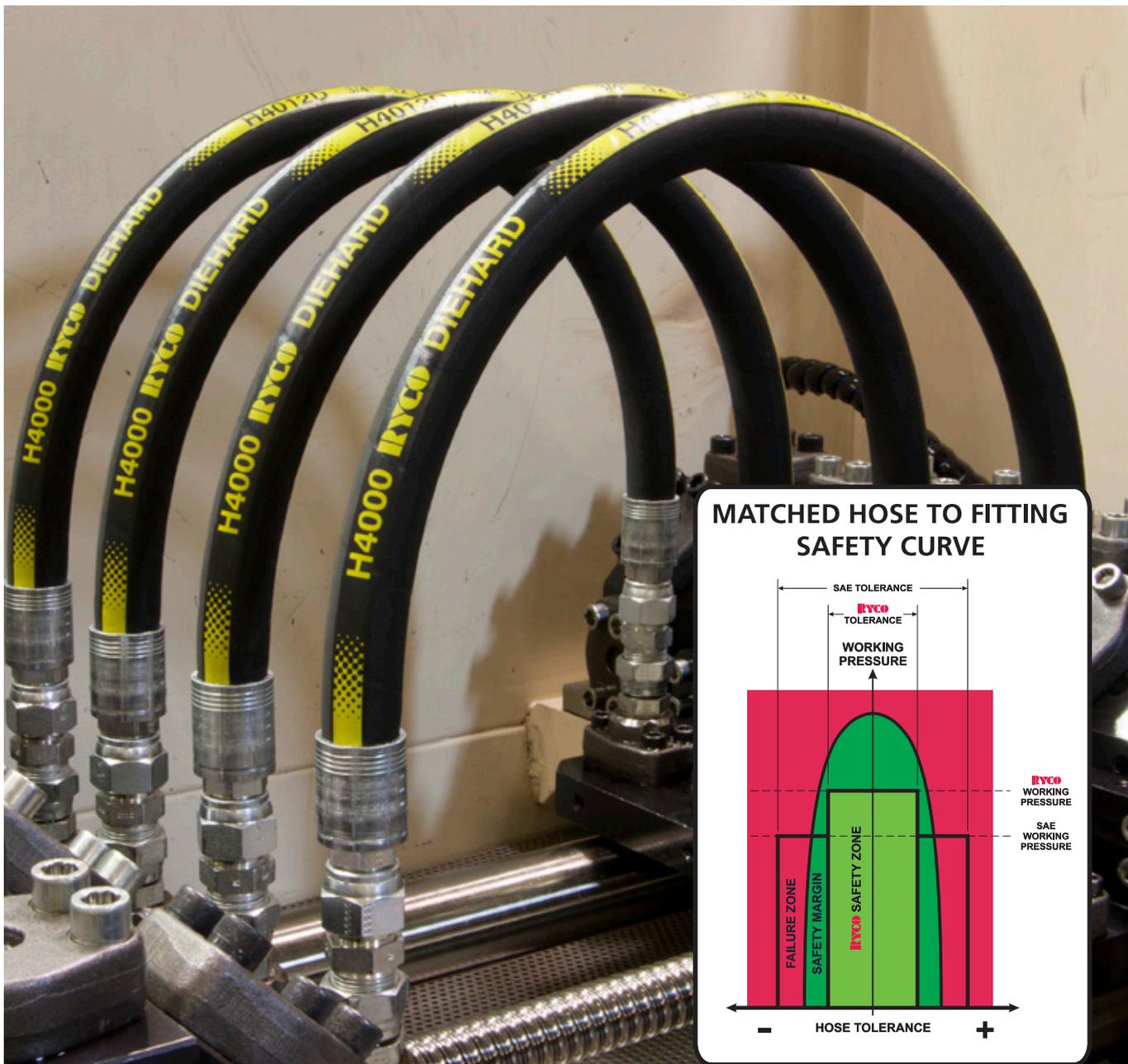
## RYCO SAFETY ZONE

The RYCO SAFETY ZONE provides an increased margin of operational safety when using RYCO matched hose and fittings.

Hose tolerance bands for Hose Bore, Reinforcement Diameter, Braid Wall, Cover Thickness and Concentricity of RYCO hoses are typically half the tolerance specified by SAE and EN/DIN standards.

All hoses and all fittings are not equal, "RYCO fittings are designed, matched and qualified for use with RYCO hose."

All RYCO hydraulic hose and fittings are designed and manufactured to meet and exceed relevant industry standards. RYCO produces hydraulic hose that is dimensionally consistent and when matched with RYCO fittings, results in increased safety and performance.



**SAFETY SAYS**  
**" DO NOT MIX 'N' MATCH**  
**OR ELSE PAY THE PRICE! "**



## **RYCO 24.7 - MOBILE HOSE AND FITTING SERVICE**

During 65 years of business, RYCO has increased its market coverage by establishing RYCO 24.7 Service Centres, Mobile Connector Specialists and Onsite Container Workshops in several countries around the world.

Today RYCO 24.7 has extensive coverage specialising in mobile hydraulic hose, fittings, service and replacement 24 hours a day, 7 days a week. RYCO 24.7 actively supports and services national contracts and Original Equipment Manufacturers (OEM) in industries covering mining, agriculture, marine, construction, defence and industrial markets.

With the continued support of RYCO Hydraulics, Australia's leading manufacturer of hydraulic hose and fittings we offer a network of RYCO 24.7 Service Centres, Mobile Connector Specialists and Onsite Container Workshops for the emergency break down, programmed maintenance, OEM support, installation and aftermarket business.

## **MISSION STATEMENT**

RYCO 24.7 will provide quality service and products to our clients by focusing on the clients specific needs and providing total solutions to business, thereby adding value through expertise whilst maintaining our integrity, professionalism, quality and intrinsic OH&S culture.



- Increase productivity and profitability
- Extensive training & support
- Ensures minimal downtime
- Set-up to suit specific site requirements
- Onsite container workshop and inventory storage
- Ideal for remote locations, fully relocatable

### RYCO 24.7 SERVICES

RYCO 24.7 offers a comprehensive service for the hydraulic industry with emergency break down, programmed maintenance, Original Equipment Manufacturer support, installation and aftermarket business. Our professionally trained and dedicated teams are on call 24 hours a day, 7 days a week offering expert technical support for all types of hydraulic systems.

Whether it is mining, marine, agriculture, defence, construction, industrial or utilities the team at RYCO 24.7 will be on hand, anywhere, anytime, to offer you professional assistance.

RYCO 24.7 Service Centres, Mobile Connector Specialists and Onsite Container Workshops offer extensive national contract and Original Equipment Manufacturer support through the development of hose assembly design, configuration, installation and aftersales service.

Quite often hose assembly plumbing can be an afterthought when designing complex hydraulic systems. With RYCO 24.7 support, our technical teams have the knowledge to assist with efficient and effective port to port solutions in the early stages of system design.

With comprehensive product and system knowledge, RYCO 24.7 technicians can be an integral partner in developing a marketing leading product including efficiency in system performance, warranty reduction and aftersales service.

Also, RYCO 24.7 has developed a new range of onsite hose assembly workshops and product storage containers. Ideal solution for remote mining locations, construction sites, offshore and large manufacturing sites.

### ONSITE HOSE CONTAINERS

As part of the ongoing focus on customer service, RYCO 24.7 has developed a new range of onsite hose assembly workshops and product storage containers. The RYCO 24.7 containers are an ideal solution for remote mining locations, construction sites, offshore and large manufacturing sites.

# HAVE - Hose Assembly Visual Evaluation



HAVE is a training presentation with three purposes:

- ✓ To highlight the dangers inherent with the use of high pressure hoses
- ✓ To demonstrate signs of potential failure
- ✓ To explain best practices for hose installation



Hydraulic hoses are designed and built to work in high pressure systems.

Therefore a failing hose presents great potential for harm.

The RYCO HAVE training program to conveys a message demonstrating ways of reducing risks.



RYCO HAVE is a computer based program that can be presented formally to a group, or run individually as a self-paced learning program.

Risk reduction is a 4 part process:

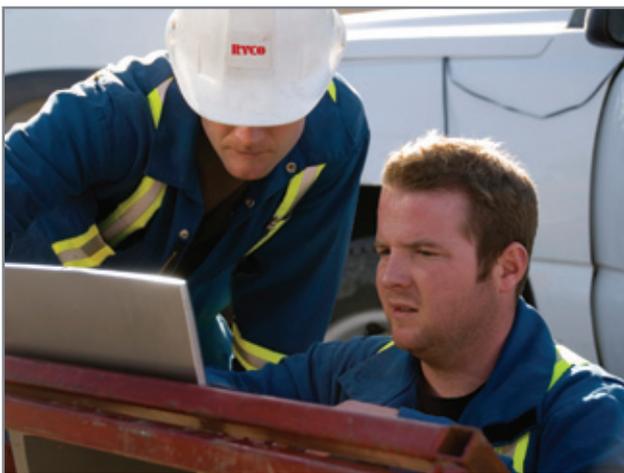
- Stop and identify the hazards
- Assess the risks
- Manage the risks
- Take action to make it safe



# HALP® - Hose Assembly Lifespan Predictor

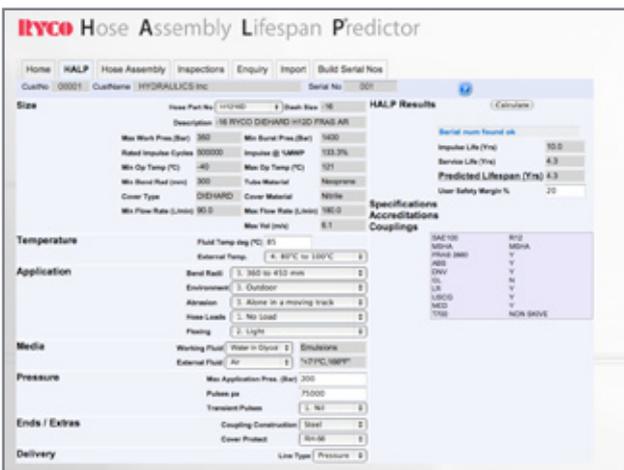


Hose Assembly Lifespan Predictor, an online program that predicts the lifespan of hose assemblies for given conditions and environments.



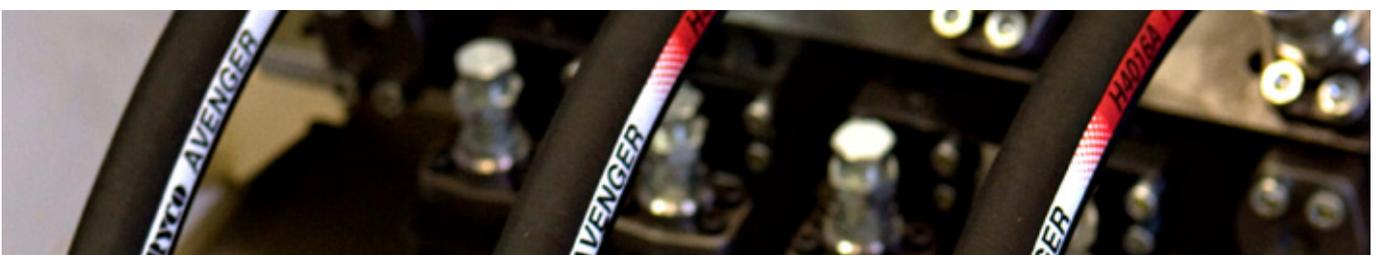
RYCO HALP® aids in determining the optimum time to carry out preventative maintenance and replace hose assemblies before they fail.

By being proactive HALP® assists in risk management and helps to prevent fluid injection injuries.



HALP® incorporates a database of hose assemblies, tracking their components and machine locations.

When coupled with predictive technology, HALP® keeps you on track with scheduled hose maintenance.



INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# TRAINING



RYCO offers a broad range of modular training solutions to meet the needs of the hydraulic industry.

With safety a priority RYCO training equips you with the knowledge and confidence you need .



RYCO's commitment is to continually improve our services to you, our partners.

We understand that training is an essential part of your business. We strive to provide the best in the industry.

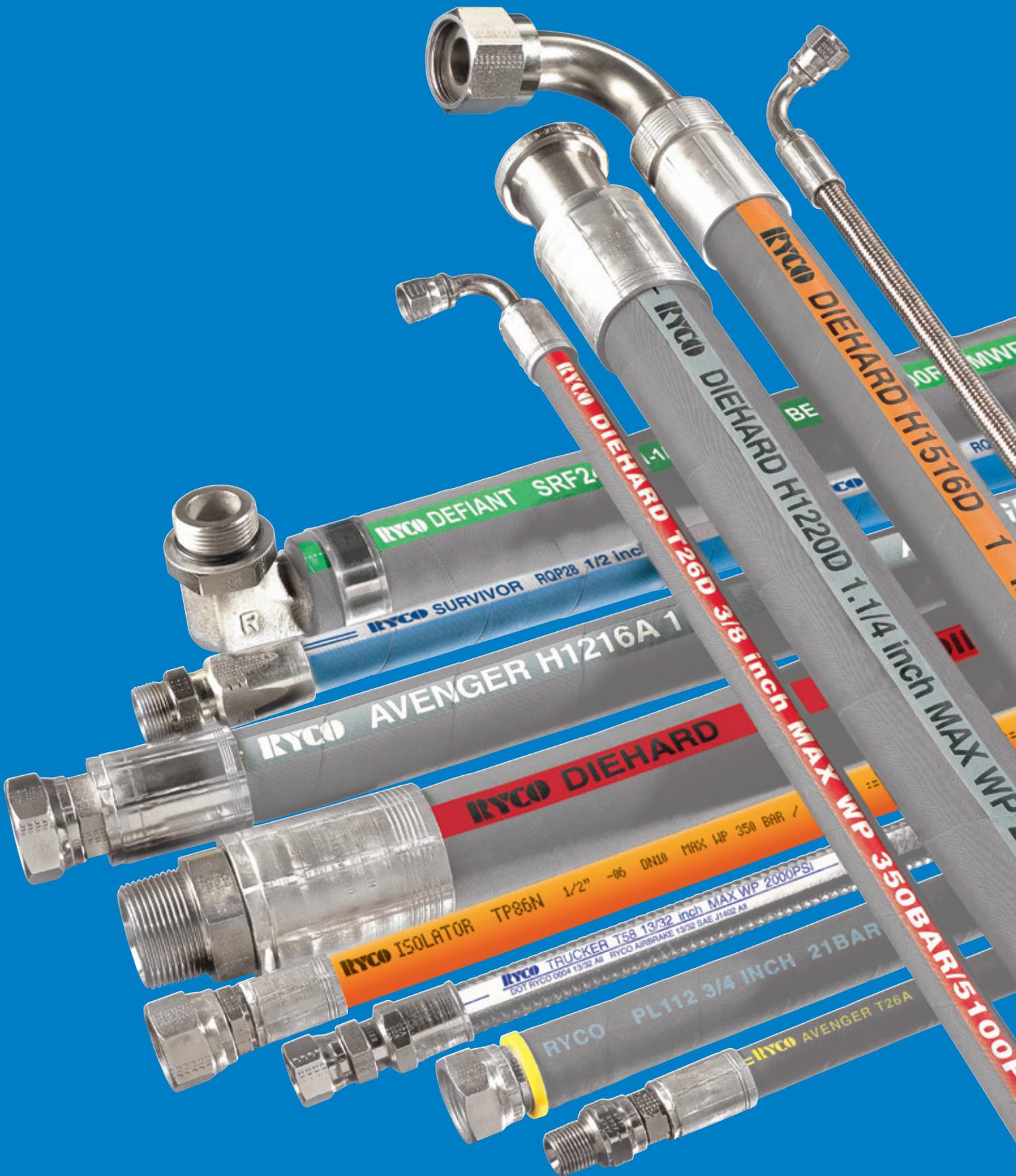


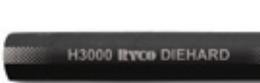
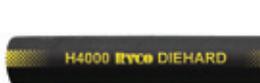
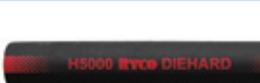
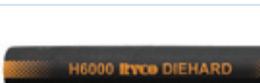
RYCO is a specialist supplier of hydraulic hose and fittings with over 60 years experience.

RYCO training equips you with the knowledge and the confidence you need, and the KNOW HOW to back it up.

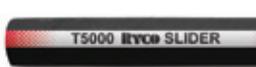
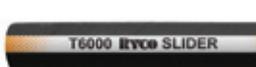
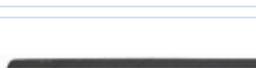
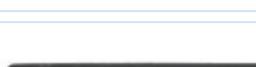


# HYDRAULIC HOSE



RYCO HOSE SERIES		INSIDE DIAMETER	RECOMMENDED	CONSTRUCTION	SPECIFICATIONS
32	<b>T3000D</b> DIEHARD™ ISOBARIC		-4 to -16 (1/4" to 1")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 215 bar (3,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. One or two braids of high tensile steel wire. Black cover. ISO 18752-AC
34	<b>T4000D</b> DIEHARD™ ISOBARIC		-4 to -12 (1/4" to 3/4")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 280 bar (4,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. One or two braids of high tensile steel wire. Black cover. ISO 18752-AC
36	<b>T5000D</b> DIEHARD™ ISOBARIC		-4 to -8 (1/4" to 1/2")	Very high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 350 bar (5,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Two braids of high tensile steel wire. Black cover. ISO 18752-AC
38	<b>T6000D</b> DIEHARD™ ISOBARIC		-4 to -6 (1/4" to 3/8")	Extremely high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 420 bar (6,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Two braids of high tensile steel wire. Black cover. ISO 18752-AC
40	<b>T1D</b> DIEHARD™		-4 to -32 (1/4" to 2")	High pressure hydraulic oil lines. Very high abrasion resistant cover.	Synthetic rubber tube. One wire braid. Thin, non-skive black cover. SAE 100R1AT AS 3791 100R1AT DIN 20022-1SN EN 853 Type 1SN ISO 1436 - R1AT & 1SN
42	<b>T2D</b> DIEHARD™		-4 to -48 (1/4" to 3")	High pressure hydraulic oil lines. Very high abrasion resistant cover.	Synthetic rubber tube. Two wire braids. Thin, non-skive black cover. SAE 100R2AT AS 3791 100R2AT DIN 20022-2SN EN 853 Type 2SN ISO 1436 - R2AT & 2SN
44	<b>H3000D</b> DIEHARD™ ISOBARIC		-20 to -32 (1.1/4" to 2")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 215 bar (3,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE100 R12 EN 856 Type R12 EN 856 Type 4SP
46	<b>H4000D</b> DIEHARD™ ISOBARIC		-08 to -32 (1/2" to 2")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 280 bar (4,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE100 R12 EN 856 Type R12 EN 856 Type 4SP (size DN25, -16)
48	<b>H5000D</b> DIEHARD™ ISOBARIC		-06 to -32 (3/8" to 2")	Very high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 350 bar (5,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE100 R13 EN 856 R13
50	<b>H6000D</b> DIEHARD™ ISOBARIC		-06 to -32 (3/8" to 2")	Extremely high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 420 bar (6,100 psi) in all sizes. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE 100R15 ISO 3862 Type 15 (Except -32 size)
52	<b>H12D</b> DIEHARD™		-06 to -40 (3/8" to 2.1/2")	Very high pressure hydraulic oil lines. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE 100R12 AS 3791 100R12 EN 856 Type R12 EN 856 Type 4SP (-12 to -32) ISO 3862 Type R12
54	<b>H13D</b> DIEHARD™		-12 to -40 (3/4" to 2.1/2")	Extremely high pressure hydraulic oil lines. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE 100R13 AS 3791 100R13 EN 856 Type R13 ISO 3862 Type R13
56	<b>H15D</b> DIEHARD™		-12 to -32 (3/4" to 2")	Extremely high pressure hydraulic oil lines. Very high abrasion resistant cover.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover. SAE 100R15 ISO 3862 Type 15 (Except -32 size)

\*Fitted as factory hose only

RYCO HOSE SERIES		INSIDE DIAMETER	RECOMMENDED	CONSTRUCTION	SPECIFICATIONS	
33	<b>T3000S</b> SLIDER™ ISOBARIC		-4 to -16 (1/4" to 1")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 215 bar (3,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. One or two braids of high tensile steel wire. Black cover with exterior protection layer.	ISO 18752-AC
35	<b>T4000S</b> SLIDER™ ISOBARIC		-4 to -12 (1/4" to 3/4")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 280 bar (4,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. One or two braids of high tensile steel wire. Black cover with exterior protection layer.	ISO 18752-AC
37	<b>T5000S</b> SLIDER™ ISOBARIC		-4 to -8 (1/4" to 1/2")	Very high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 350 bar (5,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Two braids of high tensile steel wire. Black cover with exterior protection layer.	ISO 18752-AC
39	<b>T6000S</b> SLIDER™ ISOBARIC		-4 to -6 (1/4" to 3/8")	Extremely high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 420 bar (6,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Two braids of high tensile steel wire. Black cover with exterior protection layer.	ISO 18752-AC
41	<b>T1S</b> SLIDER™		-4 to -32 (1/4" to 2")	High pressure hydraulic oil lines. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. One wire braid. Thin, non-skive black cover with exterior protection layer.	SAE 100R1AT AS 3791 100R1AT DIN 20022-1SN EN 853 Type 1SN ISO 1436 - R1AT & 1SN
43	<b>T2S</b> SLIDER™		-4 to -32 (1/4" to 2")	High pressure hydraulic oil lines. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Two wire braids. Thin, non-skive black cover with exterior protection layer.	SAE 100R2AT AS 3791 100R2AT DIN 20022-2SN EN 853 Type 2SN ISO 1436 - R2AT & 2SN
45	<b>H3000S</b> SLIDER™ ISOBARIC		-20 to -32 (1.1/4" to 2")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 215 bar (3,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE100 R12 EN 856 Type R12 EN 856 Type 4SP
47	<b>H4000S</b> SLIDER™ ISOBARIC		-08 to -32 (1/2" to 2")	High pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 280 bar (4,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE100 R12 EN 856 Type R12 EN 856 Type 4SP (size DN25, -16)
49	<b>H5000S</b> SLIDER™ ISOBARIC		-06 to -32 (3/8" to 2")	Very high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 350 bar (5,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE100 R13 EN 856 R13
51	<b>H6000S</b> SLIDER™ ISOBARIC		-06 to -32 (3/8" to 2")	Extremely high pressure hydraulic oil lines. Constant Working Pressure (Isobaric) of 420 bar (6,100 psi) in all sizes. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE 100R15 ISO 3862 Type 15 (Except -32 size)
53	<b>H12S</b> SLIDER™		-12 to -32 (3/4" to 2")	Very high pressure hydraulic oil lines. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE 100R12 AS 3791 100R12 EN 856 Type R12 EN 856 Type 4SP (-12 to -32) ISO 3862 Type R12
55	<b>H13S</b> SLIDER™		-12 to -32 (3/4" to 2")	Extremely high pressure hydraulic oil lines. Extremely abrasion resistant exterior protection layer.	Synthetic rubber tube. Multiple layers of spiralled high tensile steel wire. Black cover with exterior protection layer.	SAE 100R13 AS 3791 100R13 EN 856 Type R13 ISO 3862 Type R13

\*Fitted as factory hose only

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<b>RYCO HOSE SERIES</b>		<b>INSIDE DIAMETER</b>	<b>RECOMMENDED</b>	<b>CONSTRUCTION</b>	<b>SPECIFICATIONS</b>
<b>57</b>	<b>PL1D</b> DIEHARD™ PUSH-ON	 -4 to -12 (1/4" to 3/4")	Low pressure hydraulic oil lines, air and water. Very high abrasion resistant cover.	Synthetic rubber tube. One textile braid. Black cover.	
<b>58</b>	<b>SRF</b> COMPACT SUCTION	 -12 to -32 (3/4" to 2")	Hydraulic oil suction and low pressure return lines. Half SAE bend radius for compact installations.	Synthetic rubber tube. Textile reinforcement with spiral helix wire. Black cover.	SAE 100R4 AS 3791 100R4
<b>59</b>	<b>SR</b> SUCTION	 -12 to -48 (3/4" to 3")	Hydraulic oil suction and low pressure return lines.	Synthetic rubber tube. Textile reinforcement with spiral helix wire. Black cover.	SAE 100R4 AS 3791 100R4 (except -48 size)

RYCO HOSE PROTECTION		INSIDE DIAMETER	RECOMMENDED	CONSTRUCTION	SPECIFICATIONS
60 61	<b>RCS</b> CROCSLEEVE		23 to 129 mm (7/8" to 5")	Burst and pinhole protection. Protection of hoses from abrasion. Bundling hoses together.	Woven polyamide.  MSHA approved FRAS
62	<b>RSGF</b> SPIRAL GUARD FRAS		16 to 110 mm (OD) (5/8" to 4.1/2")	Protection of hoses from abrasion and impact. Bundling hoses together.	Polyethylene plastic spiral. Dark Grey.  MSHA approved FRAS
63	<b>RHYT</b> HOSE TAGS		Suits sizes -04 to -10 & -12 to -32	Permanent identification of hose assemblies.	High performance plastic.

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TECHNICAL

RYCO HOSE		AMERICAN BUREAU OF SHIPPING (ABS)	DET NORISKE VERITAS (DNV)	GERMANISCHER LLOYD (GL)	LLOYD'S REGISTER (LR)	MARINE EQUIPMENT DIRECTIVE (MED)	UNITED STATES COAST GUARD*	
SERIES	SIZE						(USCG)	
<b>T3000D T3000S</b>	T3004D	T3004S	T200	T200	T200	T200	T200	
	T3006D	T3006S	T200	T200	T200	T200	T200	
	T3008D	T3008S	T200	T200	T200	T200	T200	
	T3012D	T3012S	T200	T200	T200	T200	T200	
	T3016D	T3016S	T200	T200	T200	T200	T200	
<b>T4000D T4000S</b>	T4004D	T4004S	T200	T200	T200	T200	T200	
	T4006D	T4006S	T200	T200	T200	T200	T200	
	T4008D	T4008S	T200	T200	T200	T200	T200	
	T4012D	T4012S	T200	T200	T200	T200	T200	
<b>T5000D T5000S</b>	T5004D	T5004S	T200	T200	T200	T200	T200	
	T5006D	T5006S	T200	T200	T200	T200	T200	
	T5008D	T5008S	T200	T200	T200	T200	T200	
<b>T6000D T6000S</b>	T6004D	T6004S	T200	T200	T200	T200	T200	
	T6006D	T6006S	T200	T200	T200	T200	T200	
<b>T1D T1S</b>	T14D	T14S	T200 & K00	T200 & K00	T200 & K00	T200 & K00	T200 & K00	T200
	T16D	T16S	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700
	T18D	T18S	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700
	T112D	T112S	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700
	T116D	T116S	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T200, T700 & K00	T700
	T120D	T120S	T200, T700 & A00	T200, T700 & A00	T200, T700 & A00	T200, T700 & A00	T200, T700 & A00	T700
	T124D	T124S	T700 & A00	T700 & A00	T700 & A00	T700 & A00	T700 & A00	T700
T132D	T132S	T700 & A00	T700 & A00	T700 & A00	T700 & A00	T700 & A00	T700	
<b>T2D T2S</b>	T24D	T24S	T200 & L00	T200 & L00	T200 & L00	T200 & L00	T200 & L00	T200
	T26D	T26S	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200 & T700
	T28D	T28S	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200 & T700
	T212D	T212S	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200 & T700
	T216D	T216S	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T700
	T220D	T220S	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T200, T700 & L00	T700
	T224D	T224S	T700 & B00	T700 & B00	T700 & B00	T700 & B00	T700 & B00	T700
	T232D	T232S	T700 & B00	T700 & B00	T700 & B00	T700 & B00	T700 & B00	T700
	T240D		T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES
T248D		T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	T700, 1200 SERIES	
<b>H3000D H3000S</b>	H3020D	H3020S	T700	T700	T700	T700	T700	T700
	H3024D	H3024S	T700	T700	T700	T700	T700	T700
	H3032D	H3032S	T700	T700	T700	T700	T700	T700
<b>H4000D H4000S</b>	H4004D	H4004S	T700	T700	T700	T700	T700	T700
	H4006D	H4006S	T700	T700	T700	T700	T700	T700
	H4008D	H4008S	T700	T700	T700	T700	T700	T700
	H4010D	H4010S	T700	T700	T700	T700	T700	T700
	H4012D	H4012S	T700	T700	T700	T700	T700	T700
	H4016D	H4016S	T700	T700	T700	T700	T700	T700
	H4020D	H4020S	T700	T700	T700	T700	T700	T700
	H4024D	H4024S	T700	T700	T700	T700	T700	T700
H4032D	H4032S	T700	T700	T700	T700	T700	T700	
<b>H5000D H5000S</b>	H5006D	H5006S	T700	T700	T700	T700	T700	T700
	H5008D	H5008S	T700	T700	T700	T700	T700	T700
	H5012D	H5012S	T700	T700	T700	T700	T700	T700
	H5016D	H5016S	T700	T700	T700	T700	T700	T700
	H5020D	H5020S	T700	T700	T700	T700	T700	T700
	H5024D	H5024S	T900	T900	T900	T900	T900	T900
H5032D	H5032S	T900	T900	T900	T900	T900	T900	

\* Refers to Approvals for HYDRAULIC systems only.

RYCO HOSE		AMERICAN BUREAU OF SHIPPING (ABS)	DET NORSKE VERITAS (DNV)	GERMANISCHER LLOYD (GL)	LLOYD'S REGISTER (LR)	MARINE EQUIPMENT DIRECTIVE (MED)	UNITED STATES COAST GUARD* (USCG)
SERIES	SIZE						
<b>H6000D H6000S</b>	H6006D	H6006S	T700	T700	T700	T700	T700
	H6008D	H6008S	T700	T700	T700	T700	T700
	H6012D	H6012S	T700	T700	T700	T700	T700
	H6016D	H6016S	T900	T900	T900	T900	T900
	H6020D	H6020S	T900	T900	T900	T900	T900
	H6024D	H6024S	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N
	H6032D	H6032S	6900N	6900N	6900N	6900N	6900N
<b>H12D H12S</b>	H1206D	H1206S	T700	T700	T700	T700	T700
	H1208D	H1208S	T700	T700	T700	T700	T700
	H1210D	H1210S	T700	T700	T700	T700	T700
	H1212D	H1212S	T700	T700	T700	T700	T700
	H1216D	H1216S	T700	T700	T700	T700	T700
	H1220D	H1220S	T700	T700	T700	T700	T700
	H1224D	H1224S	T700	T700	T700	T700	T700
	H1232D	H1232S	T700	T700	T700	T700	T700
<b>H13D H13S</b>	H1306D	H1306S	T900	T900	T900	T900	T900
	H1308D	H1308S	T900	T900	T900	T900	T900
	H1310D	H1310S	T900	T900	T900	T900	T900
	H1312D	H1312S	T900	T900	T900	T900	T900
	H1316D	H1316S	T900	T900	T900	T900	T900
	H1320D	H1320S	T900	T900	T900	T900	T900
	H1324D	H1324S	T900	T900	T900	T900	T900
	H1332D	H1332S	T900	T900	T900	T900	T900
<b>H15D H15S</b>	H1512D	H1512S	6900N	6900N	6900N	6900N	6900N
	H1516D	H1516S	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N
	H1520D	H1520S	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N	T900, 6900N
	H1524D	H1524S	6900N	6900N	6900N	6900N	6900N
	H1532D	H1532S	6900N	6900N	6900N	6900N	6900N
<b>SR SRF See Note 1</b>	SR12	SRF12	T400	T400	T400	T400	T400
	SR16	SRF16	T400	T400	T400	T400	T400
	SR20	SRF20	T400	T400	T400	T400	T400
	SR24	SRF24	T400	T400	T400	T400	T400
	SR32	SRF32	T400	T400	T400	T400	T400
<b>SEE NOTE 1</b>							

\* Refers to Approvals for HYDRAULIC systems only.

**NOTE 1** Approvals shaded orange require the fitment of RYCO FS1072 Fire Sleeve on the hose assembly to satisfy the relevant authorities' requirements.

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# DIEHARD

HOSE THAT WON'T SAY DIE

EXTRA ABRASION RESISTANT

FRAS - FLAME RESISTANT ANTI STATIC

H6000 RYCO DIEHARD

H6032D

RYCO QUALITY

HIGHLY FLEXIBLE



# SLIDER

*GIVE ABRASION THE SLIP*

EXTREMELY ABRASION RESISTANT

FRAS - FLAME RESISTANT ANTI STATIC

H6000 RYCO SLIDER

H6032S

RYCO QUALITY

HIGHLY FLEXIBLE

# ISOBARIC HOSES – THE FUTURE

- ✓ GREATER FLEXIBILITY
- ✓ TIGHTER BEND RADIUS
- ✓ TOUGHER
- ✓ LIGHTER
- ✓ EASY INSTALLATION
- ✓ GREATER PERFORMANCE



Available on reels for hose sizes up to 1" (-16)



*Higher Technology Equals Greater Performance*

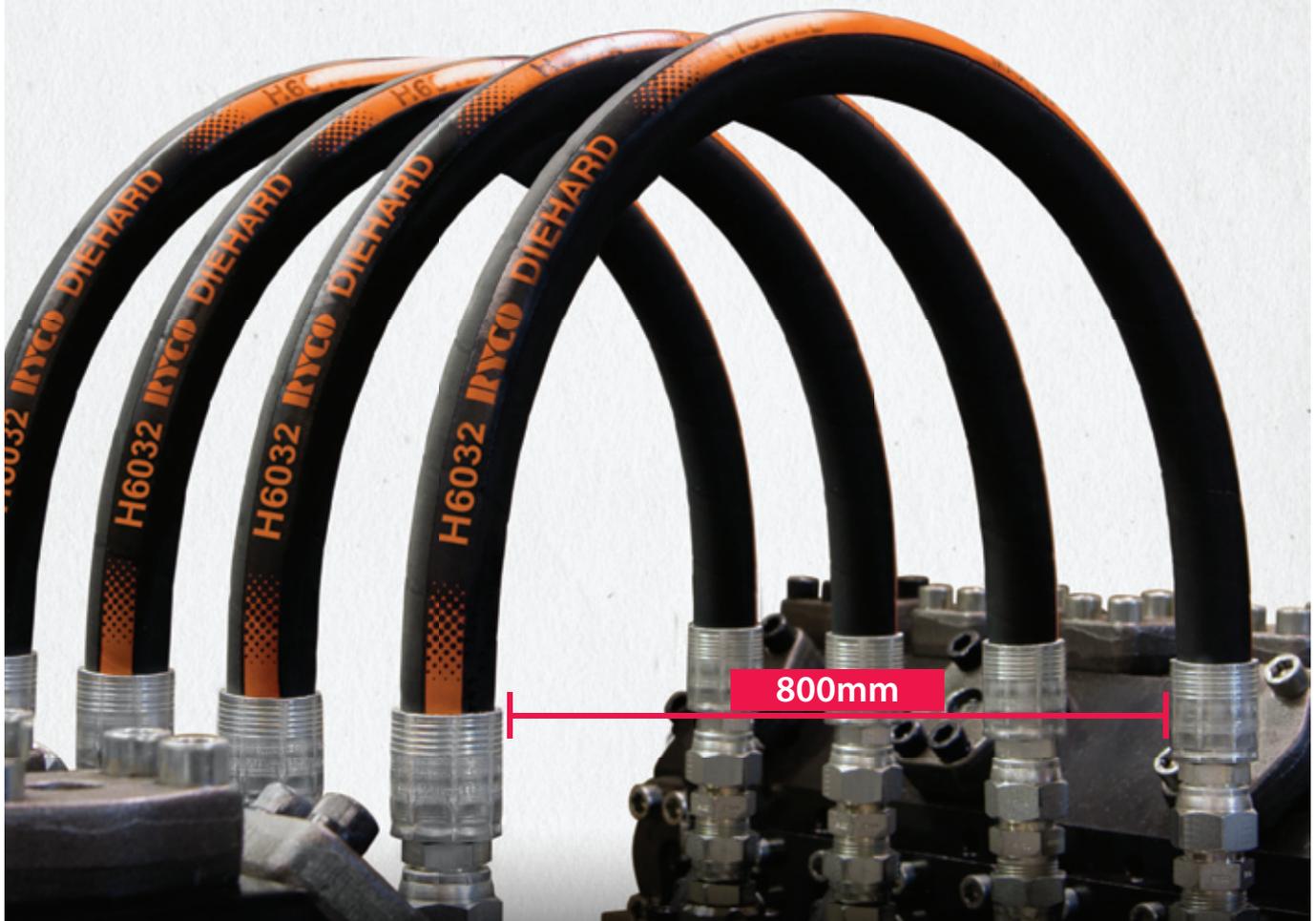
# RYCO

## ANOTHER WORLD FIRST

### H6032 - DN50 - 420 BAR

### 400mm BEND RADIUS

### 1,000,000 IMPULSE



#### FEATURES

- ✓ TIGHT BEND RADIUS
- ✓ 420 BAR/6100 PSI
- ✓ AVENGER™, DIEHARD™ & SLIDER™ COVERS
- ✓ AVAILABLE IN SIZES UP TO 2"

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TECHNICAL

# T3000D

**EXTRA ABRASION RESISTANT  
FRAS  
COMPACT ISOBARIC HOSE  
215 BAR / 3100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic oil lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

One or two braid of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 Series BITELOK Crimp Couplings.

**FEATURES:**

Constant pressure 215 bar/3100 psi in all sizes for easy system design and hose selection. Small bend radius and compact dimensions are advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation. Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

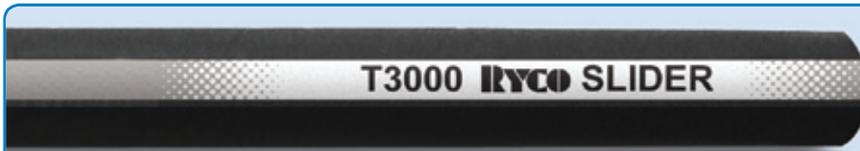
Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP  
T200 Series** (sizes -4 to -16).  
Assembly Instructions per RYCO Product Technical Manual.

T3000D - DIEHARD COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
<b>T3004D</b>	6	<b>-04</b>	6,4	1/4	11,8	0.46	245	3500	50	2.0	0,16	0.11	T200
<b>T3006D</b>	10	<b>-06</b>	9,5	3/8	15,6	0.61	215	3100	65	2.5	0,26	0.17	T200
<b>T3008D</b>	12	<b>-08</b>	12,7	1/2	19,0	0.75	215	3100	90	3.5	0,36	0.24	T200
<b>T3012D</b>	19	<b>-12</b>	19,0	3/4	27,2	1.07	215	3100	120	4.7	0,75	0.50	T200
<b>T3016D</b>	25	<b>-16</b>	25,4	1	37,2	1.46	215	3100	150	6.0	1,10	0.74	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



# T3000S

EXTREMELY ABRASION RESISTANT  
COMPACT ISOBARIC HOSE  
215 BAR / 3100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

High pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

One or two braid of high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 Series BITELOK Crimp Couplings.

### FEATURES:

MSHA Fire Resistant & FRAS Anti-Static Covers  
Large selection of matched RYCO couplings  
Constant pressure 215 bar/3100 psi in all sizes for easy system design and hose selection  
Small bend radius and compact dimensions are advantages in installations.

### BEND RADIUS:

Very small bend radius.  
1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T200 Series** (sizes -4 to -16).

Assembly Instructions per RYCO Product Technical Manual.

T3000S - SLIDER COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
T3004S	6	-04	6,4	1/4	11,8	0.46	245	3500	50	2.0	0,16	0.11	T200
T3006S	10	-06	9,5	3/8	15,6	0.61	215	3100	65	2.5	0,26	0.17	T200
T3008S	12	-08	12,7	1/2	19,0	0.75	215	3100	90	3.5	0,36	0.24	T200
T3012S	19	-12	19,0	3/4	27,2	1.07	215	3100	120	4.7	0,75	0.50	T200
T3016S	25	-16	25,4	1	37,2	1.46	215	3100	150	6.0	1,10	0.74	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

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TECHNICAL

# T4000D

**EXTRA ABRASION RESISTANT  
FRAS  
COMPACT ISOBARIC HOSE  
280 BAR / 4100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic oil lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

One or two braid of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 Series BITELOK Crimp Couplings.

**FEATURES:**

Constant Working Pressure 280 bar/4100 psi in all sizes. Small bend radius and compact dimensions are advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

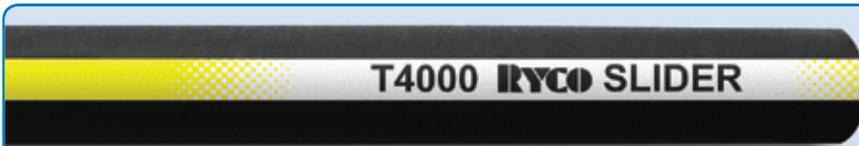
**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T200 Series** (sizes -4 to -12).

Assembly Instructions per RYCO Product Technical Manual.

T4000D - DIEHARD COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
<b>T4004D</b>	6	<b>-04</b>	6,4	1/4	13,4	0.53	280	4100	50	6.0	0,28	0.19	T200
<b>T4006D</b>	10	<b>-06</b>	9,5	3/8	16,5	0.65	280	4100	65	2.6	0,36	0.24	T200
<b>T4008D</b>	12	<b>-08</b>	12,7	1/2	20,6	0.81	280	4100	90	3.5	0,51	0.34	T200
<b>T4012D</b>	19	<b>-12</b>	19,0	3/4	28,2	1.07	280	4100	120	4.7	0,94	0.63	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## T4000S

EXTREMELY ABRASION RESISTANT  
COMPACT ISOBARIC HOSE  
280 BAR / 4100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

High pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber

### REINFORCEMENT:

One or two braid of high tensile steel wire..

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 Series BITELOK Crimp Couplings.

### FEATURES:

Constant pressure 280 bar/4100 psi in all sizes for easy system design and hose selection.

Small bend radius and compact dimensions are advantages in installations.

### BEND RADIUS:

Very small bend radius.

1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation.

Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +100°C (-40°F to +212°F).

For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T200 Series** (sizes -4 to -12).

Assembly Instructions per RYCO Product Technical Manual.

T4000S - SLIDER COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
<b>T4004S</b>	6	<b>-04</b>	6,4	1/4	13,4	0.53	280	4100	50	6.0	0,28	0.19	T200
<b>T4006S</b>	10	<b>-06</b>	9,5	3/8	16,5	0.65	280	4100	65	2.6	0,36	0.24	T200
<b>T4008S</b>	12	<b>-08</b>	12,7	1/2	20,6	0.81	280	4100	90	3.5	0,51	0.34	T200
<b>T4012S</b>	19	<b>-12</b>	19,0	3/4	28,2	1.07	280	4100	120	4.7	0,94	0.63	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

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# T5000D

**EXTRA ABRASION RESISTANT  
FRAS  
COMPACT ISOBARIC HOSE  
350 BAR / 5100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Very high pressure hydraulic oil lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Two braids of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 Series BITELOK Crimp Couplings.

**FEATURES:**

Constant Working Pressure 350 bar/5100 psi in all sizes. Small bend radius and compact dimensions are advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

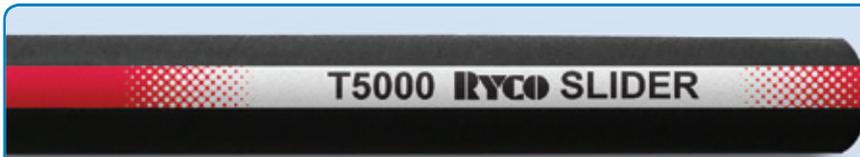
Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP  
T200 Series** (sizes -4 to -8).  
Assembly Instructions per RYCO Product Technical Manual.

T5000D – DIEHARD COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
T5004D	6	-04	6,4	1/4	13,4	0.53	350	5100	50	2.0	0,28	0.19	T200
T5006D	10	-06	9,5	3/8	17,4	0.69	350	5100	65	2.6	0,41	0.28	T200
T5008D	12	-08	12,7	1/2	20,5	0.81	350	5100	90	3.5	0,55	0.37	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## T5000S

EXTREMELY ABRASION RESISTANT  
COMPACT ISOBARIC HOSE  
350 BAR / 5100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Very high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber

### REINFORCEMENT:

Two braids of high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 Series BITELOK Crimp Couplings.

### FEATURES:

Constant pressure 350 bar/5100 psi in all sizes for easy system design and hose selection.

Small bend radius and compact dimensions are advantages in installations.

### BEND RADIUS:

Very small bend radius.

1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation.

Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +100°C (-40°F to +212°F).

For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T200 Series** (sizes -4 to -08).

Assembly Instructions per RYCO Product Technical Manual.

T5000S - SLIDER COMPACT ISOBARIC HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
T5004S	6	-04	6,4	1/4	13,4	0.53	350	5100	50	2.0	0,28	0.19	T200
T5006S	10	-06	9,5	3/8	17,4	0.69	350	5100	65	2.6	0,41	0.28	T200
T5008S	12	-08	12,7	1/2	20,5	0.81	350	5100	90	3.5	0,55	0.37	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

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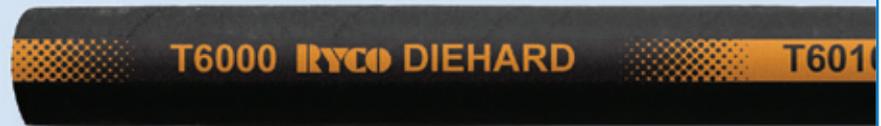
RKVF / RKVP

ROTARY + DBB

TECHNICAL

# T6000D

**EXTRA ABRASION RESISTANT  
FRAS  
COMPACT ISOBARIC HOSE  
420 BAR / 6100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Extremely high pressure hydraulic oil lines.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Two braids of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 Series BITELOK Crimp Couplings.

**FEATURES:**

Constant Working Pressure 420 bar/6100 psi in all sizes. Small bend radius and compact dimensions are advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation. Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

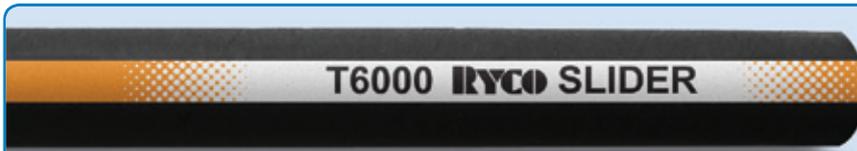
**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP  
T200 Series.**

Assembly Instructions per RYCO Product Technical Manual.

T6000D – DIEHARD COMPACT ISOBARIC HOSE														
PART NO		HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
<b>T6004D</b>	6	<b>-04</b>	6,4	1/4	13,4	0.53	420	6100	50	2.0	0,28	0.19	T200	
<b>T6006D</b>	10	<b>-06</b>	9,5	3/8	17,6	0.69	420	6100	65	2.6	0,47	0.32	T200	

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## T6000S

EXTREMELY ABRASION RESISTANT  
COMPACT ISOBARIC HOSE  
420 BAR / 6100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF: ISO 18752-AC  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Extremely high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Two braids of high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 Series BITELOK Crimp Couplings.

### FEATURES:

Constant pressure 420 bar/6100 psi in all sizes for easy system design and hose selection. Small bend radius and compact dimensions are advantages in installations.

### BEND RADIUS:

Very small bend radius.

1/2 MBR (1/2 SAE Minimum Bend Radius) for easy installation. Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +100°C (-40°F to +212°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

**BITELOK NON-SKIVE ONE-PIECE CRIMP T200 Series.**

Assembly Instructions per RYCO Product Technical Manual.

T6000S - SLIDER COMPACT ISOBARIC HOSE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
PART NO	HOSE SIZE	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
T6004S	6	-04	6,4	1/4	13,4	0.53	420	6100	50	2.0	0,28	0.19	T200
T6006S	10	-06	9,5	3/8	17,6	0.69	420	6100	65	2.6	0,47	0.32	T200

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

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# T1D

**EXTRA ABRASION RESISTANT  
FRAS  
ONE WIRE BRAID HOSE**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R1AT, AS 3791 100R1AT, DIN 20022-1SN, EN 853 TYPE 1SN, ISO 1436 TYPES R1AT & 1SN.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic oil lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber. (Nitrile).

**REINFORCEMENT:**

One braid of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 & T700 Series BITELOK Crimp Couplings and K Series Field Attachable Couplings.

**FEATURES:**

The very high abrasion resistant properties of the cover, combined with the high working pressures and excellent impulse life, when tested to EN 853 Type 1SN/SAE 100R1AT test conditions, result in increased service life and minimise equipment downtime.

**BEND RADIUS:**

Very small bend radius up to 1" size.  
Smaller than SAE Minimum Bend Radius (up to 1" size) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T200 Series** (sizes -4 to -20).

**T700 Series** (sizes -6 to -32).

Assembly Instructions per RYCO Product Technical Manual.

**FIELD ATTACHABLE NON-SKIVE**

**K Series** (sizes -4 to -16).

Assembly Instructions per RYCO Product Technical Manual.

**FIELD ATTACHABLE SKIVE**

**A Series\*** ( sizes -20 to -32).

Assembly Instructions per RYCO Product Technical Manual.

**A SERIES SKIVE LENGTH:**

**Skive lengths for A series are as follows;**

**T120D:** 45mm, **T124D:** 49mm, **T132D:** 66mm

T1D - DIEHARD NON-SKIVE HOSE															
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	FIELD ATTACH	
<b>Hose</b>	<b>DN</b>	<b>Dash</b>	<b>mm</b>	<b>inch</b>	<b>mm</b>	<b>inch</b>	<b>bar</b>	<b>psi</b>	<b>mm</b>	<b>inch</b>	<b>kg/m</b>	<b>lb/ft</b>	<b>NON-SKIVE</b>	<b>600 SERIES</b>	
<b>T14D</b>	6	<b>-04</b>	6,4	1/4	13,4	0.53	225	3250	38	1.5	0,24	0.16	T200		K00
<b>T16D</b>	10	<b>-06</b>	9,5	3/8	17,4	0.69	180	2600	50	2.0	0,36	0.24	T200	T700	K00
<b>T18D</b>	12	<b>-08</b>	12,7	1/2	20,5	0.81	160	2300	75	3.0	0,45	0.30	T200	T700	K00
<b>T112D</b>	19	<b>-12</b>	19,1	3/4	27,6	1.09	105	1500	109	4.3	0,65	0.44	T200	T700	K00
<b>T116D</b>	25	<b>-16</b>	25,4	1	35,7	1.41	90	1300	140	5.5	0,96	0.65	T200	T700	K00
<b>T120D</b>	31	<b>-20</b>	31,8	1.1/4	43,6	1.72	65	945	419	16.5	1,32	0.89	T200	T700	*A00
<b>T124D</b>	38	<b>-24</b>	38,1	1.1/2	50,5	1.99	50	725	500	20.0	1,60	1.08		T700	*A00
<b>T132D</b>	51	<b>-32</b>	50,8	2	64,1	2.52	40	580	600	24.0	2,20	1.48		T700	*A00

\*When using A Series Field Attachable Couplings on T1D Series Hose, cover of hose must be skived at ends.

\*\* Tighter Minimum Bend Radius up to 1" does not apply when used with T700 Series Couplings – refer to standard SAE Bend Radius with T700 Series. Contact RYCO for Crimp Diameter & Mark Length for BITELOK Couplings.

## T1S

**EXTREMELY ABRASION RESISTANT  
ONE WIRE BRAID HOSE**

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R1AT, AS 3791 100R1AT, DIN 20022-1SN, EN 853 TYPE 1SN, ISO 1436 TYPES R1AT & 1SN.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber. (Nitrile).

**REINFORCEMENT:**

One braid of high tensile steel wire.

**COVER:**

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 & T700 Series BITELOK Crimp Couplings.

**FEATURES:**

The extremely high abrasion resistant properties of the polyethylene sheathed cover, combined with the high working pressures and excellent impulse life, when tested to EN 853 Type 1SN/SAE 100R1AT test conditions, result in increased service life and minimise equipment downtime.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T200 Series** (sizes -4 to -20).

**T700 Series** (sizes -6 to -32).

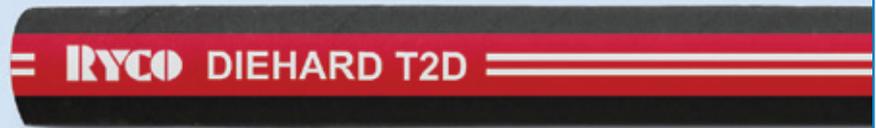
Assembly Instructions per RYCO Product Technical Manual.

T1S - SLIDER ONE WIRE														
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
<b>T14S</b>	6	<b>-04</b>	6,4	1/4	15,0	0.59	420	6000	100	4.0	0,39	0.26	T200	
<b>T16S</b>	10	<b>-06</b>	9,5	3/8	19,0	0.75	350	5100	127	5.0	0,56	0.38	T200	T700
<b>T18S</b>	12	<b>-08</b>	12,7	1/2	22,0	0.87	350	5100	178	7.0	0,66	0.44	T200	T700
<b>T112S</b>	19	<b>-12</b>	19,1	3/4	29,1	1.15	215	3100	240	9.5	0,96	0.65	T200	T700
<b>T116S</b>	25	<b>-16</b>	25,4	1	37,7	1.48	167	2400	300	12.0	1,37	0.92	T200	T700
<b>T120S</b>	31	<b>-20</b>	31,8	1.1/4	48,0	1.89	125	1800	419	16.5	2,03	1.36	T200	T700
<b>T124S</b>	38	<b>-24</b>	38,1	1.1/2	54,4	2.14	90	1300	500	20.0	2,75	1.85		T700
<b>T132S</b>	51	<b>-32</b>	50,8	2	67,3	2.65	80	1150	600	24.0	3,48	2.35		T700

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TECHNICAL

# T2D

**EXTRA ABRASION RESISTANT  
FRAS  
TWO WIRE BRAID HOSE**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R2AT, AS 3791 100R2AT, DIN 20022-2SN, EN 853 TYPE 2SN, ISO 1436 TYPE 2AT.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic oil lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber. (Nitrile).

**REINFORCEMENT:**

Two braids of high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 & T700 Series BITELOK Crimp Couplings and L Series Field Attachable Couplings.

**FEATURES:**

The very high abrasion resistant properties of the cover, combined with the high working pressures and excellent impulse life when tested to EN 853 Type 2SN/SAE 100R2AT test conditions result in, increased service life and minimise equipment downtime.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T200 Series** (sizes -4 to -20).

**T700 Series** (sizes -6 to -32).

Assembly Instructions per RYCO Product Technical Manual.

**Field Attachable NON-SKIVE**

**L Series** (sizes -4 to -20).

Assembly Instructions per RYCO Product Technical Manual.

**FIELD ATTACHABLE SKIVE**

**B Series\*** (sizes -24 & -32).

Assembly Instructions per RYCO Product Technical Manual.

**B SERIES SKIVE LENGTH:**

**SKIVE LENGTHS FOR B SERIES ARE AS FOLLOWS;**

**T224D:** 53mm

**T232D:** 58mm

T2D – DIEHARD NON-SKIVE HOSE														
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
		mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	FIELD ATTACH	
<b>Hose</b>	<b>DN</b>	<b>Dash</b>	<b>mm</b>	<b>inch</b>	<b>mm</b>	<b>inch</b>	<b>bar</b>	<b>psi</b>	<b>mm</b>	<b>inch</b>	<b>kg/m</b>	<b>lb/ft</b>	<b>NON-SKIVE</b>	<b>600 SERIES</b>
<b>T24D</b>	6	<b>-04</b>	6,4	1/4	15,0	0.59	420	6000	100	4.0	0,39	0.26	T200	L00
<b>T26D</b>	10	<b>-06</b>	9,5	3/8	19,0	0.75	350	5100	127	5.0	0,57	0.38	T200	T700
<b>T28D</b>	12	<b>-08</b>	12,7	1/2	22,0	0.87	350	5100	178	7.0	0,66	0.44	T200	T700
<b>T212D</b>	19	<b>-12</b>	19,1	3/4	29,1	1.15	215	3100	240	9.5	0,96	0.65	T200	T700
<b>T216D</b>	25	<b>-16</b>	25,4	1	37,7	1.48	175	2540	300	12.0	1,37	0.92	T200	T700
<b>T220D</b>	31	<b>-20</b>	31,8	1.1/4	48,0	1.89	140	2030	419	16.5	2,03	1.36	T200	T700
<b>T224D</b>	38	<b>-24</b>	38,1	1.1/2	54,4	2.14	100	1450	500	20.0	2,75	1.85	T700	*B00
<b>T232D</b>	51	<b>-32</b>	50,8	2	67,3	2.65	90	1305	600	24.0	3,50	2.35	T700	*B00
<b>T240D</b>	63	<b>-40</b>	63,5	2.1/2	80,1	3.15	70	1000	760	30.0	3,78	2.54	T700, 1200 TWO-PIECE	
<b>T248D</b>	76	<b>-48</b>	76,2	3	91,3	3.59	70	1000	900	35.4	3,99	2.68	T700, 1200 TWO-PIECE	

\*When using B Series Field Attachable Couplings on T2D Series Hose, cover of hose must be skived at ends. Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## T2S

EXTREMELY ABRASION RESISTANT  
TWO WIRE BRAID HOSE

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R2AT, AS 3791 100R2AT, DIN 20022-2SN, EN 853 TYPE 2SN, ISO 1436 TYPE 2AT.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

High pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber. (Nitrile).

### REINFORCEMENT:

Two braids of high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T200 & T700 Series BITELOK Crimp Couplings.

### FEATURES:

The extremely high abrasion resistant properties of the polyethylene sheathed cover, combined with the high working pressures and excellent impulse life, when tested to EN 853 Type 2SN/SAE 100R2AT test conditions, result in increased service life and minimise equipment downtime.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T200 Series** (sizes -4 to -20).

**T700 Series** (sizes -6 to -32).

Assembly Instructions per RYCO Product Technical Manual.

T2S – SLIDER NON-SKIVE HOSE														
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
<b>T24S</b>	6	<b>-04</b>	6,4	1/4	15,0	0.59	420	6000	100	4.0	0,39	0.26	T200	
<b>T26S</b>	10	<b>-06</b>	9,5	3/8	19,0	0.75	350	5100	127	5.0	0,56	0.38	T200	T700
<b>T28S</b>	12	<b>-08</b>	12,7	1/2	22,0	0.87	350	5100	178	7.0	0,66	0.44	T200	T700
<b>T212S</b>	19	<b>-12</b>	19,1	3/4	29,1	1.15	215	3100	240	9.5	0,96	0.65	T200	T700
<b>T216S</b>	25	<b>-16</b>	25,4	1	37,7	1.48	167	2400	300	12.0	1,37	0.92	T200	T700
<b>T220S</b>	31	<b>-20</b>	31,8	1.1/4	48,0	1.89	125	1800	419	16.5	2,03	1.36	T200	T700
<b>T224S</b>	38	<b>-24</b>	38,1	1.1/2	54,4	2.14	90	1300	500	20.0	2,75	1.85		T700
<b>T232S</b>	51	<b>-32</b>	50,8	2	67,3	2.65	80	1150	600	24.0	3,48	2.35		T700

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H3000D

**EXTRA ABRASION RESISTANT  
FRAS  
ISOBARIC HOSE  
215 BAR / 3100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R12, EN 856 TYPE R12 & EN 856 TYPE 4SP  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T700 Series BITELOK Crimp Couplings.

**FEATURES:**

Large selection of matched RYCO couplings.  
Constant pressure 215 bar/3100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

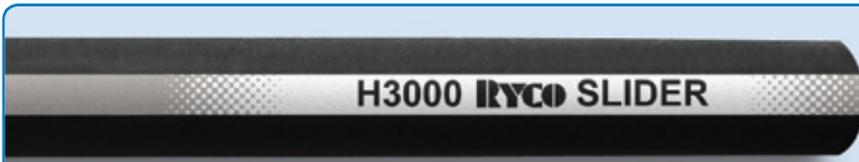
**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP T700 Series.**

Assembly Instructions per RYCO Product Technical Manual.

H3000D - DIEHARD ISOBARIC SPIRAL HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
H3020D	31	-20	31,8	1.1/4	45,1	1.78	215	3100	200	8	2,35	1.57	T700
H3024D	38	-24	38,1	1.1/2	50,3	1.98	215	3100	330	13.0	2,33	1.57	T700
H3032D	51	-32	50,8	2	63,3	2.49	215	3100	400	15.7	3,40	2.28	T700

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## H3000S

**EXTREMELY ABRASION RESISTANT  
ISOBARIC SPIRAL HOSE  
215 BAR / 3100 PSI**

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R12, EN 856 TYPE R12 & EN 856 TYPE 4SP  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

High pressure hydraulic lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T700 Series BITELOK Crimp Couplings.

### FEATURES:

Large selection of matched RYCO couplings.  
Constant pressure 215 bar/3100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

### BEND RADIUS:

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

**BITELOK NON-SKIVE ONE-PIECE CRIMP  
T700 Series.**

Assembly Instructions per RYCO Product Technical Manual.

H3000S – SLIDER ISOBARIC SPIRAL HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
H3020S	31	-20	31,8	1.1/4	45,1	1.78	215	3100	200	8	2,35	1.57	T700
H3024S	38	-24	38,1	1.1/2	50,3	1.98	215	3100	330	13.0	2,33	1.57	T700
H3032S	51	-32	50,8	2	63,3	2.49	215	3100	400	15.7	3,40	2.28	T700

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H4000D

**EXTRA ABRASION RESISTANT  
FRAS  
ISOBARIC SPIRAL HOSE  
280 BAR / 4100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R12, EN 856 TYPE R12 & EN 856 TYPE 4SP (SIZE DN25, -16)  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

High pressure hydraulic lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T700 Series BITELOK Crimp Couplings.

**FEATURES:**

Large selection of matched RYCO couplings.  
Constant pressure 280 bar/4100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

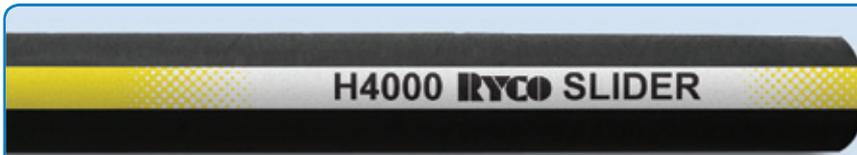
**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP T700 Series.**

Assembly Instructions per RYCO Product Technical Manual.

H4000D - DIEHARD ISOBARIC SPIRAL HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
H4008D	12	-08	12,7	1/2	22,7	0.89	280	4100	120	4.7	0,78	0.52	T700
H4010D	16	-10	15,9	5/8	24,9	0.98	280	4100	130	5.1	0,95	0.64	T700
H4012D	19	-12	19,1	3/4	30,0	1.18	280	4100	160	6.3	1,14	0.77	T700
H4016D	25	-16	25,4	1	36,9	1.45	280	4100	200	7.9	1,68	1.13	T700
H4020D	31	-20	31,8	1.1/4	44,0	1.73	280	4100	265	10.4	2,07	1.39	T700
H4024D	38	-24	38,1	1.1/2	50,8	2.00	280	4100	330	13.0	2,65	1.78	T700
H4032D	51	-32	50,8	2	65,2	2.57	280	4100	400	15.7	4,30	2.89	T700

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## H400S

EXTREMELY ABRASION RESISTANT  
ISOBARIC SPIRAL HOSE  
280 BAR / 4100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R12, EN 856 TYPE R12 & EN 856 TYPE 4SP (SIZE DN25, -16)  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

High pressure hydraulic lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T700 Series BITELOK Crimp Couplings.

### FEATURES:

Large selection of matched RYCO couplings.  
Constant pressure 280 bar/4100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

### BEND RADIUS:

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

**BITELOK NON-SKIVE ONE-PIECE CRIMP T700 Series.**

Assembly Instructions per RYCO Product Technical Manual.

H400S - SLIDER ISOBARIC SPIRAL HOSE													
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
H4008S	12	-08	12,7	1/2	22,7	0.89	280	4100	120	4.7	0,78	0.52	T700
H4010S	16	-10	15,9	5/8	24,9	0.98	280	4100	130	5.1	0,95	0.64	T700
H4012S	19	-12	19,1	3/4	30,0	1.18	280	4100	160	6.3	1,14	0.77	T700
H4016S	25	-16	25,4	1	36,9	1.45	280	4100	200	7.9	1,68	1.13	T700
H4020S	31	-20	31,8	1.1/4	44,0	1.73	280	4100	265	10.4	2,07	1.39	T700
H4024S	38	-24	38,1	1.1/2	50,8	2.00	280	4100	330	13.0	2,65	1.78	T700
H4032S	51	-32	50,8	2	65,2	2.57	280	4100	400	15.7	4,30	2.89	T700

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H5000D

**EXTRA ABRASION RESISTANT  
FRAS  
ISOBARIC SPIRAL HOSE  
350 BAR / 5100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R13 AND EN 856 R13  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Very high pressure hydraulic lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T700 Series BITELOK Crimp Couplings.

**FEATURES:**

Large selection of matched RYCO couplings.  
Constant pressure 350 bar/5100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

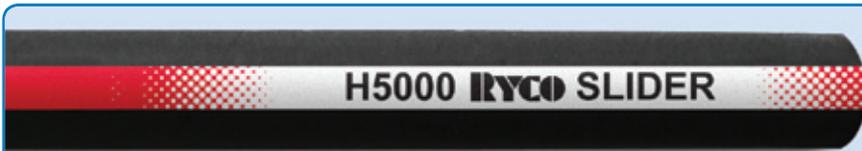
**T700 Series** (sizes -12 to -20).

**T900 Series** (sizes -24 to -32).

Assembly Instructions per RYCO Product Technical Manual.

H5000D – DIEHARD ISOBARIC SPIRAL HOSE														
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
H5006D	10	-06	9,5	3/8	19,3	0.76	350	5100	85	3.3	0,61	0.41	T700	
H5008D	12	-08	12,7	1/2	22,7	0.89	350	5100	120	4.7	0,78	0.52	T700	
H5012D	19	-12	19,1	3/4	29,6	1.17	350	5100	160	6.3	1,21	0.81	T700	
H5016D	25	-16	25,4	1	36,8	1.45	350	5100	200	7.9	1,72	1.16	T700	
H5020D	31	-20	31,8	1.1/4	45,0	1.77	350	5100	265	10.4	2,42	1.63	T700	
H5024D	38	-24	38,1	1.1/2	51,8	2.04	350	5100	330	13.0	3,17	2.13		T900
H5032D	51	-32	50,8	2	67,5	2.66	350	5100	400	15.7	5,40	3.63		T900

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## H5000S

EXTREMELY ABRASION RESISTANT  
350 BAR / 5100 PSI  
ISOBARIC SPIRAL HOSE

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R13 AND EN 856 R13  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Very high pressure hydraulic lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T700 Series BITELOK Crimp Couplings.

### FEATURES:

Large selection of matched RYCO couplings.  
Constant pressure 350 bar/5100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

### BEND RADIUS:

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T700 Series** (sizes -12 to -20).

**T900 Series** (sizes -24 to -32).

Assembly Instructions per RYCO Product Technical Manual.

H5000S – SLIDER ISOBARIC SPIRAL HOSE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES ONE PIECE	
PART NO	HOSE SIZE	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	
H5006S	10 -06	9,5	3/8	19,3	0.76	350	5100	85	3.3	0,61	0.41	T700	
H5008S	12 -08	12,7	1/2	22,7	0.89	350	5100	120	4.7	0,78	0.52	T700	
H5012S	19 -12	19,1	3/4	29,6	1.17	350	5100	160	6.3	1,21	0.81	T700	
H5016S	25 -16	25,4	1	36,8	1.45	350	5100	200	7.9	1,72	1.16	T700	
H5020S	31 -20	31,8	1.1/4	45,0	1.77	350	5100	265	10.4	2,42	1.63	T700	
H5024S	38 -24	38,1	1.1/2	51,8	2.04	350	5100	330	13.0	3,17	2.13		T900
H5032S	51 -32	50,8	2	67,5	2.66	350	5100	400	15.7	5,40	3.63		T900

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

INTRODUCTION

HOSE

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STAPLELOK

SUPERLOK

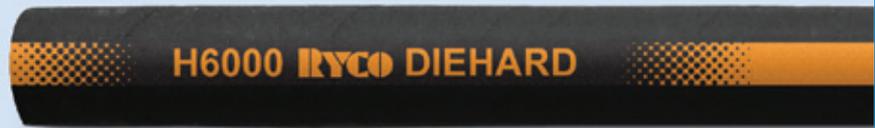
RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H6000D

**EXTRA ABRASION RESISTANT  
FRAS  
ISOBARIC SPIRAL HOSE  
420 BAR / 6100 PSI**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R15 AND EN 856 R15  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Extremely high pressure hydraulic lines in applications where the outside cover of the hose is subjected to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T700 Series BITELOK Crimp Couplings.

**FEATURES:**

Constant pressure 420 bar/6100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

**BEND RADIUS:**

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T700 Series** (sizes -06 to -12).

**T900 Series** (sizes -16 to -24).

Assembly Instructions per RYCO Product Technical Manual.

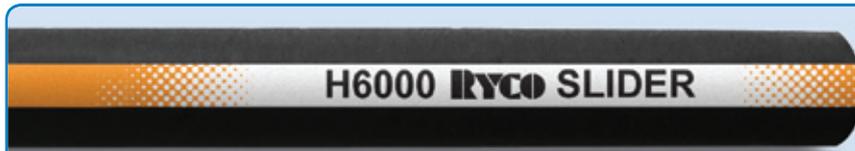
**BITELOK SKIVE TWO-PIECE CRIMP**

**6900N Series** (sizes -24 to -32).

Assembly Instructions per RYCO Product Technical Manual.

H6000D - DIEHARD ISOBARIC SPIRAL HOSE														
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
		mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	TWO PCE	
<b>H6006D</b>	10 <b>-06</b>	9,5	3/8	19,3	0.76	420	6100	85	3.3	0,61	0.41	T700		
<b>H6008D</b>	12 <b>-08</b>	12,7	1/2	22,7	0.89	420	6100	120	4.7	0,78	0.52	T700		
<b>H6012D</b>	19 <b>-12</b>	19,1	3/4	30,6	1.20	420	6100	165	6.5	1,38	0.93	T700		
<b>H6016D</b>	25 <b>-16</b>	25,4	1	37,5	1.48	420	6100	220	8.7	1,99	1.34		T900	
<b>H6020D</b>	31 <b>-20</b>	31,8	1.1/4	45,2	1.78	420	6100	295	11.6	2,72	1.83		T900	
<b>H6024D</b>	38 <b>-24</b>	38,1	1.1/2	53,1	2.09	420	6100	350	13.8	3,85	2.59		T900	6900N
<b>H6032D</b>	51 <b>-32</b>	50,8	2	71,5	2.81	420	6100	400	15.7	7,10	4.77			6900N

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.



## H6000S

EXTREMELY ABRASION RESISTANT  
ISOBARIC SPIRAL HOSE  
420 BAR / 6100 PSI

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF:  
SAE100 R15 AND EN 856 R15  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Extremely high pressure hydraulic lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T700 Series BITELOK Crimp Couplings.

### FEATURES:

Large selection of matched RYCO couplings.  
Constant pressure 420 bar/6100 psi in all sizes for easy system design and hose selection.  
Small bend radius is an advantages in installations.

### BEND RADIUS:

Very small bend radius.  
2/3 MBR (2/3 SAE Minimum Bend Radius) for easy installation.  
Allows for compact system designs; saves money.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

-40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T700 Series** (sizes -06 to -12).

**T900 Series** (sizes -16 to -24).

Assembly Instructions per RYCO Product Technical Manual.

#### BITELOK SKIVE TWO-PIECE CRIMP

**6900N Series** (sizes -24 to -32).

Assembly Instructions per RYCO Product Technical Manual.

H6000S – SLIDER ISOBARIC SPIRAL HOSE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
PART NO	HOSE SIZE	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	TWO PCE	
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE	SKIVE
<b>H6006S</b>	10	<b>-06</b>	9,5	3/8	19,3	0.76	420	6100	85	3.3	0,61	0.41	T700	
<b>H6008S</b>	12	<b>-08</b>	12,7	1/2	22,7	0.89	420	6100	120	4.7	0,78	0.52	T700	
<b>H6012S</b>	19	<b>-12</b>	19,1	3/4	30,6	1.20	420	6100	165	6.5	1,38	0.93	T700	
<b>H6016S</b>	25	<b>-16</b>	25,4	1	37,5	1.48	420	6100	220	8.7	1,99	1.34		T900
<b>H6020S</b>	31	<b>-20</b>	31,8	1.1/4	45,2	1.78	420	6100	295	11.6	2,72	1.83		T900
<b>H6024S</b>	38	<b>-24</b>	38,1	1.1/2	53,1	2.09	420	6100	350	13.8	3,85	2.59		T900
<b>H6032S</b>	51	<b>-32</b>	50,8	2	71,5	2.81	420	6100	400	15.7	7,10	4.77		6900N

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

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HOSE

CROCBITE

STAPLELOK

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RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H12D

**EXTRA ABRASION RESISTANT  
VERY HIGH PRESSURE  
FRAS  
MULTI-SPIRAL HOSE**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R12, AS 3791 100R12, EN 856 TYPE R12, EN 856 TYPE 4SP (-12 AND ABOVE), ISO 3862 TYPE R12.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Very high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T700 Series BITELOK Crimp Couplings.

**FEATURES:**

The very high abrasion resistant properties of the cover, combined with the extra high working pressures and excellent impulse life, when tested to SAE 100R12 test conditions, result in increased service life and minimise equipment downtime.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +121°C (-40°F to +250°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T700 Series** (sizes -06 to -40).

Assembly Instructions per RYCO Product Technical Manual.

H12D – DIEHARD SPIRAL HOSE														
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES	
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	TWO PIECE
<b>H1206D</b>	10	<b>-06</b>	9,5	3/8	20,2	0.80	350	5100	127	5.0	0,65	0.44	T700	
<b>H1208D</b>	12	<b>-08</b>	12,7	1/2	23,8	0.94	350	5100	178	7.0	0,80	0.54	T700	
<b>H1210D</b>	16	<b>-10</b>	16,0	5/8	28,2	1.11	350	5100	200	8.0	1,16	0.78	T700	
<b>H1212D</b>	19	<b>-12</b>	19,1	3/4	30,7	1.21	350	5100	240	9.5	1,27	0.85	T700	
<b>H1216D</b>	25	<b>-16</b>	25,4	1	38,0	1.50	350	5100	300	12.0	1,91	1.28	T700	
<b>H1220D</b>	31	<b>-20</b>	31,8	1.1/4	47,0	1.85	275	4000	400	16.0	2,65	1.78	T700	
<b>H1224D</b>	38	<b>-24</b>	38,1	1.1/2	53,5	2.11	255	3700	500	20.0	3,40	2.28	T700	
<b>H1232D</b>	51	<b>-32</b>	50,8	2	66,7	2.63	210	3050	600	24.0	4,50	3.02	T700	
<b>H1240D</b>	63	<b>-40</b>	63,5	2.1/2	82,6	3.25	140	2000	650	26.0	5,20	3.48	T700	

Contact RYCO for Crimp Diameter and Mark or Skive Length for BITELOK Couplings.



## H12S

**EXTREMELY ABRASION RESISTANT  
VERY HIGH PRESSURE  
MULTI-SPIRAL HOSE**

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R12, AS 3791 100R12, EN 856 TYPE R12, EN 856 TYPE 4SP (-12 AND ABOVE), ISO 3862 TYPE R12.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Very high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T700 Series BITELOK Crimp Couplings.

### FEATURES:

The extremely high abrasion resistant properties of the polyethylene sheathed cover, combined with the extra high working pressures and excellent impulse life, when tested to SAE 100R12 test conditions, result in increased service life and minimise equipment downtime.

### FLAME RESISTANCE:

Complies with Flame Resistant requirements of Australian Standard AS 2660 and Method of Test AS 1180.10B. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

From -40°C to +121°C (-40°F to +250°F).  
For water, emulsions etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T700 Series** (sizes -06 to -32).

Assembly Instructions per RYCO Product Technical Manual.

H12S - SLIDER SPIRAL HOSE														
PART NO	HOSE SIZE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES	
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	TWO PIECE
<b>H1206S</b>	10	<b>-06</b>	9,5	3/8	20,2	0.80	350	5100	127	5.0	0,65	0.44	T700	
<b>H1208S</b>	12	<b>-08</b>	12,7	1/2	23,8	0.94	350	5100	178	7.0	0,80	0.54	T700	
<b>H1210S</b>	16	<b>-10</b>	16,0	5/8	28,2	1.11	350	5100	200	8.0	1,16	0.78	T700	
<b>H1212S</b>	19	<b>-12</b>	19,1	3/4	30,7	1.21	350	5100	240	9.5	1,27	0.85	T700	
<b>H1216S</b>	25	<b>-16</b>	25,4	1	38,0	1.50	350	5100	300	12.0	1,91	1.28	T700	
<b>H1220S</b>	31	<b>-20</b>	31,8	1.1/4	47,0	1.85	275	4000	400	16.0	2,65	1.78	T700	
<b>H1224S</b>	38	<b>-24</b>	38,1	1.1/2	53,5	2.11	255	3700	500	20.0	3,40	2.28	T700	
<b>H1232S</b>	51	<b>-32</b>	50,8	2	66,7	2.63	210	3050	600	24.0	4,50	3.02	T700	

Contact RYCO for Crimp Diameter and Mark or Skive Length for BITELOK Couplings.

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RKVF / RKVP

ROTARY + DBB

TECHNICAL

# H13D

**EXTRA ABRASION RESISTANT  
EXTREMELY HIGH PRESSURE  
FRAS  
MULTI-SPIRAL HOSE**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF  
SAE 100R13, AS 3791 100R13, EN 856 TYPE R13, ISO 3862 TYPE R13.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Extremely high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant synthetic rubber.

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T900 Series BITELOK Crimp Couplings.

**FEATURES:**

The very high abrasion resistant properties of the cover, combined with the extra high working pressures and excellent impulse life, when tested to SAE 100R13 test conditions, result in increased service life and minimise equipment downtime.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +121°C (-40°F to +250°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T900 Series** (sizes -12 to -32).  
Assembly Instructions per RYCO Product Technical Manual.

**BITELOK SKIVE ONE-PIECE CRIMP**

**T700 Series** (sizes -12 to -20).  
Assembly Instructions per RYCO Product Technical Manual.

**BITELOK SKIVE TWO-PIECE CRIMP**

**6900K Series** (sizes -20 to -32).  
**6900N Series** (sizes -32 to -40).  
**6900T Series** (size -32).  
Assembly Instructions per RYCO Product Technical Manual.

H13D – DIEHARD SPIRAL HOSE														
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
		mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	2-PIECE	
<b>H1312D</b>	19 -12	19,1	3/4	32,1	1.26	350	5100	240	9.5	1,65	1.11	T900	T700	
<b>H1316D</b>	25 -16	25,4	1	38,7	1.52	350	5100	300	12.0	2,28	1.53	T900	T700	
<b>H1320D</b>	31 -20	31,8	1.1/4	49,8	1.96	350	5100	419	16.5	3,60	2.42	T900	T700	
<b>H1324D</b>	38 -24	38,1	1.1/2	57,3	2.26	350	5100	500	20.0	4,95	3.33	T900	6900K/N	
<b>H1332D</b>	51 -32	50,8	2	72,0	2.83	350	5100	630	25.0	7,00	4.69	T900	6900K/N/T	
<b>H1340D</b>	63 -40	63,5	2.1/2	87,5	3.40	350	5100	800	31.5	8,96	6.00		6900N	

Contact RYCO for Crimp Diameter and Mark or Skive Length for BITELOK Couplings.



## H13S

**EXTREMELY ABRASION RESISTANT  
EXTREMELY HIGH PRESSURE  
MULTI-SPIRAL HOSE**

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF  
SAE 100R13, AS 3791 100R13, EN 856 TYPE R13, ISO 3862 TYPE R13.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Extremely high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to extreme abrasion that may cause premature failure of standard hoses.

### TUBE:

Black, oil resistant synthetic rubber.

### REINFORCEMENT:

Multiple alternating layers of spiralled high tensile steel wire.

### COVER:

**SLIDER™** Black, oil and abrasion resistant synthetic rubber sheathed with a layer of extremely abrasion resistant polyethylene. Flame resistant & MSHA compliant. No skiving required with T900, T700 and 6900 Series BITELOK Crimp Couplings.

### FEATURES:

The extremely high abrasion resistant properties of the polyethylene sheathed cover, combined with the extra high working pressures and excellent impulse life, when tested to SAE 100R13 test conditions, result in increased service life and minimise equipment downtime.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

### TEMPERATURE RANGE:

From -40°C to +121°C (-40°F to +250°F).  
For water, emulsions etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T900 Series** (sizes -12 to -32).  
Assembly Instructions per RYCO Product Technical Manual.

#### BITELOK SKIVE ONE-PIECE CRIMP

**T700 Series** (sizes -12 to -20).  
Assembly Instructions per RYCO Product Technical Manual.

#### BITELOK SKIVE TWO-PIECE CRIMP

**6900K Series** (sizes -20 to -32).  
**6900N Series** (size -32).  
**6900T Series** (size -32).  
Assembly Instructions per RYCO Product Technical Manual.

H13S - SLIDER SPIRAL HOSE															
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES			
		mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	2-PIECE		
<b>H1312S</b>	19	<b>-12</b>	19,1	3/4	15,0	0.59	350	5100	240	9.5	1,65	1.11	T900	T700	
<b>H1316S</b>	25	<b>-16</b>	25,4	1	19,0	0.75	350	5100	300	12.0	2,28	1.53	T900	T700	
<b>H1320S</b>	31	<b>-20</b>	31,8	1.1/4	22,0	0.87	350	5100	419	16.5	3,60	2.42	T900	T700	6900K/N
<b>H1324S</b>	38	<b>-24</b>	38,1	1.1/2	25,2	0.99	350	5100	500	20.0	4,95	3.33	T900		6900K/N
<b>H1332S</b>	51	<b>-32</b>	50,8	2	29,1	1.15	350	5100	630	25.0	7,00	4.69	T900		6900K/N/T

Contact RYCO for Crimp Diameter and Mark or Skive Length for BITELOK Couplings.

INTRODUCTION  
HOSE  
CROCBITE  
STAPLELOK  
SUPERLOK  
RKVF / RKVP  
ROTARY + DBB  
TECHNICAL

# H15D

**EXTRA ABRASION RESISTANT  
6000 PSI WORKING PRESSURE  
FRAS  
MULTI-SPIRAL HOSE**



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R15, ISO 3862 TYPE R15. NOTE: H1532D SIZE IS NOT INCLUDED IN THE ABOVE STANDARDS. Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Extremely high pressure hydraulic oil lines, in applications where the outside cover of the hose is subject to abrasion that may cause premature failure of standard hoses.

**TUBE:**

Black, oil resistant rubber. (Neoprene).

**REINFORCEMENT:**

Multiple alternating layers of spiralled high tensile steel wire.

**COVER:**

**DIEHARD™** Black, oil and extra abrasion resistant synthetic rubber. Flame Resistant, Anti-Static (FRAS) & MSHA compliant. Highly visible layline branding for easy and permanent identification. No skiving required with T200 Series BITELOK Crimp Couplings.

**FEATURES:**

Maximum Working Pressure of 420 bar/6000 psi in all sizes. The very high abrasion resistant properties of the cover, combined with the extra high working pressures and excellent impulse life, when tested to SAE 100R15 test conditions, result in increased service life and minimise equipment downtime.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +121°C (-40°F to +250°F).  
For water, emulsions, etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

**BITELOK INTERLOK SKIVE TWO-PIECE CRIMP**

**6900N Series** (sizes -12 to -32).

**Internal and External Skiving equipment required.**

Assembly Instructions per RYCO Product Technical Manual.

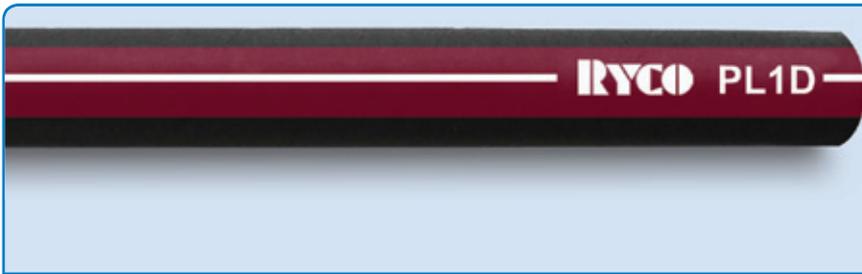
**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T900 Series** (sizes -16 and -20).

Assembly Instructions per RYCO Product Technical Manual.

H15D – DIEHARD 6000 PSI SPIRAL HOSE														
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		AVERAGE WEIGHT		COUPLING SERIES		
		mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	ONE PIECE	TWO PIECE	
<b>H1512D</b>	19 -12	19,1	3/4	32,0	1.26	420	6000	265	10.5	1,50	1.01		6900N	
<b>H1516D</b>	25 -16	25,4	1	38,2	1.50	420	6000	330	13.0	2,10	1.41	T900	6900N	
<b>H1520D</b>	31 -20	31,8	1.1/4	49,8	1.96	420	6000	445	17.5	3,60	2.42	T900	6900N	
<b>H1524D</b>	38 -24	38,1	1.1/2	57,2	2.25	420	6000	530	21.0	5,10	3.43		6900N	
<b>H1532D</b>	51 -32	50,8	2	71,8	2.83	420	6000	600	23.6	6,70	4.50		6900N	

Contact RYCO for Crimp Diameter and Internal and External Skive Lengths for RYCO Interlok 6900N Two-Piece Couplings.



# PL1D

EXTRA ABRASION RESISTANT  
FRAS  
ONE TEXTILE BRAID HOSE  
PUSH ON HOSE

**RECOMMENDED FOR:**

Petroleum base hydraulic oils, glycol antifreeze solutions, water, diesel fuels, and air.

**TUBE:**

Black, oil resistant synthetic rubber. (Nitrile).

**REINFORCEMENT:**

One textile braid.

**COVER:**

Black, oil and abrasion resistant synthetic rubber.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation "U.S. MSHA" of the US Department of Labor, Mine Safety and Health Administration.

**TEMPERATURE RANGE:**

From -40°C to +100°C (-40°F to +212°F).

For water, water/oil emulsions, diesel fuels, glycol and air etc. contact RYCO.

**WORKING PRESSURE:**

PL1 Hose, and 800 Series Push-On Fittings, are recommended for use in systems with Static Working Pressures (constant loads without pressure spikes) only.

They are not recommended for vibration or pressure surge applications.

PL1 Hose should not be used at both maximum working pressure and maximum temperature simultaneously.

**COUPLINGS:**

**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T400 Series** (sizes -4 to -12).

Assembly Instructions per RYCO Product Technical Manual.

**FIELD ATTACHABLE NON-SKIVE**

**800 Series Push-On** (sizes -4 to -12).

Assembly Instructions per RYCO Product Technical Manual.

PL1D - DESCRIPTION														COUPLING SERIES		
PART NO	HOSE SIZE	NOMINAL HOSE ID	NOMINAL HOSE OD	MAXIMUM STATIC WORKING PRESSURE	MINIMUM BEND RADIUS	VACUUM RATING	AVERAGE WEIGHT	ONE PIECE	PUSH-ON					NON-SKIVE		
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	mmHg	inHg	kg/m	lb/ft	NON-SKIVE	
PL14D	6	-04	6,4	1/4	12,7	0.50	21	300	75	3.0	710	28	0,12	0.08	T400	800
PL15D	8	-05	8,0	5/16	14,3	0.56	21	300	75	3.0	710	28	0,15	0.10	T400	800
PL16D	10	-06	9,5	3/8	15,9	0.63	21	300	75	3.0	635	25	0,17	0.11	T400	800
PL18D	12	-08	12,7	1/2	19,8	0.78	21	300	125	5.0	460	18	0,23	0.15	T400	800
PL110D	16	-10	16,0	5/8	23,0	0.91	21	300	150	6.0	380	15	0,29	0.19	T400	800
PL112D	19	-12	19,1	3/4	26,4	1.04	21	300	175	6.9	380	15	0,36	0.24	T400	800

Contact RYCO for Crimp Diameter and Mark Length for BITELOK Couplings.

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# SRF

COMPACT  
HALF SAE BEND RADIUS  
SUCTION & RETURN HOSE



MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF  
SAE 100R4, AS 3791 100R4.  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

**RECOMMENDED FOR:**

Petroleum and water base hydraulic fluids in suction lines or in low pressure return lines. Small bend radius is an advantage in installations. (Tighter Bend Radius than SAE 100R4)

**TUBE:**

Black, oil resistant synthetic rubber. (Nitrile).

**REINFORCEMENT:**

Textile reinforcement with spiral wire to prevent collapsing.

**COVER:**

Black, oil resistant and abrasion resistant synthetic rubber.

**TEMPERATURE RANGE:**

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

**WORKING PRESSURE:**

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

**COUPLINGS:**

Working pressure shown is for hose performance capabilities. Performance of a hose assembly depends on couplings used.

1. For Suction Applications, and Low Pressure Delivery (up to 25% of Maximum Working Pressure).

**3300 SERIES COUPLINGS WITH RSC CLAMP**

**3300 Series** (sizes -12 to -40).

3300 Series Couplings require a suitable clamp around the outside of the hose.

Refer to RYCO RSC Clamps shown below.

Assembly Instructions per RYCO Product Technical Manual.

2. For Suction Applications, and High Pressure Delivery (up to 100% of Maximum Working Pressure).

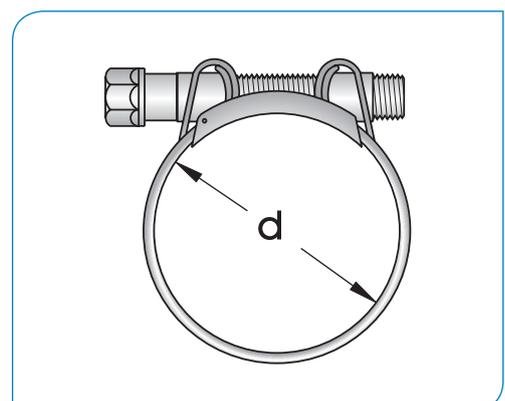
**BITELOK NON-SKIVE ONE-PIECE CRIMP**

**T400 Series** (sizes -12 to -32).

Assembly Instructions per RYCO Product Technical Manual.

SRF – DEFIANT COMPACT SUCTION AND RETURN HOSE														
PART NO	HOSE SIZE	NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		VACUUM RATING		AVERAGE WEIGHT		
	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	mmHg	inHg	kg/m	lb/ft
SRF12	19	-12	19,0	3/4	31,5	1.24	21	300	63	2.5	635	25	0,82	0.55
SRF16	25	-16	25,4	1	40,0	1.57	17	250	75	3.0	635	25	1,00	0.67
SRF20	31	-20	31,8	1.1/4	46,5	1.38	14	200	100	4.0	635	25	1,19	0.80
SRF24	38	-24	38,1	1.1/2	53,1	2.09	10	150	125	5.0	635	25	1,39	0.93
SRF32	51	-32	50,8	2	65,5	2.56	7	100	150	6.0	635	25	1,94	1.30

HOSE PART NO	CLAMP PART NO	CLAMP ADJUSTMENT RANGE		RECOMMENDED TIGHTENING TORQUE	
		d mm	Nm	ft.lbf	
SRF12	RSC-3134	31 to 34	20	15	
SRF16	RSC-3740*	37 to 40	20	15	
	RSC-4043*	40 to 43	20	15	
SRF20	RSC-4347*	43 to 47	20	15	
	RSC-4751*	47 to 51	20	15	
SRF24	RSC-5155	51 to 55	20	15	
SRF32	RSC-6368	63 to 68	25	18	



\*Due to the manufacturing tolerance on outside diameter of the hose and the range of adjustment of the clamp, it is necessary to confirm correct clamp at time of assembly.

# SR

## SUCTION & RETURN HOSE

MEETS OR EXCEEDS THE PERFORMANCE REQUIREMENTS OF SAE 100R4, AS 3791 100R4 (EXCEPT SR48).  
Third Party Approvals: ABS, DNV, GL, LR, MED, USCG

### RECOMMENDED FOR:

Petroleum and water base hydraulic fluids in suction lines or in low pressure return lines.

### TUBE:

Black, oil resistant synthetic rubber. (Nitrile).

### REINFORCEMENT:

Textile reinforcement with spiral wire to prevent collapsing.

### COVER:

Black, oil resistant and abrasion resistant synthetic rubber.

### TEMPERATURE RANGE:

From -40°C to +100°C (-40°F to +212°F).  
For water, emulsions etc. contact RYCO.

### WORKING PRESSURE:

Maximum working pressures are based on 4:1 safety factor (minimum burst to maximum working pressure).

### COUPLINGS:

Working pressure shown is for hose performance capabilities. Performance of a hose assembly depends on couplings used.

1. For Suction Applications, and Low Pressure Delivery (up to 25% of Maximum Working Pressure).

#### 3300 SERIES COUPLINGS WITH RSC CLAMP

**3300 Series** (sizes -12 to -40).

3300 Series Couplings require a suitable clamp around the outside of the hose.

Refer to RYCO RSC Clamps shown below.

Assembly Instructions per RYCO Product Technical Manual.

2. For Suction Applications, and High Pressure Delivery (up to 100% of Maximum Working Pressure).

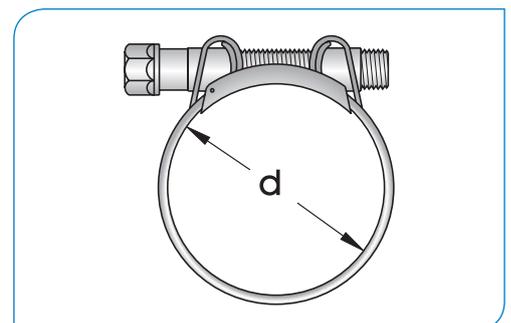
#### BITELOK NON-SKIVE ONE-PIECE CRIMP

**T400 Series** (sizes -12 and -16).

Assembly Instructions per RYCO Product Technical Manual.

SR – SUCTION AND RETURN HOSE		NOMINAL HOSE ID		NOMINAL HOSE OD		MAXIMUM WORKING PRESSURE		MINIMUM BEND RADIUS		VACUUM RATING		AVERAGE WEIGHT	
PART NO	HOSE SIZE	mm	inch	mm	inch	bar	psi	mm	inch	mmHg	inHg	kg/m	lb/ft
SR12	19 -12	19,0	3/4	31,5	1.24	21	300	125	5.0	635	25	0,82	0.55
SR16	25 -16	25,4	1	40,0	1.57	17	250	150	6.0	635	25	1,00	0.67
SR40	63 -40	63,5	2.1/2	78,5	3.09	4,3	62	350	13.8	635	25	2,37	1.59
SR48	76 -48	76,2	3	90,7	3.57	3,9	56	450	17.7	635	25	2,45	1.64

HOSE PART NO	CLAMP PART NO	CLAMP ADJUSTMENT RANGE	RECOMMENDED TIGHTENING TORQUE	
		d mm	Nm	ft.lbf
SR12	RSC-3134	31 to 34	20	15
SR16	RSC-3740*	37 to 40	20	15
	RSC-4043*	40 to 43	20	15
SR40	RSC-7379	73 to 79	25	18
SR48	RSC-8591	85 to 91	25	18

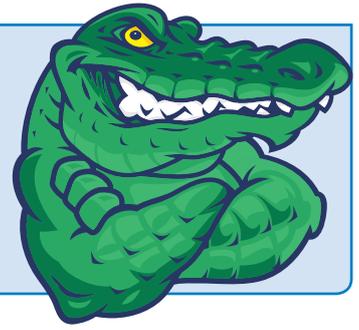


**NOTE:** For sizes -20, -24 & -32, use RYCO SRF Hose.

\*Due to the manufacturing tolerance on outside diameter of the hose and the range of adjustment of the clamp, it is necessary to confirm correct clamp at time of assembly.

**RCS**

CROCSLEEVE  
FLAME RESISTANT  
ANTI-STATIC



## CROCSLEEVE - SAFETY FIRST

DESIGN FEATURES	BENEFITS
GREATER STRENGTH	CROCSLEEVE is made from high density PA (polyamide) for greater strength
FLAME RESISTANT - ABRASION RESISTANT	CROCSLEEVE is Flame Resistant and Anti-Static - FRAS
BURST RESISTANT	CROCSLEEVE is very resistant to hose burst
PIN HOLE RESISTANT	CROCSLEEVE is very resistant to hose pin holes
LEAK RESISTANT	CROCSLEEVE will allow pressure build up of up to 7 bar (100 psi)
STABLE	CROCSLEEVE is stable and has great resistance to sun, atmospheric agents and ageing
NON-TOXIC	CROCSLEEVE is non toxic
TOUGH	CROCSLEEVE is super tough
COLOURS	CROCSLEEVE comes in BLACK (RCSB) and RED (RCSR)
EASY INSTALLATION	CROCSLEEVE has a smooth bore providing easy installation of the hose

CHEMICALLY COMPATIBLE	Compatibility	Compatibility
	Acetone	Very Good
	Alcohols	Very Good
	Bacterium	Very Good
	Benzene	Very Good
	Carbon Tetrachloride	Very Good
	Chlorine Based Solvents	Very Good
	Diluted Acids	Good
	Diluted Bases	Very Good
	Ether	Very Good
	Gasoline	Very Good
	Ionic Metallic Solutions	Very Good
	Mineral Oil	Very Good
	Moths	Very Good
	Mould	Very Good
	Oil	Very Good
	Vegetable Oil	Very Good

**MDG41 SAFE**

## RCS

**CROCSLEEVE  
FLAME RESISTANT  
ANTI-STATIC**



### RECOMMENDED FOR:

Hose burst and pinhole protection.  
Protection of individual hoses from severe abrasion.  
Provides a cost effective method of bundling hoses together, while providing abrasion resistance to the bundle.  
When abrasion occurs, the thousands of tiny filaments in the sleeve bulk up, to continually renew the surface.

### CONSTRUCTION:

Densely woven, polyamide tubular sleeve.  
Black or Red colour. CROCSLEEVE is not affected by exposure to air, water, hydraulic oil and many other fluids.  
The inside bore of the CROCSLEEVE is smooth, allowing hose to move inside the sleeve, and allowing easy installation.

### FRAS - FLAME RESISTANCE AND ANTI-STATIC:

Flame Resistant and Anti-Static - FRAS.  
Electrical conductivity is 3 to 5 MΩ/m when subjected to 500 Volts DC.

### TEMPERATURE RANGE:

From - 50°C to + 121°C (- 58°F to + 250°F).

### SIZE SELECTION:

Choose a size that is slightly larger than the hose or hoses to be sleeved - recommended size is 50% larger than nominal Hose OD.  
If CROCSLEEVE is to be installed onto fitted hose assemblies, allow for the maximum outside profile of the hose fittings.

### ASSEMBLY INSTRUCTIONS:

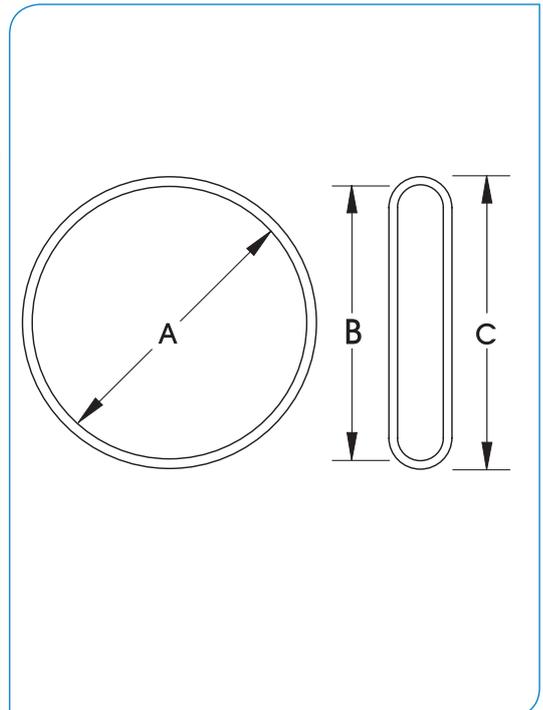
Cut the CROCSLEEVE to length.  
The loose fibres of the cut edges can be sealed with a heat gun or hot knife, to prevent fraying.  
Install over hoses or hose assemblies.  
Secure in place using adhesive-lined heat shrink tubing.



## CROCSLEEVE SPECIFICATIONS

### CROCSLEEVE DIMENSIONS

PART NO		NOMINAL OPEN ID		NOMINAL FLAT ID		NOMINAL FLAT OD		NOMINAL WEIGHT	
BLACK	RED	A mm	A inch	B mm	B inch	C mm	C inch	kg/m	lb/ft
RCSB-20	RCSR-20	20	0.79	31	1.22	34	1.34	0,039	0.026
RCSB-23	RCSR-23	23	0.91	36	1.42	39	1.54	0,044	0.030
RCSB-27	RCSR-27	27	1.06	42	1.65	45	1.77	0,052	0.035
RCSB-31	RCSR-31	31	1.22	49	1.93	52	2.05	0,060	0.040
RCSB-36	RCSR-36	36	1.42	54	2.13	57	2.24	0,065	0.044
RCSB-44	RCSR-44	44	1.73	69	2.72	72	2.83	0,082	0.055
RCSB-47	RCSR-47	47	1.85	74	2.91	77	3.03	0,086	0.058
RCSB-55	RCSR-55	55	2.17	86	3.39	89	3.50	0,102	0.068
RCSB-60	RCSR-60	60	2.36	94	3.70	97	3.82	0,111	0.074
RCSB-66	RCSR-66	66	2.60	104	4.09	107	4.21	0,122	0.082
RCSB-73	RCSR-73	73	2.87	115	4.53	118	4.65	0,135	0.091
RCSB-93	RCSR-93	93	3.66	146	5.75	149	5.87	0,170	0.114
RCSB-112	RCSR-112	112	4.41	176	6.93	179	7.05	0,206	0.138
RCSB-129	RCSR-129	129	5.08	202	7.95	205	8.07	0,360	0.241



INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

# RSGF

**FRAS POLYETHYLENE  
SPIRAL GUARD  
FLAME RESISTANT  
ANTI-STATIC**



**RECOMMENDED FOR:**

Lightweight, cost-effective protection of hoses and cables from abrasion and impact. It can also be used to bundle hoses together in groups. RSGF meets Flame Resistance Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**CONSTRUCTION:**

Polyethylene plastic spiral, with rounded edges to protect hose cover. RSGF FRAS (Dark Grey). Polyethylene is not affected by exposure to air, water, hydraulic oil and many other fluids.

**TEMPERATURE RANGE:**

From -40°C to +120°C (-40°F to +248°F).

**ASSEMBLY INSTRUCTIONS:**

RYCO Spiral Guard can easily be applied after hose assembly because of its spiral form. Place one end of completed hose assembly in a vice. Wrap coil onto hose. It is recommended to choose RYCO Spiral Guard size so that it is a tight fit on the hose. This will keep the Spiral Guard in place on the hose. The Spiral Guard expands to fit the hose or hose bundle. Allow extra length of Spiral Guard to allow for this expansion.

Complies with Flame Resistant and Electrical Resistance (Anti-Static) requirements of Australian Standard AS 2660 and Methods of Test AS 1180.10B and 13A. Meets Flame Resistant Designation “U.S. MSHA” of the US Department of Labor, Mine Safety and Health Administration.

**SIZE SELECTION:**

The tables below show RYCO Spiral Guard size selection for a tight fit on the hose. Due to the Spiral Guard expanding to fit the hose, extra length of Spiral Guard must be allowed. This extra length can be estimated as follows:

T26A Nominal OD = 19,0 mm (see chart on page 79)

RSG-20L Nominal ID = 15,0 mm (from chart below)

Estimated length of RSG-20L to cover 2,3 metres of T26A

$$= \frac{19,0}{15,0} \times 2,3 \text{ m} = 2,91 \text{ metres}$$

**HOW TO ORDER:**

Complete the Part Number: **RSGF-16L, RSGF-75L, RSGF-50L** etc.

Size -16L to -90L: 20 m (65.6 ft) coils or cut to length.

Size -110L: 10 m (32.8 ft) coils or cut to length.

**FRAS - FLAME RESISTANCE AND ANTI-STATIC:**

SPIRAL GUARD					HOSE SERIES									
DASH	NOMINAL Hose ID		NOMINAL HOSE OD		T3000D T3000S	T4000D T4000S	T5000D T5000S	T6000D T6000S	T1D T1S	T2D T2S	H3000D H3000S	H4000D H4000S	H5000D H5000S	H6000D H6000S
	mm	inch	mm	inch										
-12L	9,0	0.35	13,0	0.51					-3					
-16L	12,0	0.47	16,5	0.65	-4	-4	-4	-4	-4	-4				
-20L	15,0	0.59	20,0	0.79	-6,-8	-6,-8	-6,-8	-6	-6,-8	-6,-8			-6	-6
-25L	19,0	0.75	24,5	0.96								-8	-8	-8
-32L	23,0	0.91	30,0	1.18	-12	-12			-12	-12		-10,-12	-12	-12
-40L	30,5	1.20	39,0	1.54	-16				-16	-16		-16	-16	-16
-50L	38,0	1.50	46,5	1.83				-20	-20,-24	-20,-24	-20,-24	-20,-24	-20	-20
-63L	47,0	1.85	58,0	2.28				-24	-32	-32	-32	-32	-24	-24
-75L	61,0	2.40	73,0	2.87				-32		-40			-32	-32
-90L	70,5	2.78	84,5	3.33	USED TO BUNDLE HOSES									
-110L	84,0	3.31	99,0	3.90	USED TO BUNDLE HOSES									

DASH	NOMINAL Hose ID		NOMINAL HOSE OD		H12D H12S	H13D H13S	H15D	PL1D	SRF SR					
	mm	inch	mm	inch										
-12L	9,0	0.35	13,0	0.51										
-16L	12,0	0.47	16,5	0.65				-4,-5						
-20L	15,0	0.59	20,0	0.79	-6									
-25L	19,0	0.75	24,5	0.96	-8			-6,-8						
-32L	23,0	0.91	30,0	1.18	-10,-12	-12	-12	-10,-12						
-40L	30,5	1.20	39,0	1.54	-16	-16	-16		-12,-16					
-50L	38,0	1.50	46,5	1.83	-20,-24	-20	-20							
-63L	47,0	1.85	58,0	2.28	-32	-24	-24		-32					
-75L	61,0	2.40	73,0	2.87		-32	-32		-40					
-90L	70,5	2.78	84,5	3.33	USED TO BUNDLE HOSES									
-110L	84,0	3.31	99,0	3.90	USED TO BUNDLE HOSES									

## RHYT HOSE TAG



### RECOMMENDED FOR:

Permanent identification of hose assemblies. RYCO RHYT Hose Tags enable hose assembly information to be attached to the hose assembly in a cost effective manner.

Two sizes of RHYT Hose Tags allow all common hose sizes to be tagged.

Information can be written or printed on the Hose Tag prior to being attached to the hose. When the Hose Tag is wrapped on the hose, a clear panel at the end of the tag wraps over to protect the written or printed information.

Hose Tag remains in position on the hose due to the adhesive backing, and the Hose Tag bends with the hose, ensuring that flexibility is not affected.

The slim profile of the attached Hose Tag reduces the risk of accidental removal. Hose Tag does not damage or cut the cover of the hose.

### CONSTRUCTION:

Heat, oil, ozone, sunlight, and weather resistant high performance plastic.

Adhesive-backed for permanent attachment to the hose assembly. Area to write or print information, with a clear panel that wraps over to protect the hose assembly identification information.

### TEMPERATURE RANGE:

Suitable for use with all RYCO Hoses at their published temperature ranges.

### ASSEMBLY INSTRUCTIONS:

1. Select correct size of RYCO RHYT Hose Tag for the hose assembly that is to be identified.  
  
Two sizes are available:  
**RHYT-10** suits hose sizes -04 to -10 (1/4" to 5/8").  
**RHYT-32** suits hose sizes -12 to -32 (3/4" to 2").
2. Using a ball point pen or label printer, apply the required information onto the Hose Tag.
3. Remove the release paper from the back of the Hose Tag to expose the adhesive.
4. While ensuring that the Hose Tag is parallel to the axis of the hose, wrap the Hose Tag tightly around the hose, then continue to wrap the clear plastic panel over the Hose Tag.
5. Press firmly to ensure that the adhesive bonds.

### RHYT HOSE TAGS SPECIFICATIONS

RHYT HOSE TAGS			
PART NO	SUITS HOSE SIZE ID RANGE		
	DN	INCH	DASH
RHYT-10	6 to 16	1/4 to 5/8	-04 to -10
RHYT-32	12 to 51	3/4 to 2	-12 to -32

RHYT-32

RHYT-10

Contact RYCO for further information.

**SEE RYCO PRODUCT TECHNICAL MANUAL FOR “HOW TO ORDER HOSE ASSEMBLIES”**

Coil length of RYCO Hydraulic Hose varies according to Hose Series and Size.

Wire braid, textile braid and spiral wire reinforced hydraulic hoses are in most cases manufactured in long lengths on flexible mandrels, which results in coils of hose of different lengths. These hoses are produced and supplied in random lengths.

SR Suction Hose is manufactured on rigid mandrels of a specified length.

SR Hose 20 metres (65.6 ft)

If hose is part of a general stock order, every effort will be made to supply length closest to length ordered, but length supplied may be shorter or longer than length ordered. If ordering “a coil” of hose, please specify the length required. If a specific cut length is required, this must be specified when ordering, e.g. 19,5 metres exact length and may be subject to surcharge.

Shown in the table below is the availability of RYCO Hydraulic Hose in Coils, and on Reels or in Bulk Cartons. Details of average quantities packed on reels (or in cartons) and their dimensions are available from RYCO on request.

PART NO	SIZE	COILS	REELS	BULK CARTONS
<b>T3000D, T3000S</b>	all sizes		•	•
<b>T4000D, T4000S</b>	all sizes		•	•
<b>T5000D, T5000S</b>	all sizes		•	•
<b>T6000D, T6000S</b>	all sizes		•	•
<b>T1D, T1S</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>T2D, T2S</b>	up to and including -16 (1") -20 to -48 (1.1/4" to 3")	•	•	•
<b>H3000D, H3000S</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>H4000D, H4000S</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>H5000D, H5000S</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>H6000D, H6000S</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>H12D, H12S</b>	up to and including -16 (1") -20 to -40 (1.1/4" to 2.1/2")	•	•	•
<b>H13D, H13S</b>	up to and including -16 (1") -20 to -40 (1.1/4" to 2.1/2")	•	•	•
<b>H15D</b>	up to and including -16 (1") -20 to -32 (1.1/4" to 2")	•	•	•
<b>PL1D</b>	all sizes	•		
<b>SR</b>	all sizes	•		
<b>SRF</b>	all sizes	•		

# **RYCO** CROCBITE

**MINE SAFE CONNECTION SYSTEM**



**420 BAR**

**1,000,000+ IMPULSE CYCLES**

**CONFORMS WITH THE REQUIREMENTS OF MDG41**

## DESIGN FEATURES

420 BAR	EASY ACCESS	RE-USABLE
CANNOT SELF DISENGAGE	EASY TO ASSEMBLE	SUPER STRONG
1,000,000+ IMPULSE CYCLES	CORROSION RESISTANT	STAINLESS STEEL CROCTAIL
ULTRA SLIM - SNAG FREE	CONTAMINATION RESISTANT	COLOUR CODED
PRESSURE LOCKING	ROTATIONAL ALIGNMENT	

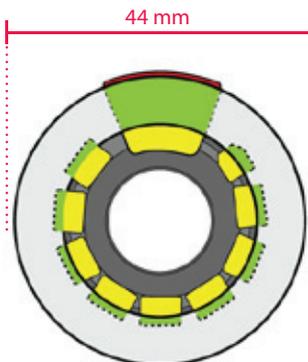
## CROCBITE

### MINE SAFE CONNECTION SYSTEM

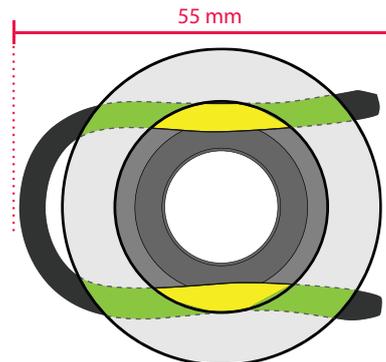
Combining extensive industry experience and years of research and development, RYCO is proud to release a cutting edge safe and secure connection system, an Australian innovation that conforms to ISO 6805 as per the requirement of MDG 41.

The new CROCBITE system uses a segmented flexible "CROCTAIL" that fully engages the circumference of the connector, ensuring maximum possible holding, and delivering increased safety for personnel.

CROCBITE female connectors will accept standard DIN 20043 male connectors in sizes DN10 - DN20. This system has been thoroughly evaluated, and has been extensively tested at 1.33 x 420 Bar (560 Bar) to a minimum of 1 million cycles.



DN20



DN20

20% Narrower

40% Less area

200% Bearing area

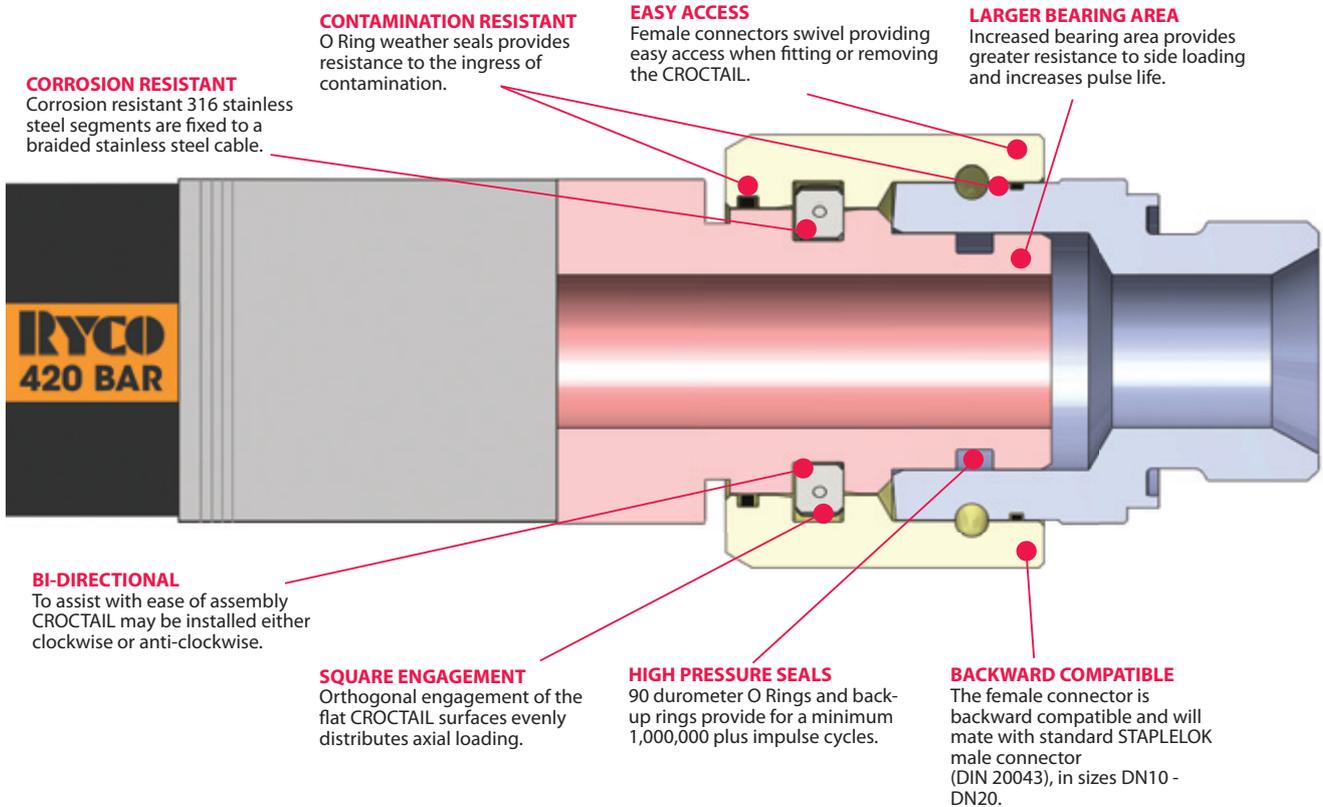
The innovative, ultra-slim, snag free RYCO CROCBITE coupling system is many times stronger than the standard DIN 20043 staple connector.

Standard DIN 20043 staple connectors engage on two sides only, limiting the working pressure of the connector.

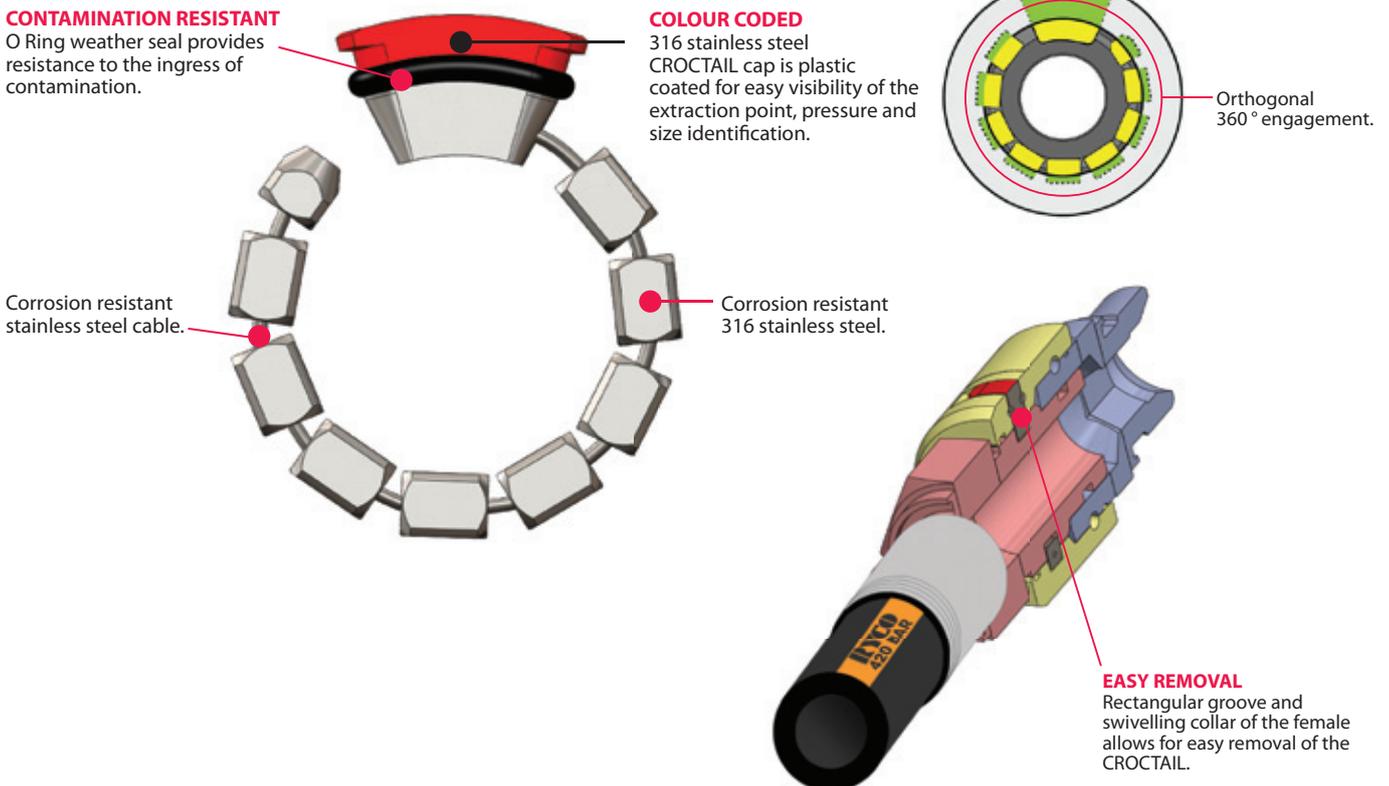
HOSE SIZE ID	CROCBITE FITTING SIZE	MWP	IMPULSE CYCLES	BACKWARDS COMPATIBLE	CROCBITE OD	CROCTAIL WIDTH
<b>DN</b>	<b>DN</b>	<b>BAR</b>	<b>Result</b>		<b>mm</b>	<b>mm</b>
6	10	450	2,000,000 +		31	4.8
10	10	450	2,000,000 +	✓	31	4.8
12	12	450	2,000,000 +	✓	36	4.8
20	20	420	1,000,000 +	✓	44	4.8
25	25	420	1,000,000 +		56	5.8
32	32	420	1,000,000 +		65	5.8
40	40	420	1,000,000 +		76	5.8
50	50	420	1,000,000 +		95	9.5
51	51	350	1,000,000 +		95	9.5
63	63	350	1,000,000 +		119	9.5
75	65	280	1,000,000 +		119	9.5

## CROCBITE

### MINE SAFE CONNECTION SYSTEM



## CROCTAIL



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## MALE STRAIGHT

<b>T2880</b> PAGE 70	<b>T7880</b> PAGE 70	<b>T9880</b> PAGE 70	<b>69880N</b> PAGE 70
CROCBITE MALE	CROCBITE MALE	CROCBITE MALE	CROCBITE MALE

## MALE 45°

<b>T2881</b> PAGE 71	<b>T7881</b> PAGE 71
CROCBITE MALE 45° ELBOW	CROCBITE MALE 45° ELBOW

## MALE 45°

<b>T9881</b> PAGE 71	<b>69881N</b> PAGE 71
CROCBITE MALE 45° ELBOW	CROCBITE MALE 45° ELBOW

## MALE 90°

<b>T2882</b> PAGE 71	<b>T7882</b> PAGE 71	<b>T9882</b> PAGE 71	<b>69882N</b> PAGE 71
CROCBITE MALE 90° ELBOW			

## CROCBITE PLUG & CAP

<b>RCB165</b> PAGE 72	<b>RCB160</b> PAGE 72
CROCBITE MALE PLUG	CROCBITE FEMALE CAP

## CROCBITE STRAIGHT

<b>RCB120</b> PAGE 73	<b>RCB72</b> PAGE 73	<b>RCB155</b> PAGE 76	<b>RCB156</b> PAGE 76
CROCBITE MALE NIPPLE	CROCBITE MALE FEMALE SWIVEL	CROCBITE MALE BSPP MALE ECAPSULATED SEAL	CROCBITE MALE BSPP O RING FACE SEAL MALE NIPPLE

## CROCBITE STRAIGHT CONT'D

<b>RCB125</b> PAGE 79	<b>RCB130</b> PAGE 79	<b>RCB140</b> PAGE 81	<b>RCB145</b> PAGE 81	<b>RCB150</b> PAGE 81	<b>RCB157</b> PAGE 76	<b>RCB32</b> PAGE 73
CROCBITE MALE NPT MALE NIPPLE	CROCBITE MALE NPTF MALE LONG NIPPLE	CROCBITE MALE UNO O RING MALE NIPPLE	CROCBITE MALE UNO O RING MALE LONG NIPPLE	CROCBITE MALE UNO O RING MALE EXTRA LONG NIPPLE	CROCBITE MALE BSPP FEMALE FIXED	CROCBITE FEMALE SWIVEL FEMALE SWIVEL

## CROCBITE STRAIGHT CONT'D

<b>RCB115</b> PAGE 77	<b>RCB116</b> PAGE 77	<b>RCB116C</b> PAGE 77	<b>RCB80</b> PAGE 80	<b>RCB100</b> PAGE 82	<b>RCB100C</b> PAGE 82
CROCBITE FEMALE SWIVEL BSPP MALE ENCAPSULATED SEAL	CROCBITE FEMALE SWIVEL BSPP MALE O RING FACE SEAL	CROCBITE FEMALE SWIVEL BSPP MALE O RING FACE SEAL INTERNAL HEX	CROCBITE FEMALE SWIVEL NPTF MALE	CROCBITE FEMALE SWIVEL UNO O RING MALE	CROCBITE FEMALE SWIVEL UNO O RING MALE INTERNAL HEX

## CROCBITE 45° ELBOW

<b>RCB74</b> PAGE 74	<b>RCB35</b> PAGE 74	<b>RCB131</b> PAGE 78	<b>RCB90</b> PAGE 80	<b>RCB105</b> PAGE 81	<b>RCB119</b> PAGE 77
CROCBITE MALE CROCBITE FEMALE 45° ELBOW	CROCBITE FEMALE SWIVEL FEMALE SWIVEL 45° ELBOW	CROCBITE FEMALE SWIVEL BSPT MALE 45° ELBOW	CROCBITE FEMALE SWIVEL NPTF MALE 45° ELBOW	CROCBITE FEMALE SWIVEL UNO O RING MALE 45° ELBOW	CROCBITE FEMALE SWIVEL BSPP FEMALE SWIVEL 45° ELBOW

**CROCBITE  
90° ELBOW**

<b>RCB76</b> PAGE 74	<b>RCB40</b> PAGE 74	<b>RCB113</b> PAGE 78	<b>RCB95</b> PAGE 80	<b>RCB110</b> PAGE 82	<b>RCB112</b> PAGE 82
CROCBITE MALE CROCBITE FEMALE SWIVEL 90° ELBOW	CROCBITE MALE CROCBITE FEMALE 90° ELBOW	CROCBITE FEMALE SWIVEL BSPT MALE 90° ELBOW	CROCBITE FEMALE SWIVEL NPTF MALE 90° ELBOW	CROCBITE FEMALE SWIVEL UN O RING MALE 90° ELBOW	CROCBITE FEMALE SWIVEL UN O RING MALE EXTENDED 90° LONG ELBOW

**CROCBITE  
TEE & CROSS**

<b>RCB78</b> PAGE 75	<b>RCB77</b> PAGE 75	<b>RCB50</b> PAGE 75	<b>RCB62</b> PAGE 76		
CROCBITE MALE FEMALE SWIVEL FEMALE SWIVEL TEE	CROCBITE FEMALE SWIVEL FEMALE SWIVEL MALE TEE	CROCBITE FEMALE SWIVEL TEE	CROCBITE FEMALE SWIVEL CROSS		

**CROCBITE  
BANJO**

<b>RCB27</b> PAGE 83	<b>RCB26</b> PAGE 83	<b>CROCBITE MANIFOLD BOOMERANG</b>	<b>RCB225</b> PAGE 83	<b>RCB226</b> PAGE 83	
CROCBITE FEMALE SWIVEL BSPP BANJO BOLT	CROCBITE FEMALE SWIVEL BSPP BANJO KIT		CROCBITE MALE MALE 135° BEND BOOMERANG	CROCBITE FEMALE FEMALE 135° BEND BOOMERANG	

**CROCBITE  
COMPONENTS**

<b>RCT175</b> PAGE 72	<b>RCB180</b> PAGE 84	<b>RCB195</b> PAGE 84	<b>RCB191</b> PAGE 84	<b>RCB181</b> PAGE 84	
RYCO CROCTAIL	CROCBITE MALE O RING	CROCBITE MALE BACKUP	CROCBITE FEMALE NUT INGRESSION SEAL	CROCBITE MALE SEAL	

**CROCBITE  
ACCESSORIES**

<b>RCBC</b> PAGE 84	<b>RCB22</b> PAGE 84	<b>RL21</b> PAGE 84			
CROCBITE PLASTIC CAP/PLUG	CROCBITE MALE ORING AND BACKUP KIT	BSPP METAL BONDED STEEL			

**CROCBITE  
BALL VALVES**

<b>RCB166</b> PAGE 85	<b>RCB167</b> PAGE 85				
BALL VALVE CROCBITE MALE FEMALE SWIVEL	BALL VALVE CROCBITE FEMALE SWIVEL FEMALE SWIVEL				

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<b>CROCBITE</b>	<b>T2880</b>	<b>T7880</b>	<b>T9880</b>	<b>69880N</b>
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**STRAIGHT MALE**



HOSE SIZE	MAXIMUM WORKING PRESSURE	DASH SIZE	T200 CROCBITE MALE	T700 CROCBITE MALE	T900 CROCBITE MALE	6900N CROCBITE MALE
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**HIGH PRESSURE**

DN	inch	bar		PART NO	PART NO	PART NO	PART NO
10	3/8	450	-0610	<b>T2880-0610</b>	<b>T7880-0610</b>		
12	1/2	450	-0812	<b>T2880-0812</b>	<b>T7880-0812</b>		
19	3/4	420	-1220	<b>T2880-1220</b>	<b>T7880-1220</b>	<b>T9880-1220</b>	<b>69880N-1220</b>
25	1	420	-1625	<b>T2880-1625</b>	<b>T7880-1625</b>	<b>T9880-1625</b>	<b>69880N-1625</b>
31	1.1/4	420	-2032	<b>T2880-2032</b>	<b>T7880-2032</b>	<b>T9880-2032</b>	<b>69880N-2032</b>
38	1.1/2	420	-2440		<b>T7880-2440</b>	<b>T9880-2440</b>	<b>69880N-2440</b>
51	2	420	-3250		<b>T7880-3250</b>	<b>T9880-3250</b>	<b>69880N-3250</b>
63	2.1/2	350	-4063		<b>T7880-4063</b>	<b>T9880-4063</b>	<b>69880N-4063</b>

**HIGH FLOW**

DN	inch	bar		PART NO	PART NO	PART NO	PART NO
50	2	350	-3250		<b>T7880A-3250</b>		
63	2.1/2	280	-4063		<b>T7880A-4063</b>		
75	3	210	-4875		<b>T7880A-4875</b>		

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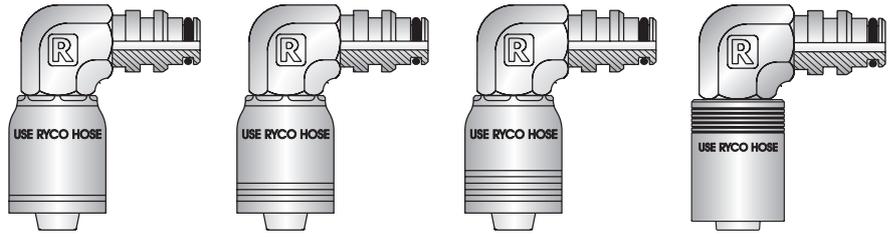
### T2882

### T7882

### T9882

### 69882N

### 90° ELBOW MALE



HOSE SIZE	CROCBITE CROCTAIL SIZE	MAXIMUM WORKING PRESSURE	DASH SIZE	T200 CROCBITE MALE 90° ELBOW	T700 CROCBITE MALE 90° ELBOW	T900 CROCBITE MALE 90° ELBOW	6900N CROCBITE MALE 90° ELBOW
<b>HIGH PRESSURE</b>							
DN	inch	mm	bar		PART NO	PART NO	PART NO
10	3/8	10	450	-0610	<b>T2882-0610</b>	<b>T7882-0610</b>	
12	1/2	12	450	-0812	<b>T2882-0812</b>	<b>T7882-0812</b>	
31	1.1/4	32	420	-2032	<b>T2882-2032</b>	<b>T7882-2032</b>	<b>T9882-2032</b> <b>69882N-2032</b>
38	1.1/2	40	420	-2440		<b>T7882-2440</b>	<b>T9882-2440</b> <b>69882N-2440</b>
51	2	50	420	-3250		<b>T7882-3250</b>	<b>T9882-3250</b> <b>69882N-3250</b>
63	2.1/2	63	350	-4063		<b>T7882-4063</b>	<b>T9882-4063</b> <b>69882N-4063</b>

DN	inch	mm	bar		PART NO	PART NO	PART NO
<b>HIGH FLOW</b>							
50	2	50	350	-3250		<b>T7882A-3250</b>	
63	2.1/2	63	280	-4063		<b>T7882A-4063</b>	
75	3	75	210	-4875		<b>T7882A-4875</b>	

## CROCBITE

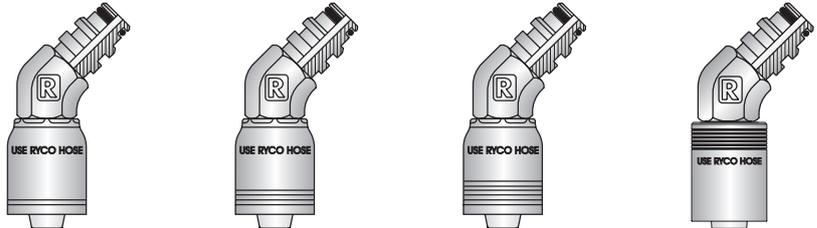
### T2881

### T7881

### T9881

### 69881N

### 45° ELBOW MALE

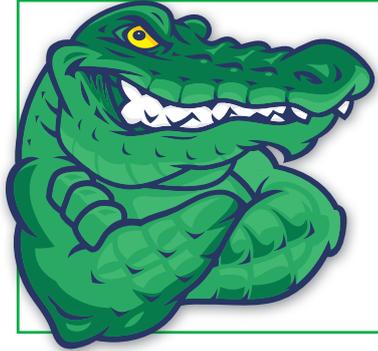
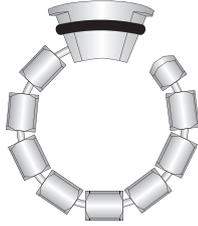


HOSE SIZE	CROCBITE CROCTAIL SIZE	MAXIMUM WORKING PRESSURE	DASH SIZE	T200 CROCBITE MALE 45° ELBOW	T700 CROCBITE MALE 45° ELBOW	T900 CROCBITE MALE 45° ELBOW	6900N CROCBITE MALE 45° ELBOW
<b>HIGH PRESSURE</b>							
DN	inch	mm	bar		PART NO	PART NO	PART NO
10	3/8	10	450	-0610	<b>T2881-0610</b>	<b>T7881-0610</b>	
12	1/2	12	450	-0812	<b>T2881-0812</b>	<b>T7881-0812</b>	
31	1.1/4	32	420	-2032	<b>T2881-2032</b>	<b>T7881-2032</b>	<b>T9881-2032</b> <b>69881N-2032</b>
38	1.1/2	40	420	-2440		<b>T7881-2440</b>	<b>T9881-2440</b> <b>69881N-2440</b>
51	2	50	420	-3250		<b>T7881-3250</b>	<b>T9881-3250</b> <b>69881N-3250</b>
63	2.1/2	63	350	-4063		<b>T7881-4063</b>	<b>T9881-4063</b> <b>69881N-4063</b>

DN	inch	mm	bar		PART NO	PART NO	PART NO
<b>HIGH FLOW</b>							
50	2	50	350	-3250		<b>T7881A-3250</b>	
63	2.1/2	63	280	-4063		<b>T7881A-4063</b>	
75	3	75	210	-4875		<b>T7881A-4875</b>	

**CROCBITE RCT175**

**RYCO CROCTAIL**



**CROCBITE CROCTAIL**

**MATERIALS**

Corrosion resistant 316 stainless steel.  
Corrosion resistant stainless steel cable.

**CONTAMINATION RESISTANT**

O Ring weather seal provides resistance to the ingress of contamination.

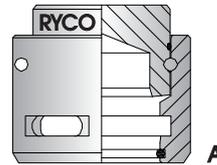
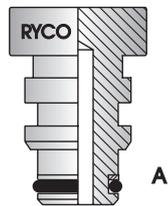
**COLOUR CODED**

316 stainless steel CROCTAIL cap is plastic coated for easy visibility of the extraction point, pressure and size identification.

CROCTAIL SIZE mm	RYCO CROCTAIL
<b>HIGH PRESSURE</b>	
	<b>PART NO</b>
10	<b>RCT175-10</b>
12	<b>RCT175-12</b>
20	<b>RCT175-20</b>
25	<b>RCT175-25</b>
32	<b>RCT175-32</b>
40	<b>RCT175-40</b>
50	<b>RCT175-50</b>
63	<b>RCT175-63</b>
75	<b>RCT175-75</b>

**CROCBITE RCB165 RCB160**

**PLUG CAP**



CROCBITE SIZE	DASH SIZE	CROCBITE MALE PLUG	CROCBITE FEMALE CAP
<b>HIGH PRESSURE</b>			
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>
10	-10	<b>RCB165-10</b>	<b>RCB160-10</b>
12	-12	<b>RCB165-12</b>	<b>RCB160-12</b>
20	-20	<b>RCB165-20</b>	<b>RCB160-20</b>
25	-25	<b>RCB165-25</b>	<b>RCB160-25</b>
32	-32	<b>RCB165-32</b>	<b>RCB160-32</b>
40	-40	<b>RCB165-40</b>	<b>RCB160-40</b>
50	-50	<b>RCB165-50</b>	<b>RCB160-50</b>
63	-63	<b>RCB165-63</b>	<b>RCB160-63</b>
75	-75	<b>RCB165-75</b>	<b>RCB160-75</b>
<b>HIGH FLOW</b>			
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>
50	-50	<b>RCB165A-50</b>	<b>RCB160A-50</b>
63	-63	<b>RCB165A-63</b>	<b>RCB160A-63</b>
75	-75	<b>RCB165A-75</b>	<b>RCB160A-75</b>

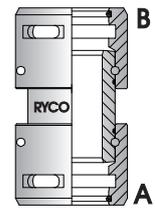
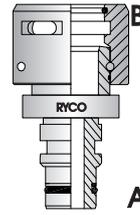
CROCBITE/CROCBITE

RCB120

RCB72

RCB32

STRAIGHT



CROCBITE SIZE mm		DASH SIZE	CROCBITE MALE NIPPLE	CROCBITE MALE FEMALE SWIVEL	CROCBITE FEMALE SWIVEL FEMALE SWIVEL
<b>HIGH PRESSURE</b>					
<b>A</b>	<b>B</b>		<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>
10	06	-1006	RCB120-1006		
10	10	-1010	RCB120-1010	RCB72-1010	RCB32-1010
10	10	-1010	RCB120-1010E72		
10	12	-1012		RCB72-1012	
10	20	-1020		RCB72-1020	
12	06	-1206	RCB120-1206		
12	10	-1210	RCB120-1210	RCB72-1210	RCB32-1210
12	12	-1212	RCB120-1212	RCB72-1212	RCB32-1212
12	12	-1212	RCB120-1212E85		
12	20	-1220		RCB72-1220	
12	25	-1225		RCB72-1225	
12	32	-1232		RCB72-1232	
20	10	-2010	RCB120-2010	RCB72-2010	RCB32-2010
20	12	-2012	RCB120-2012	RCB72-2012	RCB32-2012
20	20	-2020	RCB120-2020	RCB72-2020	RCB32-2020
20	25	-2025		RCB72-2025	
25	10	-2510	RCB120-2510		RCB32-2510
25	12	-2512	RCB120-2512		RCB32-2512
25	20	-2520	RCB120-2520	RCB72-2520	RCB32-2520
25	25	-2525	RCB120-2525	RCB72-2525	RCB32-2525
25	32	-2532		RCB72-2532	
25	40	-2540		RCB72-2540	
32	12	-3212	RCB120-3212		
32	20	-3220	RCB120-3220		
32	25	-3225	RCB120-3225	RCB72-3225	RCB32-3225
32	32	-3232	RCB120-3232	RCB72-3232	RCB32-3232
32	40	-3240		RCB72-3240	
32	50	-3250			RCB32-3250
40	25	-4025	RCB120-4025	RCB72-4025	RCB32-4025
40	32	-4032	RCB120-4032	RCB72-4032	RCB32-4032
40	40	-4040	RCB120-4040		RCB32-4040
40	50	-4050			RCB32-4050
50	12	-5012		RCB72-5012	RCB32-5012
50	20	-5020	RCB120-5020	RCB72-5020	
50	25	-5025	RCB120-5025		RCB32-5025
50	32	-5032	RCB120-5032	RCB72-5032	RCB32-5032
50	40	-5040	RCB120-5040	RCB72-5040	RCB32-5040
50	50	-5050	RCB120-5050		RCB32-5050
63	50	-6350			RCB32-6350
63	63	-6363	RCB120-6363		RCB32-6363
75	75	-7575	RCB120-7575		RCB32-7575

<b>HIGH FLOW</b>					
<b>A</b>	<b>B</b>		<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>
25	50	-2550		RCB72A-2550	
32	50	-3250		RCB72A-3250	
40	50	-4050		RCB72A-4050	
50	12	-5012		RCB72A-5012	RCB32A-5012
50	20	-5020		RCB72A-5020	
50	25	-5025		RCB72A-5025	RCB32A-5025
50	32	-5032		RCB72A-5032	RCB32A-5032
50	40	-5040		RCB72A-5040	RCB32A-5040
50	50	-5050	RCB120A-5050		RCB32A-5050
63	50	-6350			RCB32A-6350
63	63	-6363	RCB120A-6363		RCB32A-6363
75	63	-7563			RCB32A-7563
75	75	-7575	RCB120A-7575		RCB32A-7575

**CROCBITE/  
CROCBITE**

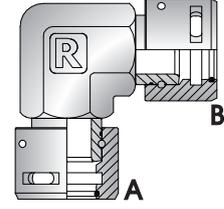
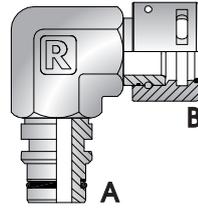
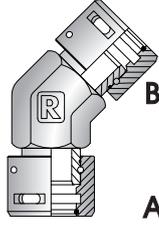
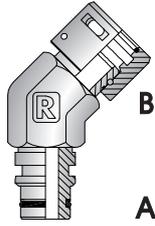
**RCB74**

**RCB35**

**RCB76**

**RCB40**

45° ELBOW



CROCBITE SIZE mm		DASH SIZE	CROCBITE MALE CROCBITE FEMALE 45° ELBOW	CROCBITE FEMALE SWIVEL FEMALE SWIVEL 45° ELBOW	CROCBITE MALE CROCBITE FEMALE SWIVEL 90° ELBOW	CROCBITE MALE CROCBITE FEMALE 90° ELBOW
<b>HIGH PRESSURE</b>						
A	B		PART NO	PART NO	PART NO	PART NO
6	6	-0606				RCB40-0606
6	10	-0610			RCB76-0610	
10	10	-1010	RCB74-1010	RCB35-1010	RCB76-1010	RCB40-1010
10	12	-1012			RCB76-1012	
12	10	-1210			RCB76-1210	RCB40-1210
12	12	-1212	RCB74-1212	RCB35-1212	RCB76-1212	RCB40-1212
12	20	-1220			RCB76-1220	
20	12	-2012				RCB40-2012
20	20	-2020	RCB74-2020	RCB35-2020	RCB76-2020	RCB40-2020
25	25	-2525	RCB74-2525	RCB35-2525	RCB76-2525	RCB40-2525
32	12	-3212			RCB76-3212	
32	32	-3232	RCB74-3232	RCB35-3232	RCB76-3232	RCB40-3232
40	40	-4040	RCB74-4040	RCB35-4040	RCB76-4040	RCB40-4040
50	50	-5050	RCB74-5050	RCB35-5050	RCB76-5050	RCB40-5050
63	63	-6363	RCB74-6363	RCB35-6363	RCB76-6363	RCB40-6363
75	75	-7575		RCB35-7575		RCB40-7575
<b>HIGH FLOW</b>						
A	B		PART NO			
50	50	-5050	RCB74A-5050	RCB35A-5050	RCB76A-5050	RCB40A-5050
63	63	-6363	RCB74A-6363	RCB35A-6363	RCB76A-6363	RCB40A-6363
75	75	-7575		RCB35A-7575		RCB40A-7575

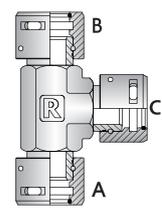
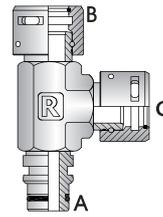
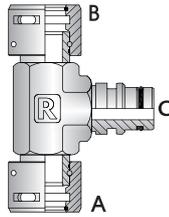
**CROCBITE/CROCBITE**

**RCB77**

**RCB78**

**RCB50**

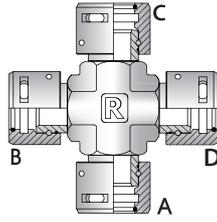
TEE



CROCBITE SIZE mm		DASH SIZE	CROCBITE FEMALE SWIVEL FEMALE SWIVEL MALE TEE	CROCBITE MALE FEMALE SWIVEL FEMALE SWIVEL TEE	CROCBITE FEMALE SWIVEL TEE
<b>HIGH PRESSURE</b>					
A	B	C	PART NO	PART NO	PART NO
6	6	6	-060606	RCB78-060606	
10	10	10	RCB77-101010	RCB78-101010	RCB50-101010
12	10	12	RCB77-121012		
12	12	10	-121210	RCB78-121210	RCB50-121210
12	12	12	RCB77-121212	RCB78-121212	RCB50-121212
12	12	20	-121220		RCB50-121220
20	20	10	-202010	RCB78-202010	RCB50-202010
20	20	12	-202012	RCB78-202012	RCB50-202012
20	20	20	RCB77-202020	RCB78-202020	RCB50-202020
25	25	10	-252510	RCB78-252510	
25	25	12	-252512	RCB78-252512	RCB50-252512
25	25	20	-252520		RCB50-252520
25	25	25	RCB77-252525	RCB78-252525	RCB50-252525
32	20	20	-322020	RCB78-322020	
32	32	12	-323212		RCB50-323212
32	32	20	-323220		RCB50-323220
32	32	25	-323225		RCB50-323225
32	32	32	RCB77-323232		RCB50-323232
40	40	10	-404010		RCB50-404010
40	40	20	RCB77-404020		RCB50-404020
40	40	25	-404025		RCB50-404025
40	40	40	-404040		RCB50-404040
50	50	20	-505020		RCB50-505020
50	50	25	-505025		RCB50-505025
50	50	32	-505032		RCB50-505032
50	50	50	-505050		RCB50-505050
63	63	63	-636363		RCB50-636363
<b>HIGH FLOW</b>					
A	B	C	PART NO	PART NO	PART NO
50	50	25	-505025		RCB50A-505025
50	50	32	-505032		RCB50A-505032
50	50	50	-505050		RCB50A-505050
63	63	63	-636363		RCB50A-636363

**CROCBITE/CROCBITE** **RCB62**

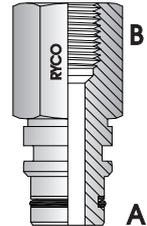
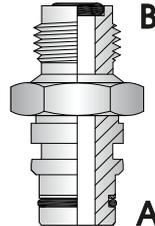
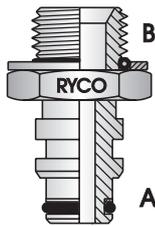
**EQUAL CROSS**



CROCBITE SIZE mm				DASH SIZE	CROCBITE FEMALE SWIVEL CROSS
<b>HIGH PRESSURE</b>					
A	B	C	D		PART NO
10	10	10	10	-10101010	<b>RCB62-10101010</b>
12	12	12	12	-12121212	<b>RCB62-12121212</b>
20	20	20	20	-20202020	<b>RCB62-20202020</b>
25	25	25	25	-25252525	<b>RCB62-25252525</b>
32	32	32	32	-32323232	<b>RCB62-32323232</b>

**CROCBITE/BSPP** **RCB155** **RCB156** **RCB157**

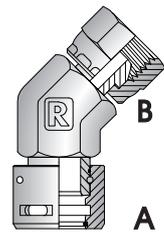
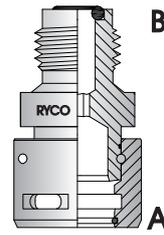
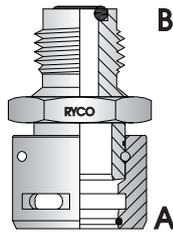
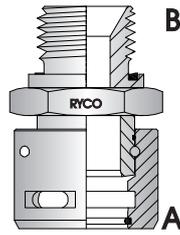
**STRAIGHT**



CROCBITE SIZE	THREAD SIZE	DASH SIZE	CROCBITE MALE BSPP MALE ECAPSULATED SEAL	CROCBITE MALE BSPP O RING FACE SEAL MALE NIPPLE	CROCBITE MALE BSPP FEMALE FIXED
<b>HIGH PRESSURE</b>					
mm	inch		PART NO		
10	1/4	-1004	<b>RCB155-1004</b>		
10	3/8	-1006	<b>RCB155-1006</b>	<b>RCB156-1006</b>	<b>RCB157-1006</b>
10	1/2	-1008	<b>RCB155-1008</b>		<b>RCB157-1008</b>
12	3/8	-1206	<b>RCB155-1206</b>		
12	1/2	-1208	<b>RCB155-1208</b>		<b>RCB157-1208</b>
12	3/4	-1212	<b>RCB155-1212</b>		
20	3/4	-2012	<b>RCB155-2012</b>		<b>RCB157-2012</b>
20	1	-2016	<b>RCB155-2016</b>		
25	1	-2516	<b>RCB155-2516</b>		<b>RCB157-2516</b>
32	1	-3216	<b>RCB155-3216</b>		
32	1.1/4	-3220	<b>RCB155-3220</b>		
40	1.1/2	-4024	<b>RCB155-4024</b>		
50	2	-5032	<b>RCB155-5032</b>		
63	2.1/2	-6340	<b>RCB155-6340</b>		
<b>HIGH FLOW</b>					
mm	inch		PART NO		
50	2	-5032	<b>RCB155A-5032</b>		
63	2.1/2	-6340	<b>RCB155A-6340</b>		

**CROCBITE/BSPP RCB115 RCB116 RCB116C RCB119**

**STRAIGHT  
45° ELBOW**



CROCBITE SIZE	THREAD SIZE	DASH SIZE	CROCBITE FEMALE SWIVEL BSPP MALE ENCAPSULATED SEAL	CROCBITE FEMALE SWIVEL BSPP MALE O RING FACE SEAL	CROCBITE FEMALE SWIVEL BSPP MALE O RING FACE SEAL INTERNAL HEX	CROCBITE FEMALE SWIVEL BSPP FEMALE SWIVEL 45° ELBOW
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HIGH PRESSURE						
mm	inch		PART NO	PART NO	PART NO	PART NO
6	1/4	-0604				RCB119-0604
6	3/8	-0606				RCB119-0606
10	1/4	-1004	RCB115-1004	RCB116-1004		
10	3/8	-1006	RCB115-1006	RCB116-1006		RCB119-1006
10	1/2	-1008	RCB115-1008	RCB116-1008		
10	3/4	-1012		RCB116-1012	RCB116C-1012	
12	1/4	-1204		RCB116-1204		
12	3/8	-1206	RCB115-1206	RCB116-1206		
12	1/2	-1208	RCB115-1208	RCB116-1208		RCB119-1208
12	3/4	-1212	RCB115-1212	RCB116-1212	RCB116C-1212	
12	1	-1216	RCB115-1216	RCB116-1216		
12	1.1/4	-1220	RCB115-1220			
16	5/8	-1610	RCB115-1610			
20	1/2	-2008	RCB115-2008	RCB116-2008		
20	3/4	-2012	RCB115-2012	RCB116-2012	RCB116C-2012	
20	1	-2016	RCB115-2016	RCB116-2016		
25	3/4	-2512	RCB115-2512	RCB116-2512		
25	1	-2516	RCB115-2516	RCB116-2516		
25	1.1/4	-2520	RCB115-2520	RCB116-2520		
32	1	-3216	RCB115-3216	RCB116-3216		
32	1.1/4	-3220	RCB115-3220	RCB116-3220		
32	1.1/2	-3224	RCB115-3224			
40	1.1/4	-4020	RCB115-4020			
40	1.1/2	-4024	RCB115-4024			
50	2	-5032	RCB115-5032	RCB116-5032		
63	2.1/2	-6340	RCB115-6340			

HIGH FLOW						
mm	inch		PART NO	PART NO	PART NO	PART NO
50	2	-5032	RCB115A-5032	RCB116A-5032		
63	2.1/2	-6340	RCB115A-6340	RCB116A-6340		

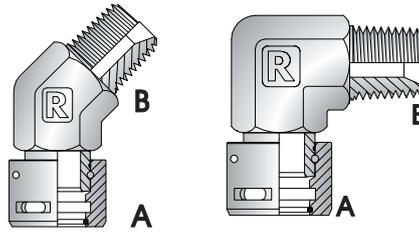
INTRODUCTION  
HOSE  
CROCBITE  
STAPLELOK  
SUPERLOK  
RKVF / RKVP  
ROTARY + DBB  
TECHNICAL

**CROCBITE/BSPT**

**RCB131**

**RCB113**

45° ELBOW  
90° ELBOW



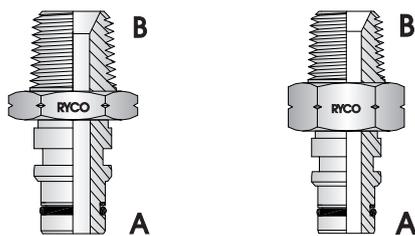
CROCBITE SIZE		THREAD SIZE	DASH SIZE	CROCBITE FEMALE SWIVEL BSPT MALE 45° ELBOW	CROCBITE FEMALE SWIVEL BSPT MALE 90° ELBOW
<b>HIGH PRESSURE</b>					
<b>mm</b>	<b>inch</b>			<b>PART NO</b>	<b>PART NO</b>
10	1/4	-1004		<b>RCB131-1004</b>	<b>RCB113-1004</b>
10	3/8	-1006		<b>RCB131-1006</b>	<b>RCB113-1006</b>
12	1/2	-1208		<b>RCB131-1208</b>	<b>RCB113-1208</b>
20	3/4	-2012		<b>RCB131-2012</b>	<b>RCB113-2012</b>
20	1	-2016			<b>RCB113-2016</b>
25	3/8	-2506			<b>RCB113-2506</b>
32	1.1/4	-3220			<b>RCB113-3220</b>
40	1.1/2	-4024			<b>RCB113-4024</b>
50	2	-5032			<b>RCB113-5032</b>
63	2.1/2	-6340			<b>RCB113-6340</b>
75	3	-7548			<b>RCB113-7548</b>
<b>HIGH FLOW</b>					
<b>mm</b>	<b>inch</b>			<b>PART NO</b>	<b>PART NO</b>
50	2	-5032			<b>RCB113A-5032</b>
63	2.1/2	-6340			<b>RCB113A-6340</b>
75	3	-7548			<b>RCB113A-7548</b>

**CROCBITE/NPT**

**RCB125**

**RCB130**

**STRAIGHT  
STRAIGHT EXTENDED**



CROCBITE SIZE		THREAD SIZE	DASH SIZE	CROCBITE MALE NPT MALE NIPPLE	CROCBITE MALE NPTF MALE LONG NIPPLE
<b>HIGH PRESSURE</b>					
<b>mm</b>	<b>inch</b>			<b>PART NO</b>	
10	1/8	-1002		<b>RCB125-1002</b>	
10	1/4	-1004		<b>RCB125-1004</b>	<b>RCB130-1004</b>
10	3/8	-1006		<b>RCB125-1006</b>	<b>RCB130-1006</b>
10	1/2	-1008		<b>RCB125-1008</b>	<b>RCB130-1008</b>
10	3/4	-1012		<b>RCB125-1012</b>	
12	3/8	-1206		<b>RCB125-1206</b>	
12	1/2	-1208		<b>RCB125-1208</b>	<b>RCB130-1208</b>
12	3/4	-1212		<b>RCB125-1212</b>	
20	1/2	-2008		<b>RCB125-2008</b>	
20	3/4	-2012		<b>RCB125-2012</b>	<b>RCB130-2012</b>
20	1	-2016		<b>RCB125-2016</b>	
25	3/4	-2512		<b>RCB125-2512</b>	
25	1	-2516		<b>RCB125-2516</b>	<b>RCB130-2516</b>
25	1.1/4	-2520		<b>RCB125-2520</b>	
32	1.1/4	-3220		<b>RCB125-3220</b>	<b>RCB130-3220</b>
40	1.1/2	-4024		<b>RCB125-4024</b>	
50	2	-5032		<b>RCB125-5032</b>	
<b>HIGH FLOW</b>					
<b>mm</b>	<b>inch</b>			<b>PART NO</b>	
40	1.1/2	-4024		<b>RCB125A-5024</b>	
50	2	-5032		<b>RCB125A-5032</b>	

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

ROTARY + DBB

TECHNICAL

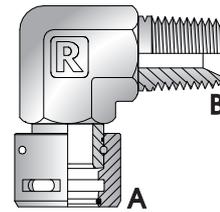
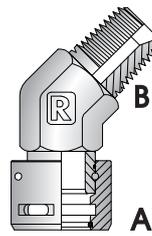
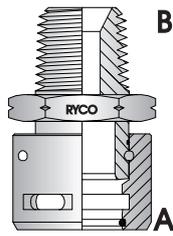
**CROCBITE/NPT**

**RCB80**

**RCB90**

**RCB95**

STRAIGHT  
45° ELBOW  
90° ELBOW



CROCBITE SIZE		THREAD SIZE	DASH SIZE	CROCBITE FEMALE SWIVEL NPTF MALE	CROCBITE FEMALE SWIVEL NPTF MALE 45° ELBOW	CROCBITE FEMALE SWIVEL NPTF MALE 90° ELBOW
<b>HIGH PRESSURE</b>						
mm	inch		PART NO	PART NO	PART NO	
10	1/8	-1002	RCB80-1002	RCB90-1002	RCB95-1002	
10	1/4	-1004	RCB80-1004	RCB90-1004	RCB95-1004	
10	3/8	-1006	RCB80-1006	RCB90-1006	RCB95-1006	
10	1/2	-1008	RCB80-1008		RCB95-1008	
10	5/8	-1010			RCB95-1010	
12	3/8	-1206	RCB80-1206	RCB90-1206	RCB95-1206	
12	1/2	-1208	RCB80-1208	RCB90-1208	RCB95-1208	
12	3/4	-1212	RCB80-1212		RCB95-1212	
20	1/2	-2008	RCB80-2008	RCB90-2008	RCB95-2008	
20	3/4	-2012	RCB80-2012		RCB95-2012	
20	1	-2016	RCB80-2016		RCB95-2016	
25	3/4	-2512	RCB80-2512			
25	1	-2516	RCB80-2516		RCB95-2516	
25	1.1/4	-2520	RCB80-2520			
32	1	-3216	RCB80-3216			
32	1.1/4	-3220	RCB80-3220		RCB95-3220	
40	1.1/2	-4024	RCB80-4024			
40	2.1/2	-4040	RCB80-4040			
50	2	-5032	RCB80-5032			
<b>HIGH FLOW</b>						
mm	inch		PART NO	PART NO	PART NO	
50	2	-5032	RCB80A-5032		RCB95A-5032	
50	3	-5050	RCB80A-5050			

**CROCBITE/UNO  
(O RING BOSS)**

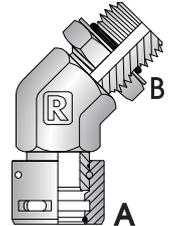
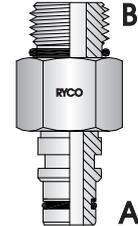
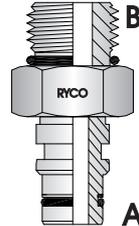
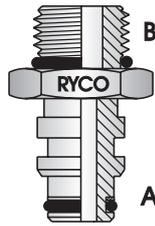
**RCB140**

**RCB145**

**RCB150**

**RCB105**

**STRAIGHT  
45° ELBOW**



CROCBITE SIZE	THREAD SIZE	TUBE SIZE	DASH SIZE	CROCBITE MALE UNO O RING MALE NIPPLE	CROCBITE MALE UNO O RING MALE LONG NIPPLE	CROCBITE MALE UNO O RING MALE EXTRA LONG NIPPLE	CROCBITE FEMALE SWIVEL UN O RING MALE 45° ELBOW
<b>HIGH PRESSURE</b>							
mm	inch	inch		PART NO			
10	7/16	1/4	-1007	<b>RCB140-1007</b>			<b>RCB105-1007</b>
10	1/2	5/16	-1008	<b>RCB140-1008</b>			
10	9/16	3/8	-1009	<b>RCB140-1009</b>	<b>RCB145-1009</b>		<b>RCB105-1009</b>
10	3/4	1/2	-1012	<b>RCB140-1012</b>	<b>RCB145-1012</b>		<b>RCB105-1012</b>
10	7/8	5/8	-1014	<b>RCB140-1014</b>			
10	1.1/16	3/4	-1017	<b>RCB140-1017</b>			
12	9/16	3/8	-1209	<b>RCB140-1209</b>			<b>RCB105-1209</b>
12	3/4	1/2	-1212	<b>RCB140-1212</b>	<b>RCB145-1212</b>	<b>RCB150-1212</b>	<b>RCB105-1212</b>
12	7/8	5/8	-1214	<b>RCB140-1214</b>	<b>RCB145-1214</b>		<b>RCB105-1214</b>
12	1.1/16	3/4	-1217	<b>RCB140-1217</b>	<b>RCB145-1217</b>		
12	1.5/16	1	-1221	<b>RCB140-1221</b>			
20	3/4	1/2	-2012	<b>RCB140-2012</b>			
20	7/8	5/8	-2014	<b>RCB140-2014</b>			
20	1.1/16	3/4	-2017	<b>RCB140-2017</b>	<b>RCB145-2017</b>	<b>RCB150-2017</b>	<b>RCB105-2017</b>
20	1.5/16	1	-2021	<b>RCB140-2021</b>			
25	1.5/16	1	-2521	<b>RCB140-2521</b>	<b>RCB145-2521</b>		<b>RCB105-2521</b>
25	1.5/8	1.1/4	-2526	<b>RCB140-2526</b>			

**CROCBITE/UNO  
(O RING BOSS)**

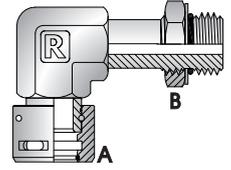
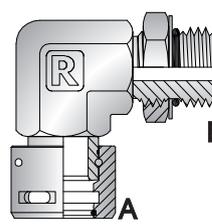
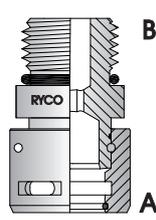
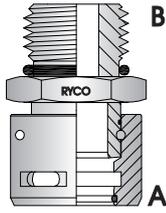
**RCB100**

**RCB100C**

**RCB110**

**RCB112**

STRAIGHT  
90° ELBOW  
90° LONG ELBOW

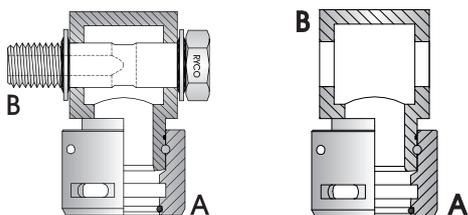


CROCBITE SIZE	THREAD SIZE	TUBE SIZE	DASH SIZE	CROCBITE FEMALE SWIVEL UN O RING MALE	CROCBITE FEMALE SWIVEL UN O RING MALE INTERNAL HEX	CROCBITE FEMALE SWIVEL UN O RING MALE 90° ELBOW	CROCBITE FEMALE SWIVEL UN O RING MALE EXTENDED 90° LONG ELBOW
<b>HIGH PRESSURE</b>							
<b>mm</b>	<b>inch</b>			<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>
10	7/16	1/4	-1007	<b>RCB100-1007</b>		<b>RCB110-1007</b>	
10	9/16	3/8	-1009	<b>RCB100-1009</b>		<b>RCB110-1009</b>	
10	3/4	1/2	-1012	<b>RCB100-1012</b>		<b>RCB110-1012</b>	
12	9/16	3/8	-1209	<b>RCB100-1209</b>		<b>RCB110-1209</b>	
12	3/4	1/2	-1212	<b>RCB100-1212</b>		<b>RCB110-1212</b>	<b>RCB112-1212</b>
12	7/8	5/8	-1214	<b>RCB100-1214</b>		<b>RCB110-1214</b>	
12	1.1/16	3/4	-1217	<b>RCB100-1217</b>		<b>RCB110-1217</b>	
20	3/4	1/2	-2012	<b>RCB100-2012</b>			
20	7/8	5/8	-2014	<b>RCB100-2014</b>		<b>RCB110-2014</b>	
20	1.1/16	3/4	-2017	<b>RCB100-2017</b>	<b>RCB100C-2017</b>	<b>RCB110-2017</b>	<b>RCB112-2017</b>
20	1.5/16	1	-2021	<b>RCB100-2021</b>			
25	1.1/16	3/4	-2517	<b>RCB100-2517</b>			
25	1.5/16	1	-2521	<b>RCB100-2521</b>		<b>RCB110-2521</b>	
32	1.5/8	1.1/4	-3226	<b>RCB100-3226</b>		<b>RCB110-3226</b>	

## CROCBITE/BANJO

### RCB26

### RCB27



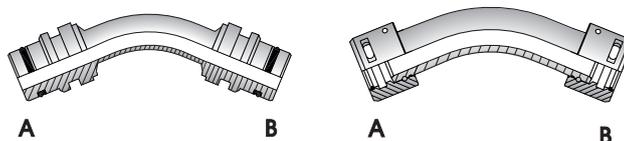
CROCBITE mm	BSSP BANJO BOLT SIZE	DASH SIZE	CROCBITE FEMALE SWIVEL BSSP BANJO KIT	CROCBITE FEMALE SWIVEL BSSP BANJO BOLT
<b>HIGH PRESSURE</b>				
	<b>inch</b>		<b>PART NO</b>	<b>PART NO</b>
10	3/8	-1006	<b>RCB26-1006</b>	<b>RCB27-1006</b>
10	1/2	-1008	<b>RCB26-1008</b>	<b>RCB27-1008</b>
12	3/8	-1206	<b>RCB26-1206</b>	<b>RCB27-1206</b>
12	1/2	-1208	<b>RCB26-1208</b>	<b>RCB27-1208</b>
20	3/4	-2012	<b>RCB26-2012</b>	<b>RCB27-2012</b>
25	1	-2516	<b>RCB26-2516</b>	

## CROCBITE

### RCB225

### RCB226

**CROCBITE BOOMERANG  
MALE MALE  
FEMALE FEMALE**



CROCBITE SIZE mm		DASH SIZE	CROCBITE BOOMERANG MALE MALE		CROCBITE BOOMERANG FEMALE FEMALE	
A	B		Config	PART NO	Config	PART NO
<b>HIGH PRESSURE - RCB</b>						
25	1	-25	M-M	<b>RCB225-2525</b>	F-F	<b>RCB226-2525</b>
40	1.1/2	-40	M-M	<b>RCB225-4040</b>	F-F	<b>RCB226-4040</b>
50	2	-50	M-M	<b>RCB225-5050</b>	F-F	<b>RCB226-5050</b>
63	2.1/2	-63	M-M	<b>RCB225-6363</b>	F-F	<b>RCB226-6363</b>
<b>HIGH FLOW - RCB</b>						
50	2	-50	M-M	<b>RCB225A-5050</b>	F-F	<b>RCB226A-5050</b>
63	2.1/2	-63	M-M	<b>RCB225A-6363</b>	F-F	<b>RCB226A-6363</b>

Contact RYCO Technical Department for a monorail manifold/boomerang adaptor to suit your individual system requirements.

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

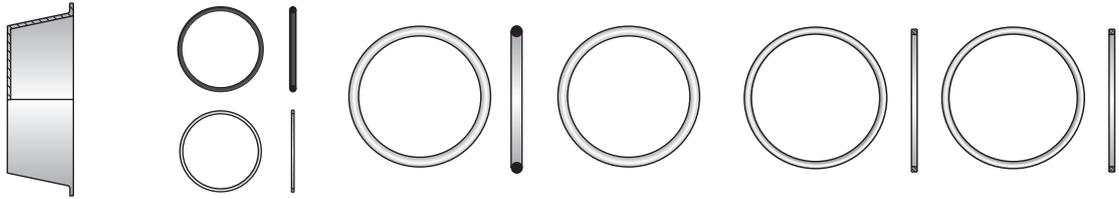
RKVF / RKVP

ROTARY + DBB

TECHNICAL

CROCBITE	RCBC	RCB22	RCB180	RCB181	RCB191	RCB195
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### SEALS AND O RINGS



CROCTAIL SIZE	CROCBITE PLASTIC CAP/ PLUG	CROCBITE MALE ORING AND BACKUP KIT	CROCBITE MALE O RING	CROCBITE MALE SEAL	CROCBITE FEMALE NUT INGRESSION SEAL	CROCBITE MALE BACKUP
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HIGH PRESSURE						
mm	PART NO	PART NO	PART NO	PART NO	PART NO	PART NO
-10	RCBC-10	RCB22-10	RCB180-10	RCB180-10	RCB191-10	RCB195-10
-12	RCBC-12	RCB22-12	RCB180-12	RCB180-12	RCB191-12	RCB195-12
-16	RCBC-16	RCB22-16	RCB180-16	RCB180-16	RCB191-16	RCB195-16
-20	RCBC-20	RCB22-20	RCB180-20	RCB180-20	RCB191-20	RCB195-20
-25	RCBC-25	RCB22-25	RCB180-25	RCB180-25	RCB191-25	RCB195-25
-32	RCBC-32	RCB22-32	RCB180-32	RCB180-32	RCB191-32	RCB195-32
-40	RCBC-40	RCB22-40	RCB180-40	RCB180-40	RCB191-40	RCB195-40
-50	RCBC-50	RCB22-50	RCB180-50	RCB180-50	RCB191-50	RCB195-50
-63	RCBC-63	RCB22-63	RCB180-63	RCB180-63	RCB191-63	RCB195-63

HIGH FLOW						
mm	PART NO	PART NO	PART NO	PART NO	PART NO	PART NO
-50	RCBCA-50	RCB22A-50	RCB180A-50	RCB180A-50	RCB191A-50	RCB195A-50
-63	RCBCA-63	RCB22A-63	RCB180A-63	RCB180A-63	RCB191A-63	RCB195A-63
-75	RCBCA-75	RCB22A-75	RCB180A-75	RCB180A-75	RCB191A-75	RCB195A-75

### BSPP METAL BONDED SEAL RL21



SEAL SIZE	DASH SIZE	BSPP METAL BONDED STEEL
HIGH PRESSURE		
INCH		PART NO
1/8	-02	RL21-02
1/4	-04	RL21-04
3/8	-06	RL21-06
1/2	-08	RL21-08
3/4	-12	RL21-12
7/8	-14	RL21-14
1	-16	RL21-16
1.1/4	-20	RL21-20
1.1/2	-24	RL21-24
2	-32	RL21-32

#### NOTE:

Bonded Seals are sold only in packs of 10 (up to and including RL21-14) or packs of 5 (RL21-16 and over).

#### EXAMPLE:

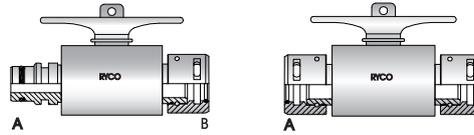
Order Part No RL21D-xx for pack. (D is added after RL21).

**BALL VALVE CROCBITE**

**RCB166**

**RCB167**

**BALL VALVE**



CROCBITE mm		CROCTAIL		DASH SIZE	BALL VALVE CROCBITE MALE FEMALE SWIVEL	BALL VALVE CROCBITE FEMALE SWIVEL FEMALE SWIVEL
<b>HIGH PRESSURE</b>						
A	B	A	B		PART NO	PART NO
10	10	10	10	-1010	RCB166-1010	RCB167-1010
12	12	12	12	-1212	RCB166-1212	RCB167-1212
20	20	20	20	-2020	RCB166-2020	RCB167-2020
25	25	25	25	-2525	RCB166-2525	RCB167-2525
32	32	32	32	-3232	RCB166-3232	RCB167-3232
40	40	40	40	-4040	RCB166-4040	RCB167-4040
50	50	50	50	-5050	RCB166-5050	RCB167-5050
63	63	63	63	-6363	RCB166-6363	RCB167-6363
<b>HIGH FLOW</b>						
A	B	A	B		PART NO	PART NO
50	50	50	50	-5050	RCB166A-5050	RCB167A-5050
63	63	63	63	-6363	RCB166A-6363	RCB167A-6363
75	75	75	75	-7575	RCB166A-7575	RCB167A-7575

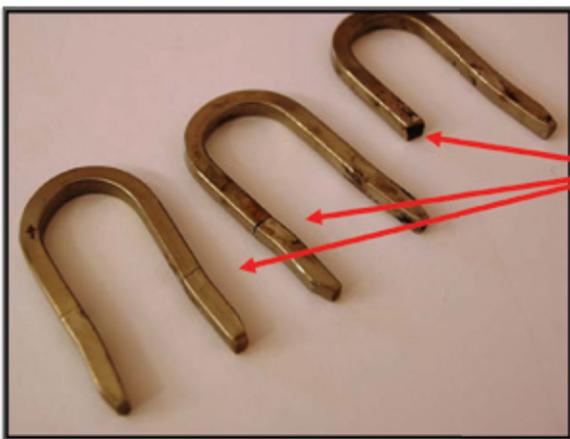
# SAFETY ALERT

## LONGWALL STAPLES

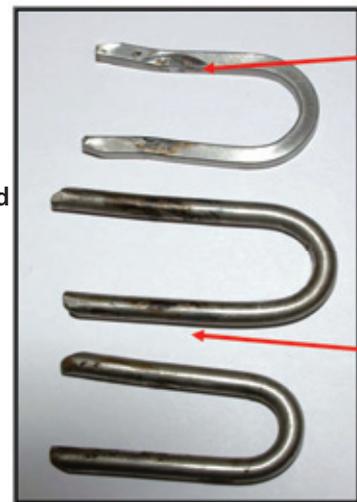
### CIRCUMSTANCES

Personnel have been sprayed with fluid under pressure when staple lock fittings have failed or migrated out of the fitting due to a variety of failure modes.

Fluid injection injury and other injuries, such as death, bruising and abrasions have resulted from these failures.



Staple legs broken and cracked



Broken Staple Leg

Worn Staple

## FACTORS

GENERAL STAPLE FAILURE MODES	STAPLES FALLING OR MIGRATING OUT DUE TO:
Broken Staples	Vibration
Cracked Staples	Lack of Retention
Physical Abuse	Bending and twisting moments
Fatigue	Staples not installed correctly
Mechanical Overload	Wrong Staple used in fittings
Stress Overload	Cyclic loading of Staple
Wear	
Corrosion	

Information and images courtesy of  
 NSW DEPARTMENT OF PRIMARY INDUSTRIES  
 MINE SAFETY OPERATIONS BRANCH  
 Safety Alert SA06-18 longwall staple failures

# RYCO STRONGLY RECOMMENDS

1. Audit staples in the high-risk areas on longwall equipment for damaged staples (outlined above in general failures). Also look for staples migrating out of position.  
**Note: The cracked staple legs may not be visible in situ.**
2. Staples should be correctly positioned and positively retained. Use secondary retention device.
3. Replace a sample of the staples in the high-risk areas and have these staples inspected and tested for integrity. (Attempt to determine the staple life). This may require advice from suppliers and manufacturers in assisting to determine a wear rate for staples, given service life and location within a hydraulic system.  
High-risk areas may be:
  - Areas nominated by the operational risk assessment
  - High-duty cycle operations
  - Staples located around the walkways
  - High-pressure positive set applications
  - Areas where intensification is likely.
4. Periodically audit the face for staple condition and retention.
5. Appreciate that staples have a limited service life (undetermined). This same approach is to be used for hoses, fittings and all components.
6. Replace the staples when hoses and components are replaced (i.e., use the staples once).
7. Provide suitable levels of safety where the personnel usually operate.  
Consider a hard barrier (guard/cover) between the high-risk areas and where the personnel usually operate (both operators and maintenance personnel).
8. Provide suitable levels of safety for employees and contractors when performing maintenance.
9. Generally operate the equipment from a remote location to limit exposure (time and space between the employee and the hazard).
10. Consider a secondary means of retaining the staples (consult with the manufacturer to determine if they have alternate methods).
11. Identify the special staples in the circuit and ensure correct spares are available at the mine and that tradesmen are aware of the special staples (special staples could be the long staples that retain two or three hoses/ports or components).
12. Only use compatible staples and fittings. Do not mix and match different types and manufacturers' staples and fittings.

# ALWAYS

Treat all hydraulic components as having stored pressure (i.e., live and dangerous).

1. Always isolate the hydraulic supply and lock the isolation valve into the closed position (use danger tag if locks are not part of the mine's isolation procedure).
2. Depressurise the hydraulic system
3. Check that hydraulic pressure has been dissipated.
4. Check that hydraulic pressure has been dissipated by two independent means.
5. Confirm isolation and depressurisation have been successful (i.e., test for dead).

# WARNING

## STAPLES

Staples can become loose during operation and migrate out or fall out.

RYCO strongly recommends the use of a secondary retention device to be used in conjunction with staples.

**Call RYCO for information regarding retention devices.**

### DO NOT REMOVE STAPLES WHEN UNDER PRESSURE.

Staples can be removed when under pressure.

It is extremely dangerous to remove a staple under pressure.

Severe bodily injury or death may result.

Ensure that the system is depressurized, dissipated and isolated before attempting to remove a staple.

### MDG 41 STATES:

#### 3.7.6.2 HOSE ENDS

For staple or pin type connections DIN 20043 is not considered suitable for hydraulic application as the working pressures for the fitting may be as low as 2.5:1. The MDG 41 pressures listed for staple fittings have been adjusted to provide a 4:1 safety factor.

There is no satisfactory standard for these types of fittings.

Pressure rating of the hose assembly may be limited by the hose end selection.

## RYCO STRONGLY RECOMMENDS

### CROCBITE – MINE SAFE CONNECTION SYSTEM

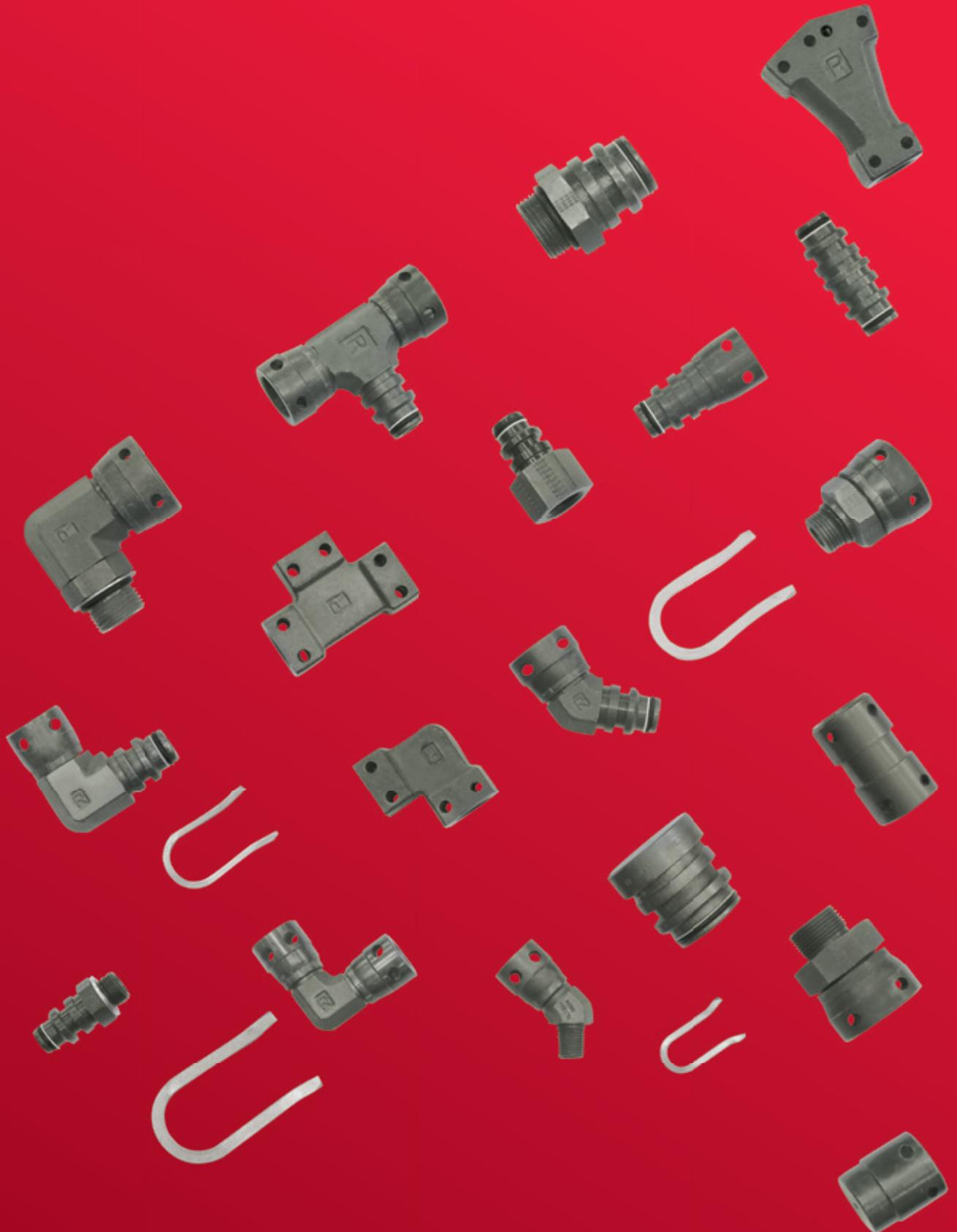
CROCBITE is FAILSAFE and cannot be disconnected under pressure

#### CROCBITE – FAIL SAFE: RYCO RECOMMENDS CROCBITE MINE SAFE CONNECTION SYSTEM

DASH SIZE	MAXIMUM WORKING PRESSURE	STAPLELOK STAPLE
mm	bar	bar
<b>HIGH PRESSURE</b>		
10	450	420
12	450	415
20	420	350
25	420	280
32	420	210
40	420	210
<b>HIGH FLOW</b>		
50	350	170
63	280	70
75	210	



# STAPLELOK



## MALE STRAIGHT

<b>T2870</b> PAGE 92	<b>T7870</b> PAGE 92	<b>T9870</b> PAGE 92	<b>69870N</b> PAGE 92	<b>T2870S</b> PAGE 92	<b>T7870S</b> PAGE 92
					
T200 STAPLELOK MALE	T700 STAPLELOK MALE	T900 STAPLELOK MALE	6900N STAPLELOK MALE	T200 STAINLESS STEEL STAPLELOK MALE	T700 STAINLESS STEEL STAPLELOK MALE

## MALE STAINLESS STEEL

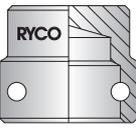
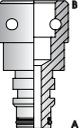
## MALE 45°

<b>T2871</b> PAGE 93	<b>T7871</b> PAGE 93	<b>T9871</b> PAGE 93	<b>69871N</b> PAGE 93
			
T200 STAPLELOK MALE 45° ELBOW	T700 STAPLELOK MALE 45° ELBOW	T900 STAPLELOK MALE 45° ELBOW	6900N STAPLELOK MALE 45° ELBOW

## MALE 90°

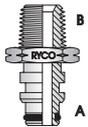
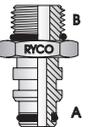
<b>T2872</b> PAGE 93	<b>T7872</b> PAGE 93	<b>T9872</b> PAGE 93	<b>69872N</b> PAGE 93
			
T200 STAPLELOK MALE 90° ELBOW	T700 STAPLELOK MALE 90° ELBOW	T900 STAPLELOK MALE 90° ELBOW	6900N STAPLELOK MALE 90° ELBOW

## STAPLELOK PLUG & CAP

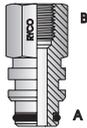
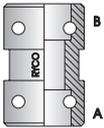
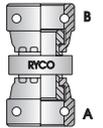
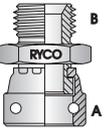
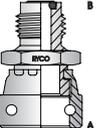
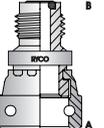
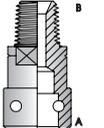
<b>RL165</b> PAGE 94	<b>RL160</b> PAGE 94	<b>RL120</b> PAGE 95	<b>RL72F</b> PAGE 95	<b>RL72</b> PAGE 95	<b>RL155</b> PAGE 100
					
STAPLELOK PLUG	STAPLELOK CAP	STAPLELOK MALE NIPPLE	STAPLELOK MALE FEMALE FIXED	STAPLELOK MALE FEMALE SWIVEL	STAPLELOK MALE BSPP O RING MALE

## STAPLELOK STRAIGHT

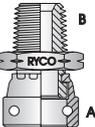
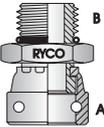
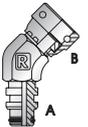
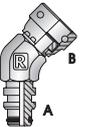
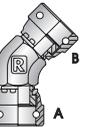
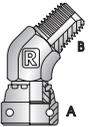
## STAPLELOK STRAIGHT CONT'D

<b>RL156</b> PAGE 100	<b>RL125</b> PAGE 102	<b>RL130</b> PAGE 102	<b>RL135</b> PAGE 102	<b>RL140</b> PAGE 104	<b>RL145</b> PAGE 104	<b>RL150</b> PAGE 104
						
STAPLELOK MALE BSPP FACE SEAL MALE	STAPLELOK MALE NPTF MALE	STAPLELOK MALE LONG NPTF MALE	STAPLELOK MALE EXTRA LONG NPTF MALE	STAPLELOK MALE UN O RING MALE	STAPLELOK MALE LONG UN O RING MALE	STAPLELOK MALE EXTRA LONG UN O RING MALE

## STAPLELOK STRAIGHT CONT'D

<b>RL157</b> PAGE 100	<b>RL30</b> PAGE 96	<b>RL32</b> PAGE 96	<b>RL115</b> PAGE 101	<b>RL116</b> PAGE 101	<b>RL116C</b> PAGE 101	<b>RL85</b> PAGE 103
						
STAPLELOK MALE BSPP FEMALE FIXED	STAPLELOK FEMALE FIXED SOCKET	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL	STAPLELOK FEMALE SWIVEL BSPP O RING MALE	STAPLELOK FEMALE SWIVEL BSPP FACE SEAL MALE	STAPLELOK FEMALE SWIVEL BSPP FACE SEAL MALE INTERNAL HEX	STAPLELOK FEMALE FIXED NPTF MALE

## STAPLELOK STRAIGHT CONT'D

<b>RL80</b> PAGE 103	<b>RL100</b> PAGE 105	<b>RL74F</b> PAGE 97	<b>RL74</b> PAGE 97	<b>RL35</b> PAGE 97	<b>RL131</b> PAGE 101
					
STAPLELOK FEMALE SWIVEL NPTF MALE	STAPLELOK FEMALE SWIVEL UN O RING MALE	STAPLELOK MALE FEMALE FIXED 45° ELBOW	STAPLELOK MALE FEMALE SWIVEL 45° ELBOW	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL 45° ELBOW	STAPLELOK FEMALE SWIVEL BSPT MALE 45° ELBOW

## STAPLELOK 45° ELBOW

**STAPLELOK  
45° ELBOW  
CONT'D**

<b>RL90</b> PAGE 103	<b>RL105</b> PAGE 105	<b>RL119</b> PAGE 101
STAPLELOK FEMALE SWIVEL NPTF MALE 45° ELBOW	STAPLELOK FEMALE SWIVEL UN O RING MALE 45° ELBOW	STAPLELOK FEMALE SWIVEL BSPP FEMALE SWIVEL 45° ELBOW

**STAPLELOK  
90° ELBOW**

<b>RL76F</b> PAGE 97	<b>RL76</b> PAGE 97	<b>RL113</b> PAGE 101
STAPLELOK MALE FEMALE FIXED 90° ELBOW	STAPLELOK MALE FEMALE SWIVEL 90° ELBOW	STAPLELOK FEMALE SWIVEL BSPT MALE 90° ELBOW

**STAPLELOK  
90° ELBOW  
CONT'D**

<b>RL95</b> PAGE 103	<b>RL110</b> PAGE 105	<b>RL112</b> PAGE 105	<b>RL45</b> PAGE 98	<b>RL40</b> PAGE 98
STAPLELOK FEMALE SWIVEL NPTF MALE 90° ELBOW	STAPLELOK FEMALE SWIVEL UN O RING MALE 90° ELBOW	STAPLELOK FEMALE SWIVEL UN O MALE 90° LONG ELBOW	STAPLELOK FEMALE FIXED 90° ELBOW	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL 90° ELBOW

**STAPLELOK  
TEE & CROSS**

<b>RL78F</b> PAGE 98
STAPLELOK MALE FEMALE FIXED FEMALE FIXED TEE

**STAPLELOK  
TEE & CROSS**

<b>RL78</b> PAGE 98	<b>RL77</b> PAGE 98	<b>RL55</b> PAGE 99	<b>RL50</b> PAGE 99	<b>RL70</b> PAGE 99	<b>RL60</b> PAGE 99	<b>RL65</b> PAGE 99
STAPLELOK MALE FEMALE SWIVEL FEMALE SWIVEL TEE	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL MALE TEE	STAPLELOK FEMALE FIXED TEE	STAPLELOK FEMALE SWIVEL TEE	STAPLELOK FEMALE FIXED Y	STAPLELOK FEMALE FIXED CROSS	STAPLELOK FEMALE FIXED X

**STAPLELOK  
BANJO**

<b>RL27</b> PAGE 106	<b>RL26</b> PAGE 106	<b>RL29</b> PAGE 106	<b>RL21</b> PAGE 106
STAPLELOK FEMALE SWIVEL BSPP BANJO	STAPLELOK FEMALE SWIVEL BSPP BANJO BOLT & SEALS	BSPP BANJO BOLT	BSPP METAL BONDED STEEL

**STAPLELOK  
COMPONENTS  
& ACCESSORIES**

<b>RL170</b> PAGE 107	<b>RL175</b> PAGE 107	<b>RL175D</b> PAGE 107	<b>RL22</b> PAGE 107	<b>RL180</b> PAGE 107	<b>RL195</b> PAGE 107	<b>RLC</b> PAGE 94
STAPLELOK SPRING STEEL STAPLE	STAPLELOK STAINLESS STEEL STAPLE	STAPLELOK STAINLESS STEEL D STAPLE	STAPLELOK MALE O RING & BACKUP KIT	STAPLELOK MALE O RING	STAPLELOK MALE BACKUP	STAPLELOK PLASTIC CAP/PLUG

**STAPLELOK  
COMPONENTS  
& ACCESSORIES  
CONT'D**

<b>RL250</b> PAGE 107	<b>RL166F</b> PAGE 108	<b>RL167F</b> PAGE 108	<b>RL20SH</b> PAGE 108
STAPLELOK STAPLE INSTALLATION AND REMOVAL TOOL	BALL VALVE STAPLELOK MALE FEMALE FIXED	BALL VALVE STAPLELOK FEMALE FIXED FEMALE FIXED	BALL VALVE BSPP FEMALE BSPP FEMALE

**STAPLELOK  
BALL VALVE**

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## STAPLELOK

### T2870

### T7870

### T9870

### 69870N

**STRAIGHT**

**O RING & BACK UP RING SUPPLIED**



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T200 STAPLELOK MALE	T700 STAPLELOK MALE	T900 STAPLELOK MALE	6900N STAPLELOK MALE
DN	inch	mm		bar	PART NO	PART NO	PART NO	PART NO
6	1/4	6	-0406		<b>T2870-0406</b>			
6	1/4	10	-0410	420	<b>T2870-0410</b>			
10	3/8	10	-0610	420	<b>T2870-0610</b>	<b>T7870-0610</b>		
12	1/2	12	-0812	415	<b>T2870-0812</b>	<b>T7870-0812</b>		
16	5/8	16	-1016		<b>T2870-1016</b>	<b>T7870-1016</b>		
19	3/4	20	-1220	350	<b>T2870-1220</b>	<b>T7870-1220</b>	<b>T9870-1220</b>	<b>69870N-1220</b>
25	1	25	-1625	280	<b>T2870-1625</b>	<b>T7870-1625</b>	<b>T9870-1625</b>	
31	1.1/4	32	-2032	210	<b>T2870-2032</b>	<b>T7870-2032</b>	<b>T9870-2032</b>	
38	1.1/2	40	-2440	210		<b>T7870-2440</b>	<b>T9870-2440</b>	
51	2	50	-3250	170		<b>T7870-3250</b>	<b>T9870-3250</b>	
63	2.1/2	63	-4063	70		<b>T7870-4063</b>	<b>T9870-4063</b>	

## STAPLELOK

### T2870S

### T7870S

**STRAIGHT**

**STAINLESS STEEL**

**O RING & BACK UP RING SUPPLIED**



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T200 STAPLELOK MALE STAINLESS STEEL	T700 STAPLELOK MALE STAINLESS STEEL
DN	inch	mm		bar	PART NO	PART NO
6	1/4	6	-0406		<b>T2870S-0406</b>	
6	1/4	10	-0410	420	<b>T2870S-0410</b>	
10	3/8	10	-0610	420	<b>T2870S-0610</b>	<b>T7870S-0610</b>
12	1/2	12	-0812	415	<b>T2870S-0812</b>	<b>T7870S-0812</b>
16	5/8	16	-1016		<b>T2870S-1016</b>	<b>T7870S-1016</b>
19	3/4	20	-1220	350	<b>T2870S-1220</b>	<b>T7870S-1220</b>
25	1	25	-1625	280	<b>T2870S-1625</b>	<b>T7870S-1625</b>
31	1.1/4	32	-2032	210	<b>T2870S-2032</b>	<b>T7870S-2032</b>
38	1.1/2	40	-2440	210		<b>T7870S-2440</b>
51	2	50	-3250	170		<b>T7870S-3250</b>
63	2.1/2	63	-4063	70		<b>T7870S-4063</b>

## STAPLELOK

### T2871

### T7871

### T9871

### 69871N

45° ELBOW

O RING & BACK UP RING SUPPLIED



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T200 STAPLELOK MALE 45° ELBOW	T700 STAPLELOK MALE 45° ELBOW	T900 STAPLELOK MALE 45° ELBOW	6900N STAPLELOK MALE 45° ELBOW
DN	inch	mm		bar	PART NO	PART NO	PART NO	PART NO
6	1/4	10	-0410	420	T2871-0410			
10	3/8	10	-0610	420	T2871-0610	T7871-0610		
12	1/2	12	-0812	415	T2871-0812	T7871-0812		
16	5/8	16	-1016		T2871-1016	T7871-1016		
19	3/4	20	-1220	350	T2871-1220	T7871-1220	T9871-1220	69871N-1220
25	1	25	-1625	280	T2871-1625	T7871-1625	T9871-1625	
31	1.1/4	32	-2032	210	T2871-2032	T7871-2032	T9871-2032	
38	1.1/2	40	-2440	210		T7871-2440	T9871-2440	
51	2	50	-3250	170		T7871-3250	T9871-3250	
63	2.1/2	63	-4063	70		T7871-4063	T9871-4063	

## STAPLELOK

### T2872

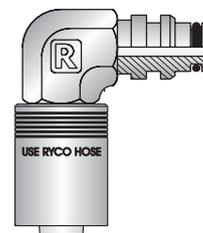
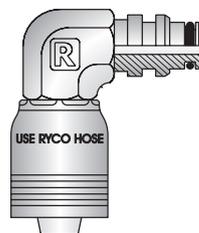
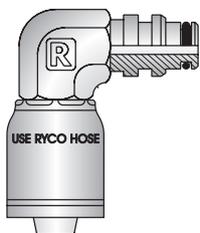
### T7872

### T9872

### 69872N

90° ELBOW

O RING & BACK UP RING SUPPLIED



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T200 STAPLELOK MALE 90° ELBOW	T700 STAPLELOK MALE 90° ELBOW	T900 STAPLELOK MALE 90° ELBOW	6900N STAPLELOK MALE 90° ELBOW
DN	inch	mm		bar	PART NO	PART NO	PART NO	PART NO
6	1/4	10	-0410	420	T2872-0410			
10	3/8	10	-0610	420	T2872-0610	T7872-0610		
12	1/2	12	-0812	415	T2872-0812	T7872-0812		
16	5/8	16	-1016		T2872-1016	T7872-1016		
19	3/4	20	-1220	350	T2872-1220	T7872-1220	T9872-1220	69872N-1220
25	1	25	-1625	280	T2872-1625	T7872-1625	T9872-1625	
31	1.1/4	32	-2032	210	T2872-2032	T7872-2032	T9872-2032	
38	1.1/2	40	-2440	210		T7872-2440	T9872-2440	
51	2	50	-3250	170		T7872-3250	T9872-3250	
63	2.1/2	63	-4063	70		T7872-4063	T9872-4063	

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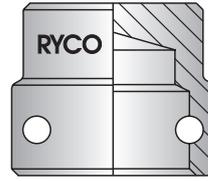
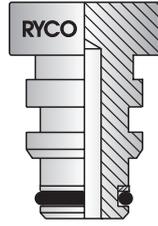
TECHNICAL

## STAPLELOK

## RL165

## RL160

**PLUG  
CAP**

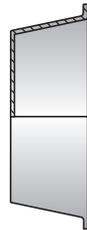


STAPLE SIZE	DASH SIZE	STAPLELOK PLUG	STAPLELOK CAP
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>
6	-06	<b>RL165-06</b>	<b>RL160-06</b>
10	-10	<b>RL165-10</b>	<b>RL160-10</b>
12	-12	<b>RL165-12</b>	<b>RL160-12</b>
20	-20	<b>RL165-20</b>	<b>RL160-20</b>
25	-25	<b>RL165-25</b>	<b>RL160-25</b>
32	-32	<b>RL165-32</b>	<b>RL160-32</b>
40	-40	<b>RL165-40</b>	<b>RL160-40</b>
50	-50	<b>RL165-50</b>	<b>RL160-50</b>

## STAPLELOK

## RLC

**PLASTIC PLUG  
PLASTIC CAP**



STAPLE SIZE	DASH SIZE	STAPLELOK PLASTIC CAP
<b>mm</b>		<b>PART NO</b>
6	-06	<b>RLC-06</b>
10	-10	<b>RLC-10</b>
13	-13	<b>RLC-12</b>
20	-20	<b>RLC-20</b>
25	-25	<b>RLC-25</b>
32	-32	<b>RLC-32</b>
40	-40	<b>RLC-40</b>
50	-50	<b>RLC-50</b>

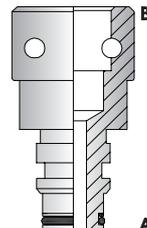
## STAPLELOK/ STAPLELOK

### RL120

### RL72F

### RL72

STRAIGHT



STAPLE SIZE MM		DASH SIZE	STAPLELOK MALE NIPPLE	STAPLELOK MALE FEMALE FIXED	STAPLELOK MALE FEMALE SWIVEL
A	B		PART NO	PART NO	PART NO
6	6	-0606	RL120-0606		RL72-0606
6	10	-0610			RL72-0610
6	12	-0612			RL72-0612
10	6	-1006	RL120-1006		RL72-1006
10	10	-1010	RL120-1010	RL72F-1010	RL72-1010
10	12	-1012		RL72F-1012	RL72-1012
10	20	-1020			RL72-1020
12	06	-1206	RL120-1206		RL72-1206
12	10	-1210	RL120-1210	RL72F-1210	RL72-1210
12	12	-1212	RL120-1212		RL72-1212
12	20	-1220		RL72F-1220	RL72-1220
12	25	-1225			RL72-1225
12	32	-1232			RL72-1232
20	10	-2010	RL120-2010		RL72-2010
20	12	-2012	RL120-2012	RL72F-2012	RL72-2012
20	20	-2020	RL120-2020		RL72-2020
20	25	-2025		RL72F-2025	RL72-2025
20	32	-2032		RL72F-2032	
20	50	-2050		RL72F-2050	
25	10	-2510	RL120-2510		
25	12	-2512	RL120-2512		
25	20	-2520	RL120-2520	RL72F-2520	RL72-2520
25	25	-2525	RL120-2525	RL72F-2525	RL72-2525
25	32	-2532		RL72F-2532	RL72-2532
25	40	-2540			RL72-2540
25	50	2550			RL72-2550
32	12	-3212	RL120-3212		
32	20	-3220	RL120-3220		
32	25	-3225	RL120-3225	RL72F-3225	
32	32	-3232	RL120-3232		
32	40	-3240			RL72-3240
32	50	-3250		RL72F-3250	RL72-3250
40	25	-4025	RL120-4025		
40	32	-4032	RL120-4032		
40	40	-4040	RL120-4040		
40	50	-4050			RL72-4050
50	12	-5012		RL72F-5012	
50	20	-5020	RL120-5020	RL72F-5020	
50	25	-5025	RL120-5025		RL72-5025
50	32	-5032	RL120-5032		
50	40	-5040	RL120-5040		
50	50	-5050	RL120-5050		RL72-5050
63	50	-6350		RL72F-6350	

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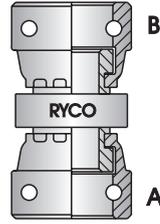
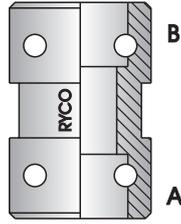
TECHNICAL

## STAPLELOK/ STAPLELOK

### RL30

### RL32

STRAIGHT



STAPLE SIZE MM		DASH SIZE	STAPLELOK FEMALE FIXED SOCKET	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL
A	B		PART NO	PART NO
6	6	-0606	RL30-0606	RL32-0606
10	6	-1006		RL32-1006
10	10	-1010	RL30-1010	RL32-1010
12	06	-1206		RL32-1206
12	10	-1210	RL30-1210	RL32-1210
12	12	-1212	RL30-1212	RL32-1212
20	10	-2010		RL32-2010
20	12	-2012		RL32-2012
20	20	-2020	RL30-2020	RL32-2020
25	10	-2510		RL32-2510
25	12	-2512		RL32-2512
25	20	-2520		RL32-2520
25	25	-2525	RL30-2525	RL32-2525
32	25	-3225		RL32-3225
32	32	-3232	RL30-3232	RL32-3232
40	32	-4032	RL30-4032	
40	40	-4040	RL30-4040	
50	32	-5032	RL30-5032	
50	40	-5040	RL30-5040	
50	50	-5050	RL30-5050	
63	50	-6350	RL30-6350	
63	63	-6363	RL30-6363	

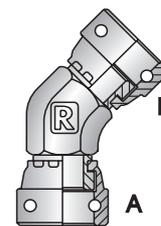
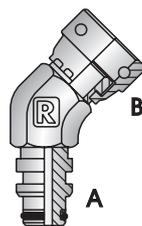
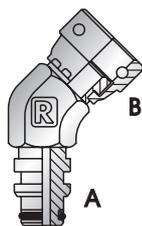
## STAPLELOK/ STAPLELOK

### RL74F

### RL74

### RL35

#### 45° ELBOW



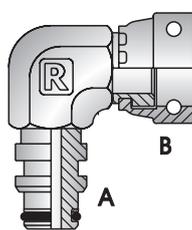
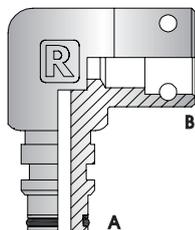
STAPLE SIZE MM		DASH SIZE	STAPLELOK MALE FEMALE FIXED 45° ELBOW	STAPLELOK MALE FEMALE SWIVEL 45° ELBOW	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL 45° ELBOW
A	B		PART NO	PART NO	PART NO
6	6	-0606		RL74-0606	RL35-0606
10	10	-1010	RL74F-1010	RL74-1010	RL35-1010
12	12	-1212	RL74F-1212	RL74-1212	RL35-1212
20	20	-2020	RL74F-2020	RL74-2020	RL35-2020
25	25	-2525		RL74-2525	RL35-2525
32	32	-3232		RL74-3232	RL35-3232
50	50	-5050	RL74F-5050		

## STAPLELOK/ STAPLELOK

### RL76F prev. RL75F

### RL76 prev. RL75

#### 90° ELBOW



STAPLE SIZE MM		DASH SIZE	STAPLELOK MALE FEMALE FIXED 90° ELBOW	STAPLELOK MALE FEMALE SWIVEL 90° ELBOW
A	B		PART NO	PART NO
6	6	-0606		RL76-0606
6	10	-0610		RL76-0610
10	6	-1006		RL76-1006
10	10	-1010	RL76F-1010	RL76-1010
10	12	-1012		RL76-1012
12	10	-1210		RL76-1210
12	12	-1212	RL76F-1212	RL76-1212
12	20	-1220		RL76-1220
20	20	-2020	RL76F-2020	RL76-2020
25	25	-2525	RL76F-2525	RL76-2525
32	12	-3212		RL76-3212
32	32	-3232		RL76-3232
40	40	-4040	RL76F-4040	
50	50	-5050	RL76F-5050	RL76-5050
63	63	-6363	RL76F-6363	

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SUPERLOK

RKVF / RKVP

ROTARY + DBB

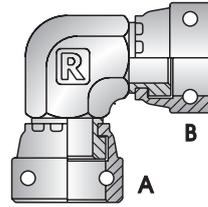
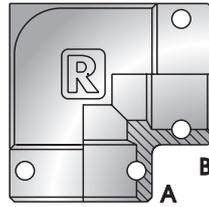
TECHNICAL

## STAPLELOK/ STAPLELOK

### RL45

### RL40

### 90° ELBOW



STAPLE SIZE MM		DASH SIZE	STAPLELOK FEMALE FIXED 90° ELBOW	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL 90° ELBOW
<b>A</b>	<b>B</b>		<b>PART NO</b>	<b>PART NO</b>
6	6	-0606	<b>RL45-0606</b>	<b>RL40-0606</b>
10	10	-1010	<b>RL45-1010</b>	<b>RL40-1010</b>
12	10	-1210		<b>RL40-1210</b>
12	12	-1212	<b>RL45-1212</b>	<b>RL40-1212</b>
12	20	-1220		<b>RL40-2012</b>
20	20	-2020	<b>RL45-2020</b>	<b>RL40-2020</b>
25	25	-2525	<b>RL45-2525</b>	<b>RL40-2525</b>
32	32	-3232	<b>RL45-3232</b>	<b>RL40-3232</b>
40	40	-4040	<b>RL45-4040</b>	
50	50	-5050	<b>RL45-5050</b>	

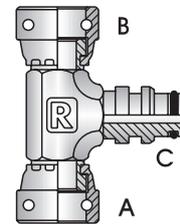
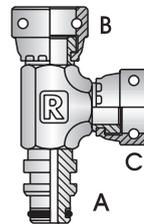
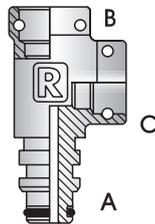
## STAPLELOK/ STAPLELOK

### RL78F

### RL78

### RL77

### TEE



STAPLE SIZE MM			DASH SIZE	STAPLELOK MALE FEMALE FIXED FEMALE FIXED TEE	STAPLELOK MALE FEMALE SWIVEL FEMALE SWIVEL TEE	STAPLELOK FEMALE SWIVEL FEMALE SWIVEL MALE TEE
<b>A</b>	<b>B</b>	<b>C</b>		<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>
6	6	6	-060606	<b>RL78F-060606</b>	<b>RL78-060606</b>	<b>RL77-060606</b>
10	10	10	-101010	<b>RL78F-101010</b>	<b>RL78-101010</b>	<b>RL77-101010</b>
12	10	12	-121012			<b>RL77-121012</b>
12	12	10	-121210	<b>RL78F-121210</b>	<b>RL78-121210</b>	
12	12	12	-121212		<b>RL78-121212</b>	<b>RL77-121212</b>
20	20	10	-202010	<b>RL78F-202010</b>	<b>RL78-202010</b>	
20	20	12	-202012		<b>RL78-202012</b>	
20	20	20	-202020	<b>RL78F-202020</b>	<b>RL78-202020</b>	<b>RL77-202020</b>
25	25	10	-252510	<b>RL78F-252510</b>		
25	25	12	-252512		<b>RL78-252512</b>	
25	25	25	-252525	<b>RL78F-252525</b>	<b>RL78-252525</b>	<b>RL77-252525</b>
32	20	20	-322020		<b>RL78-322020</b>	
32	32	32	-323232			<b>RL77-323232</b>
40	40	20	-404020			<b>RL77-404020</b>

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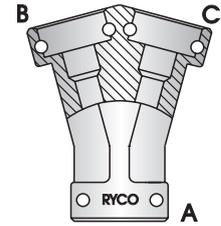
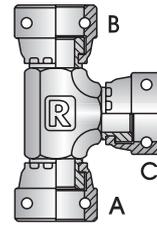
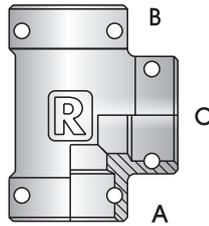
## STAPLELOK/ STAPLELOK

### RL55

### RL50

### RL70

TEE  
Y



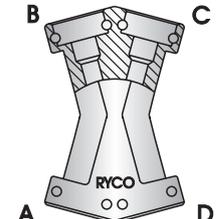
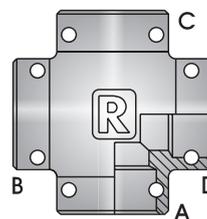
STAPLE SIZE MM			DASH SIZE	STAPLELOK FEMALE FIXED TEE	STAPLELOK FEMALE SWIVEL TEE	STAPLELOK FEMALE FIXED Y
A	B	C		PART NO	PART NO	PART NO
6	6	6	-060606	RL55-060606	RL50-060606	
10	10	6	-101006	RL55-101006		
10	10	10	-101010	RL55-101010	RL50-101010	RL70-101010
12	12	10	-121210	RL55-121210	RL50-121210	
12	12	12	-121212	RL55-121212	RL50-121212	RL70-121212
12	12	20	-121220		RL50-121220	
20	20	10	-202010	RL55-202010	RL50-202010	
20	20	12	-202012	RL55-202012	RL50-202012	
20	20	20	-202020	RL55-202020	RL50-202020	RL70-202020
25	25	10	-252510	RL55-252510		
25	25	12	-252512	RL55-252512	RL50-252512	
25	25	20	-252520	RL55-252520	RL50-252520	
25	25	25	-252525	RL55-252525	RL50-252525	
32	32	10	-323210	RL55-323210		
32	32	12	-323212	RL55-323212	RL50-323212	
32	20	20	-322020	RL55-323220		
32	32	25	-323225	RL55-323225	RL50-323225	
32	32	32	-323232	RL55-323232	RL50-323232	
40	40	10	-404010	RL55-404010		
40	40	20	-404020	RL55-404020		
40	40	25	-404025	RL55-404025		
40	40	40	-404040	RL55-404040		
50	50	25	-505025	RL55-505025		
50	50	32	-505032	RL55-505032		
50	50	50	-505050	RL55-505050		
63	63	63	-636363	RL55-636363		

## STAPLELOK/ STAPLELOK

### RL60

### RL65

CROSS  
X



STAPLE SIZE MM				DASH SIZE	STAPLELOK FEMALE FIXED CROSS	STAPLELOK FEMALE FIXED X
mm					PART NO	PART NO
6	6	6	6	-06060606	RL60-06060606	
10	10	10	10	-10101010	RL60-10101010	RL65-10101010
12	12	12	12	-12121212	RL60-12121212	
20	20	20	20	-20202020	RL60-20202020	
25	25	25	25	-25252525	RL60-25252525	
32	32	32	32	-32323232	RL60-32323232	

## STAPLELOK/BSPP

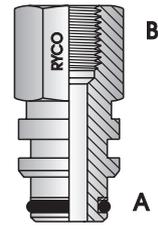
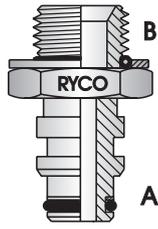
### RL155

### RL156

### RL157 prev. RL19

#### STRAIGHT

O RING & RETAINING RING  
SUPPLIED  
(RL155, END B)  
O RING SUPPLIED  
(RL156, END B)



STAPLE SIZE		DASH SIZE	STAPLELOK MALE	STAPLELOK MALE	STAPLELOK MALE
A	B		BSPP O RING MALE	BSPP FACE SEAL MALE	BSPP FEMALE FIXED
mm	inch		PART NO	PART NO	PART NO
6	1/4	-0604	RL155-0604		RL157-0604
6	3/8	-0606	RL155-0606		
10	1/4	-1004	RL155-1004		
10	3/8	-1006	RL155-1006	RL156-1006	RL157-1006
10	1/2	-1008	RL155-1008		RL157-1008
12	3/8	-1206	RL155-1206		
12	1/2	-1208	RL155-1208		RL157-1208
12	3/4	-1212	RL155-1212		
20	3/4	-2012	RL155-2012		RL157-2012
20	1	-2016	RL155-2016		
25	1	-2516	RL155-2516		RL157-2516
32	1.1/4	-3220	RL155-3220		
40	1.1/2	-4024	RL155-4024		
50	2	-5032	RL155-5032		
63	2.1/2	-6340	RL155-6340		

## STAPLELOK/BSPP

### RL115

### RL116

### RL116C

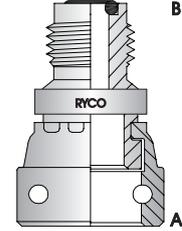
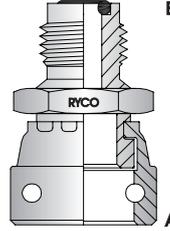
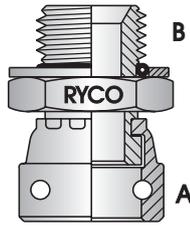
#### STRAIGHT

O RING & RETAINING RING SUPPLIED

(RL115, END B)

O RING SUPPLIED

(RL116 & RL116C, END B)



STAPLE SIZE		DASH SIZE	STAPLELOK FEMALE SWIVEL BSPP O RING MALE	STAPLELOK FEMALE SWIVEL BSPP O RING MALE	STAPLELOK FEMALE SWIVEL BSPP FACE SEAL MALE INTERNAL HEX
A	B		PART NO	PART NO	PART NO
6	1/4	-0604	RL115-0604	RL116-0604	
6	3/8	-0606	RL115-0606		
10	1/4	-1004	RL115-1004		
10	3/8	-1006	RL115-1006	RL116-1006	
10	1/2	-1008	RL115-1008	RL116-1008	
10	3/4	-1012		RL116-1012	RL116C-1012
12	3/8	-1206	RL115-1206	RL116-1206	
12	1/2	-1208	RL115-1208	RL116-1208	
12	3/4	-1212	RL115-1212	RL116-1212	RL116C-1212
12	1	-1216	RL115-1216	RL116-1216	
12	1.1/4	-1220	RL115-1220		
20	1/2	-2008	RL115-2008		
20	3/4	-2012	RL115-2012	RL116-2012	RL116C-2012
20	1	-2016	RL115-2016	RL116-2016	
25	3/4	-2512	RL115-2512		
25	1	-2516	RL115-2516	RL116-2516	
25	1.1/4	-2520	RL115-2520	RL116-2520	
32	1	-3216	RL115-3216	RL116-3216	
32	1.1/4	-3220	RL115-3220	RL116-3220	
32	1.1/2	-3224	RL115-3224		
50	2	-5032	RL115-5032		

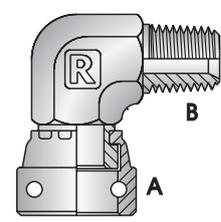
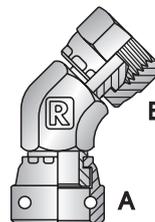
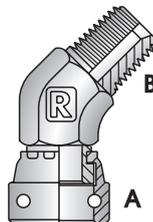
## STAPLELOK/BSP

### RL131

### RL119 prev. RL245

### RL113

#### 45° ELBOW 90° ELBOW



STAPLE SIZE		DASH SIZE	STAPLELOK FEMALE SWIVEL BSPT MALE 45° ELBOW	STAPLELOK FEMALE SWIVEL BSPP FEMALE SWIVEL 45° ELBOW	STAPLELOK FEMALE SWIVEL BSPT MALE 90° ELBOW
A	B		PART NO	PART NO	PART NO
6	1/4	-0604	RL131-0604	RL119-0604	RL113-0604
6	3/8	-0606	RL131-0606	RL119-0606	RL113-0606
10	3/8	-1006	RL131-1006	RL119-1006	RL113-1006
12	1/2	-1208	RL131-1208	RL119-1208	RL113-1208
20	3/4	-2012	RL131-2012		RL113-2012

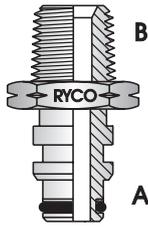
## STAPLELOK/NPT

## RL125

## RL130

## RL135

STRAIGHT



STAPLE SIZE		DASH SIZE	STAPLELOK MALE NPTF MALE	STAPLELOK MALE LONG NPTF MALE	STAPLELOK MALE EXTRA LONG NPTF MALE
A	B				
mm	inch		PART NO	PART NO	PART NO
6	1/8	-0602	RL125-0602		
6	1/4	-0604	RL125-0604	RL130-0604	
6	3/8	-0606	RL125-0606		
10	1/4	-1004	RL125-1004		
10	3/8	-1006	RL125-1006	RL130-1006	
10	1/2	-1008	RL125-1008	RL130-1008	
10	3/4	-1012	RL125-1012		
12	3/8	-1206	RL125-1206		
12	1/2	-1208	RL125-1208	RL130-1208	
12	3/4	-1212	RL125-1212		
20	1/2	-2008	RL125-2008		
20	3/4	-2012	RL125-2012	RL130-2012	RL135-2012
20	1	-2016	RL125-2016		
25	3/4	-2512	RL125-2512		
25	1	-2516	RL125-2516	RL130-2516	
25	1.1/4	-2520	RL125-2520		
32	1.1/4	-3220	RL125-3220	RL130-3220	
40	1.1/2	-4024	RL125-4024		
50	1.1/2	-5024	RL125-5024		
50	2	-5032	RL125-5032		

## STAPLELOK/NPT

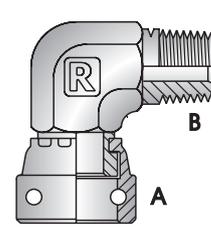
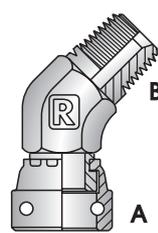
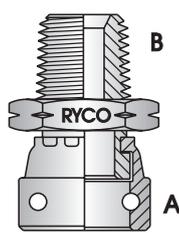
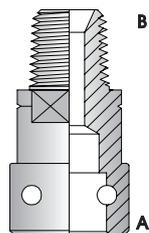
## RL85

## RL80

## RL90

## RL95

STRAIGHT



STAPLE SIZE		DASH SIZE	STAPLELOK FEMALE FIXED NPTF MALE	STAPLELOK FEMALE SWIVEL NPTF MALE	STAPLELOK FEMALE SWIVEL NPTF MALE 45° ELBOW	STAPLELOK FEMALE SWIVEL NPTF MALE 90° ELBOW
A	B					
mm	inch		PART NO	PART NO	PART NO	PART NO
6	1/8	-0602		RL80-0602	RL90-0602	RL95-0602
6	1/4	-0604		RL80-0604	RL90-0604	RL95-0604
6	3/8	-0606		RL80-0606		RL95-0606
6	1	-0616		RL80-0616		
10	1/4	-1004		RL80-1004		RL95-1004
10	3/8	-1006		RL80-1006	RL90-1006	RL95-1006
10	1/2	-1008		RL80-1008		RL95-1008
12	3/8	-1206		RL80-1206	RL90-1206	RL95-1206
12	1/2	-1208		RL80-1208	RL90-1208	RL95-1208
12	3/4	-1212		RL80-1212		RL95-1212
20	1/2	-2008		RL80-2008	RL90-2008	RL95-2008
20	3/4	-2012		RL80-2012	RL90-2012	RL95-2012
20	1	-2016		RL80-2016		RL95-2016
25	3/4	-2512		RL80-2512		
25	1	-2516		RL80-2516	RL90-2516	RL95-2516
25	1.1/4	-2520		RL80-2520		
32	1	-3216		RL80-3216		
32	1.1/4	-3220		RL80-3220	RL90-3220	RL95-3220
40	1.1/2	-4024	RL85-4024			
50	2	-5032	RL85-5032	RL80-5032		RL95-5032

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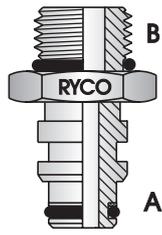
## STAPLELOK/UN O

## RL140

## RL145

## RL150

**STRAIGHT**  
O RING SUPPLIED



STAPLE SIZE		DASH SIZE	STAPLELOK MALE UN O RING MALE	STAPLELOK MALE LONG UN O RING MALE	STAPLELOK MALE EXTRA LONG UN O RING MALE
A	B				
mm	inch	inch	PART NO	PART NO	PART NO
6	7/16	1/4	-0607	RL140-0607	
6	1/2	5/16	-0608	RL140-0608	
6	9/16	3/8	-0609	RL140-0609	RL145-0609
6	1.1/16	3/4	-0617	RL140-0617	
10	7/16	1/4	-1007	RL140-1007	
10	9/16	3/8	-1009	RL140-1009	
10	3/4	1/2	-1012	RL140-1012	RL145-1012
10	7/8	5/8	-1014	RL140-1014	
10	1.1/16	3/4	-1017	RL140-1017	
12	9/16	3/8	-1209	RL140-1209	
12	3/4	1/2	-1212	RL140-1212	RL145-1212
12	7/8	5/8	-1214	RL140-1214	RL145-1214
12	1.1/16	3/4	-1217	RL140-1217	RL145-1217
12	1.5/16	1	-1221	RL140-1221	
20	3/4	1/2	-2012	RL140-2012	
20	7/8	5/8	-2014	RL140-2014	
20	1.1/16	3/4	-2017	RL140-2017	RL145-2017
20	1.5/16	1	-2021	RL140-2021	
25	1.5/16	1	-2521	RL140-2521	RL145-2521
25	1.5/8	1.1/4	-2526	RL140-2526	

## STAPLELOK/UN O

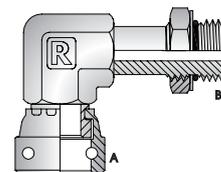
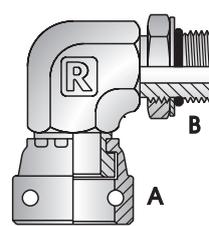
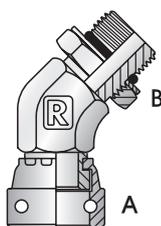
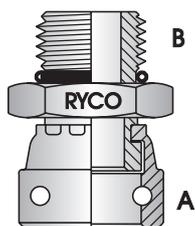
## RL100

## RL105

## RL110

## RL112

**STRAIGHT  
45° ELBOW**  
O RING SUPPLIED



STAPLE SIZE			DASH SIZE	STAPLELOK FEMALE SWIVEL UN O RING MALE	STAPLELOK FEMALE SWIVEL UN O RING MALE 45° ELBOW	STAPLELOK FEMALE SWIVEL UN O RING MALE 90° ELBOW	STAPLELOK FEMALE SWIVEL UN O MALE 90° LONG ELBOW
A	B			PART NO	PART NO	PART NO	PART NO
6	7/16	1/4	-0607	RL100-0607	RL105-0607	RL110-0607	
6	9/16	3/8	-0609	RL100-0609	RL105-0609	RL110-0609	
10	7/16	1/4	-1007	RL100-1007		RL110-1007	
10	9/16	3/8	-1009	RL100-1009	RL105-1009	RL110-1009	
10	3/4	1/2	-1012	RL100-1012	RL105-1012	RL110-1012	
12	9/16	3/8	-1209	RL100-1209	RL105-1209	RL110-1209	
12	3/4	1/2	-1212	RL100-1212	RL105-1212	RL110-1212	RL112-1212
12	7/8	5/8	-1214	RL100-1214	RL105-1214	RL110-1214	
12	1.1/16	3/4	-1217	RL100-1217		RL110-1217	
20	3/4	1/2	-2012	RL100-2012			
20	7/8	5/8	-2014	RL100-2014		RL110-2014	
20	1.1/16	3/4	-2017	RL100-2017	RL105-2017	RL110-2017	RL112-2017
20	1.5/16	1	-2021	RL100-2021			
25	1.1/16	3/4	-2517	RL100-2517			
25	1.5/16	1	-2521	RL100-2521	RL105-2521	RL110-2521	
32	1.5/8	1.1/4	-3226	RL100-3226		RL110-3226	

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

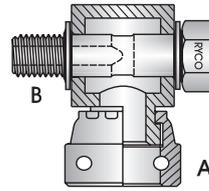
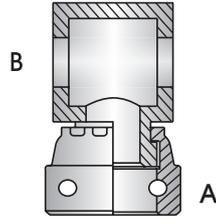
ROTARY + DBB

TECHNICAL

## STAPLELOK/BANJO

### RL27

### RL26



STAPLE SIZE	BSPP BANJO A SIZE	DASH SIZE	STAPLELOK FEMALE SWIVEL BSPP BANJO	STAPLELOK FEMALE SWIVEL BSPP BANJO BOLT & SEALS
mm			PART NO	PART NO
6	1/4	-0604	RL27-0604	RL26-0604
10	3/8	-1006	RL27-1006	RL26-1006
10	1/2	-1008	RL27-1008	RL26-1008
12	3/8	-1206	RL27-1206	RL26-1206
13	1/2	-1208	RL27-1208	RL26-1208
20	3/4	-2012	RL27-2012	RL26-2012

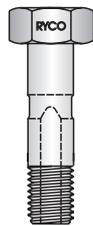
## BSPP BANJO BOLT

### RL29

## BSPP METAL BONDED SEAL

### RL21

## STAPLELOK SUPERLOK



BOLT SIZE	DASH SIZE	BSPP BANJO BOLT
mm		PART NO
1/4	-04	RL29-04
3/8	-06	RL29-06
1/2	-08	RL29-08
3/4	-12	RL29-12

SEAL SIZE	DASH SIZE	BSPP METAL BONDED STEEL
INCH		PART NO
1/8	-02	RL21-02
1/4	-04	RL21-04
3/8	-06	RL21-06
1/2	-08	RL21-08
3/4	-12	RL21-12
7/8	-14	RL21-14
1	-16	RL21-16
1.1/4	-20	RL21-20
1.1/2	-24	RL21-24
2	-32	RL21-32

### NOTE:

Bonded Seals are sold only in packs of 10 (up to and including RL21-14) or packs of 5 (RL21-16 and over).

### EXAMPLE:

Order Part No RL21D-xx for pack. (D is added after RL21).

## STAPLELOK STAPLES

### RL170

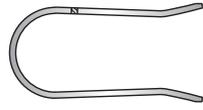
### RL175

### RL175D

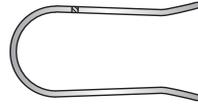
### RL250

#### STAPLELOK STAPLE INSTALLATION & REMOVAL TOOL

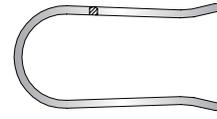
#### STAPLELOK SUPERLOK



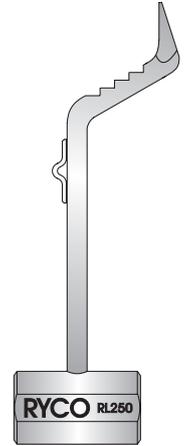
Square Section



Square Section



D - Section



STAPLE SIZE	DASH SIZE	STAPLELOK SPRING STEEL STAPLE	STAPLELOK STAINLESS STEEL STAPLE	STAPLELOK STAINLESS STEEL D STAPLE
mm		PART NO	PART NO	PART NO
6	-06	RL170-06	RL175-06	RL175D-06
10	-10	RL170-10	RL175-10	RL175D-10
12	-12	RL170-12	RL175-12	RL175D-12
20	-20	RL170-20	RL175-20	RL175D-20
25	-25	RL170-25	RL175-25	RL175D-25
32	-32	RL170-32	RL175-32	RL175D-32
40	-40	RL170-40	RL175-40	RL175D-40
50	-50	RL170-50	RL175-50	RL175D-50
63	-63		RL175-63	RL175D-63

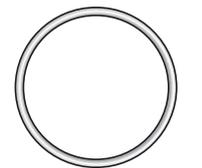
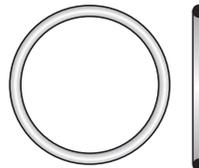
**WARNING:** Staples must only be used ONCE, they MUST NOT BE RE-USED. This applies to all STAPLELOK, SUPERLOK and SUPERLOK-D Staples. Failure to observe this warning may result in serious personal injury, or property damage.

## STAPLELOK SEAL KIT

### RL22

### RL180

### RL195



STAPLE SIZE	DASH SIZE	STAPLELOK MALE O RING & BACKUP KIT	STAPLELOK MALE O RING	STAPLELOK MALE BACKUP
mm		PART NO	PART NO	PART NO
6	-06	RL22-06	RL180-06	RL195-06
10	-10	RL22-10	RL180-10	RL195-10
12	-12	RL22-12	RL180-12	RL195-12
20	-20	RL22-20	RL180-20	RL195-20
25	-25	RL22-25	RL180-25	RL195-25
32	-32	RL22-32	RL180-32	RL195-32
40	-40	RL22-40	RL180-40	RL195-40
50	-50	RL22-50	RL180-50	RL195-50
63	-63		RL180-63	

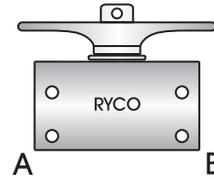
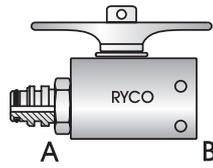
**NOTE:** Seals are sold only in packs of 10.

**EXAMPLE:** Order Part No RL22D-xx for pack of 10. (D is added after RL22).

## STAPLELOK BALL VALVE

### RL166F

### RL167F



STAPLE SIZE MM		DASH SIZE	BALL VALVE STAPLELOK MALE FEMALE FIXED	BALL VALVE STAPLELOK FEMALE FIXED FEMALE FIXED
A	B		PART NO	PART NO
6	6	-0606		RL167F-0606
10	10	-1010	RL166F-1010	RL167F-1010
12	12	-1212	RL166F-1212	RL167F-1212
20	20	-2020	RL166F-2020	RL167F-2020
25	25	-2525	RL166F-2525	RL167F-2525
32	32	-3232	RL166F-3232	RL167F-3232
40	40	-4040	RL166F-4040	RL167F-4040
50	50	-5050	RL166F-5050	RL167F-5050

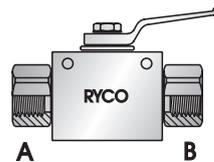
Note:

RL166F, RL167F and RL167SF Series Ball Valves have a "Butterfly" style Safety Handle that requires the handle to be lifted before turning to open or close the Ball Valve.

The brass nut securing the handle extends past the handle, and has a 6,5 mm hole that allows fitment of a padlock. This prevents the handle from being lifted to avoid deliberate, or inadvertent turning from its desired position.

## BALL VALVE BSPP

### RL20SH



BSPP THREAD SIZE INCH		DASH SIZE	MAX. WORKING PRESSURE		BALL VALVE BSPP FEMALE BSPP FEMALE
A	B		BAR	PSI	PART NO
1/4	1/4	-0404	500	7250	RL20SH-0404
3/8	3/8	-0606	500	7250	RL20SH-0606
1/2	1/2	-0808	500	7250	RL20SH-0808
3/4	3/4	-1212	400	5800	RL20SH-1212
1	1	-1616	350	5100	RL20SH-1616
1.1/4	1.1/4	-2020	350	5100	RL20SH-2020
1.1/2	1.1/2	-2424	350	5100	RL20SH-2424
2	2	-3232	350	5100	RL20SH-3232

## STAPLELOK TO CROCBITE BY SERIES

STAPLELOK		CROCBITE	
SERIES	DESCRIPTION	SERIES	DESCRIPTION
T2870	T200 STAPLELOK MALE	T2880	T200 CROCBITE MALE
T7870	T700 STAPLELOK MALE	T7880	T700 CROCBITE MALE
T9870	T900 STAPLELOK MALE	T9880	T900 CROCBITE MALE
69870N	6900N STAPLELOK MALE	69880N	6900N CROCBITE MALE
T2870S	T200 STAPLELOK MALE STAINLESS STEEL	T2880S	T200 CROCBITE MALE STAINLESS STEEL
T7870S	T700 STAPLELOK MALE STAINLESS STEEL	T7880S	T700 CROCBITE MALE STAINLESS STEEL
T2871	T200 STAPLELOK MALE 45° ELBOW	T2881	T200 CROCBITE MALE 45° ELBOW
T7871	T700 STAPLELOK MALE 45° ELBOW	T7881	T700 CROCBITE MALE 45° ELBOW
T9871	T900 STAPLELOK MALE 45° ELBOW	T9881	T900 CROCBITE MALE 45° ELBOW
69871N	6900N STAPLELOK MALE 45° ELBOW	69881N	6900N CROCBITE MALE 45° ELBOW
T2882	T200 STAPLELOK MALE 90° ELBOW	T2882	T200 CROCBITE MALE 90° ELBOW
T7882	T700 STAPLELOK MALE 90° ELBOW	T7882	T700 CROCBITE MALE 90° ELBOW
T9882	T900 STAPLELOK MALE 90° ELBOW	T9882	T900 CROCBITE MALE 90° ELBOW
69882N	6900N STAPLELOK MALE 90° ELBOW	69882N	6900N CROCBITE MALE 90° ELBOW
RL21	BSPP BONDED SEAL	RL21	BSPP BONDED SEAL
RL22	STAPLELOK MALE ORING & B/UP WASHER	RCB22	CROCBITE MALE ORING & B/UP WASHER
RL26	STAPLELOK FEM SWIV BANJO KIT	RCB26	CROCBITE FEM SWIV BANJO KIT
RL27	STAPLELOK FEM SWIV BANJO BODY	RCB27	CROCBITE FEM SWIV BANJO BODY
RL29	BSPP BANJO BOLT	RL29	BSPP BANJO BOLT
RL30	STAPLELOK FEM FIXED STAPLELOK FEM FIXED SOCKET	RCB32	CROCBITE FEM SWIV CROCBITE FEM SWIV SOCKET
RL32	STAPLELOK FEM SWIV STAPLELOK FEM SWIV	RCB32	CROCBITE FEM SWIV CROCBITE FEM SWIV SOCKET
RL35	STAPLELOK FEM SWIV STAPLELOK FEM SWIV 45' ELBOW	RCB35	CROCBITE FEM SWIV CROCBITE FEM SWIV 45' ELBOW
RL40	STAPLELOK FEM SWIV STAPLELOK FEM SWIV 90' ELBOW	RCB40	CROCBITE FEM SWIV CROCBITE FEM SWIV 90' ELBOW
RL45	STAPLELOK FEM FIXED STAPLELOK FEM FIXED 90' ELBOW	RCB40	CROCBITE FEM SWIV CROCBITE FEM SWIV 90' ELBOW
RL50	STAPLELOK FEM SWIV STAPLELOK FEM SWIV STAPLELOK FEM SWIV T	RCB50	CROCBITE FEM SWIV CROCBITE FEM SWIV CROCBITE FEM SWIV T
RL55	STAPLELOK FEM FIXED STAPLELOK FEM FIXED STAPLELOK FEM FIXED T	RCB50	CROCBITE FEM SWIV CROCBITE FEM SWIV CROCBITE FEM SWIV T
RL60	STAPLELOK FEM FIXED CROSS	RCB62	CROCBITE FEM SWIV CROSS
RL65	STAPLELOK FEM FIXED "X"	RCB66	CROCBITE FEM SWIV SWIVEL "X"
RL70	STAPLELOK FEM FIXED "Y"	RCB71	CROCBITE FEM SWIV SWIVEL "Y"
RL72	STAPLELOK MALE STAPLELOK FEM SWIV ADAPTOR	RCB72	CROCBITE MALE CROCBITE FEM SWIV ADAPTOR
RL72F	STAPLELOK MALE STAPLELOK FEM FIXED ADAPTOR	RCB72	CROCBITE MALE CROCBITE FEM SWIV ADAPTOR
RL74	STAPLELOK MALE STAPLELOK FEM SWIV 45' ELBOW	RCB74	CROCBITE MALE CROCBITE FEM SWIV 45' ELBOW
RL74F	STAPLELOK MALE STAPLELOK FEM FIXED 45' ELBOW	RCB74	CROCBITE MALE CROCBITE FEM SWIV 45' ELBOW
RL76	STAPLELOK MALE STAPLELOK FEM SWIV 90' ELBOW	RCB76	CROCBITE MALE CROCBITE FEM SWIV 90' ELBOW
RL76F	STAPLELOK MALE STAPLELOK FEM FIXED 90' ELBOW	RCB76	CROCBITE MALE CROCBITE FEM SWIV 90' ELBOW
RL77	STAPLELOK FEM SWIV STAPLELOK FEM SWIV STAPLELOK MALE T	RCB77	CROCBITE FEM SWIV CROCBITE FEM SWIV CROCBITE MALE T
RL78	STAPLELOK MALE STAPLELOK FEM SWIV STAPLELOK FEM SWIV T	RCB78	CROCBITE MALE CROCBITE FEM SWIV CROCBITE FEM SWIV T
RL78F	STAPLELOK MALE STAPLELOK FEM FIXED STAPLELOK FEM FIXED T	RCB78	CROCBITE MALE CROCBITE FEM SWIV CROCBITE FEM SWIV T
RL80	STAPLELOK FEM SWIV NPTFM ADAPTOR	RCB80	CROCBITE FEM SWIV NPTFM ADAPTOR
RL85	STAPLELOK FEM FIXED NPTFM ADAPTOR	RCB80	CROCBITE FEM SWIV NPTFM ADAPTOR
RL90	STAPLELOK FEM SWIV NPTFM 45' ELBOW	RCB90	CROCBITE FEM SWIV NPTFM 45' ELBOW
RL95	STAPLELOK FEM SWIV NPTFM 90' ELBOW	RCB95	CROCBITE FEM SWIV NPTFM 90' ELBOW
RLC	STAPLELOK PLASTIC CAP/PLUG	RCBC	CROCBITE PLASTIC CAP/PLUG
RL100	STAPLELOK FEM SWIV UNOM ADAPTOR	RCB100	CROCBITE FEM SWIV UNOM ADAPTOR
RL105	STAPLELOK FEM SWIV UNOM 45' ELBOW	RCB105	CROCBITE FEM SWIV UNOM 45' ELBOW
RL110	STAPLELOK FEM SWIV UNOM 90' ELBOW	RCB110	CROCBITE FEM SWIV UNOM 90' ELBOW
RL112	STAPLELOK FEM SWIV UNOM 90' LNG ELBOW	RCB112	CROCBITE FEM SWIV UNOM 90' LNG ELBOW
RL113	STAPLELOK FEM SWIV BSPTM 90' ELBOW	RCB113	CROCBITE FEM SWIV BSPTM 90' ELBOW
RL115	STAPLELOK FEM SWIV BSPPOM ADAPTOR	RCB115	CROCBITE FEM SWIV BSPPM ADAPTOR
RL116	STAPLELOK FEM SWIV BSPPFSM ADAPTOR	RCB116	CROCBITE FEM SWIV BSPPFSM ADAPTOR
RL116C	STAPLELOK FEM SWIV BSPPFSM INT HEX	RCB116C	CROCBITE FEM SWIV BSPPFSM INT HEX
RL119	STAPLELOK FEM SWIV BSPPFS 45' ELBOW	RCB119	CROCBITE FEM SWIV BSPPFS 45' ELBOW
RL120	STAPLELOK MALE STAPLELOK MALE NIPPLE	RCB120	CROCBITE MALE CROCBITE MALE NIPPLE
RL125	STAPLELOK MALE NPTFM NIPPLE	RCB125	CROCBITE MALE NPTFM NIPPLE
RL130	STAPLELOK MALE NPTFM LONG NIPPLE	RCB130	CROCBITE MALE NPTFM LONG NIPPLE
RL131	STAPLELOK FEM SWIV BSPTM 45' ELBOW	RCB131	CROCBITE FEM SWIV BSPTM 45' ELBOW
RL135	STAPLELOK MALE NPTFM XLONG NIPPLE	RCB135	CROCBITE MALE NPTFM XLONG NIPPLE
RL140	STAPLELOK MALE UNOM NIPPLE	RCB140	CROCBITE MALE UNOM NIPPLE
RL145	STAPLELOK MALE UNOM LONG NIPPLE	RCB145	CROCBITE MALE UNOM LONG NIPPLE
RL150	STAPLELOK MALE UNOM XLONG NIPPLE	RCB150	CROCBITE MALE UNOM XLONG NIPPLE
RL155	STAPLELOK MALE BSPPOM NIPPLE	RCB155	CROCBITE MALE BSPPM NIPPLE
RL156	STAPLELOK MALE BSPPFSM NIPPLE	RCB156	CROCBITE MALE BSPPFSM NIPPLE
RL157	STAPLELOK MALE BSPPFF NIPPLE	RCB157	CROCBITE MALE BSPPFF NIPPLE
RL165	STAPLELOK MALE PLUG	RCB165	CROCBITE MALE PLUG
RL166F	STAPLELOK MALE STAPLELOK FEM FIXED BALL VALVE	RCB166	CROCBITE MALE CROCBITE FEM SWIV BALL VALVE
RL167F	STAPLELOK FEM FIXED STAPLELOK FEM FIXED BALL VALVE	RCB167	CROCBITE FEM SWIV CROCBITE FEM SWIV BALL VALVE

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# WARNING

## STAPLES

Staples can become loose during operation and migrate out or fall out.  
RYCO strongly recommends the use of a secondary retention device to be used in conjunction with staples.

**Call RYCO for information regarding retention devices.**

### DO NOT REMOVE STAPLES WHEN UNDER PRESSURE.

Staples can be removed when under pressure.  
It is extremely dangerous to remove a staple under pressure.  
Severe bodily injury or death may result.  
Ensure that the system is depressurized, dissipated and isolated before attempting to remove a staple.

### MDG 41 STATES:

#### 3.7.6.2 HOSE ENDS

For staple or pin type connections DIN 20043 is not considered suitable for hydraulic application as the working pressures for the fitting may be as low as 2.5:1. The MDG 41 pressures listed for staple fittings have been adjusted to provide a 4:1 safety factor.  
There is no satisfactory standard for these types of fittings.  
Pressure rating of the hose assembly may be limited by the hose end selection.

### RYCO STRONGLY RECOMMENDS

#### CROCBITE – MINE SAFE CONNECTION SYSTEM

CROCBITE is FAILSAFE and cannot be disconnected under pressure

<b>CROCBITE - FAIL SAFE: RYCO RECOMMENDS CROCBITE MINE SAFE CONNECTION SYSTEM</b>			
DASH SIZE	MAXIMUM WORKING PRESSURE	SUPERLOK D-STAPLE	SUPERLOK SQUARE STAPLE
mm	bar	bar	bar
<b>HIGH PRESSURE</b>			
20	420	420	420
25	420	420	380
32	420	420	350
40	420	420	350
50	420	420	350
63	350		350



# SUPERLOK



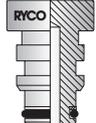
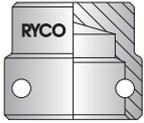
## MALE STRAIGHT

<b>T7876</b> PAGE 114	<b>T9876</b> PAGE 114	<b>69876N</b> PAGE 114
		
T700 SUPERLOK MALE	T900 SUPERLOK MALE	6900N SUPERLOK MALE

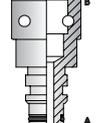
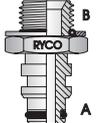
## MALE STRAIGHT STAINLESS STEEL

<b>T7876S</b> PAGE 114	<b>T9876S</b> PAGE 114	<b>69876NS</b> PAGE 114
		
T700 SUPERLOK MALE STAINLESS STEEL	T900 SUPERLOK MALE STAINLESS STEEL	6900N SUPERLOK MALE STAINLESS STEEL

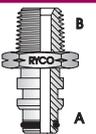
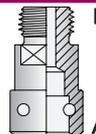
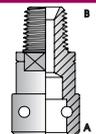
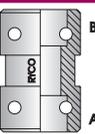
## SUPERLOK PLUG & CAP

<b>RL165S</b> PAGE 115	<b>RL160S</b> PAGE 115
	
SUPERLOK MALE PLUG	SUPERLOK FEMALE CAP

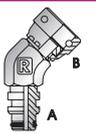
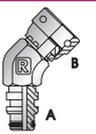
## SUPERLOK STRAIGHT

<b>RL120S</b> PAGE 116	<b>RL72SF</b> PAGE 116	<b>RL72S</b> PAGE 116	<b>RL155S</b> PAGE 119
			
SUPERLOK MALE NIPPLE	SUPERLOK MALE FEMALE FIXED	SUPERLOK MALE FEMALE SWIVEL	SUPERLOK MALE BSPP O RING MALE

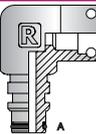
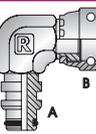
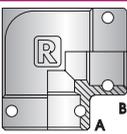
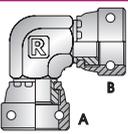
## SUPERLOK STRAIGHT CONT'D

<b>RL125S</b> PAGE 119	<b>RL114S</b> PAGE 119	<b>RL115S</b> PAGE 119	<b>RL116S</b> PAGE 119	<b>RL85S</b> PAGE 119	<b>RL30S</b> PAGE 116
					
SUPERLOK MALE NPTF MALE	SUPERLOK FEMALE FIXED BSPP O RING MALE	SUPERLOK FEMALE SWIVEL BSPP O RING MALE	SUPERLOK FEMALE SWIVEL BSPP FACE SEAL MALE	SUPERLOK FEMALE FIXED NPTF MALE	SUPERLOK FEMALE FIXED SOCKET

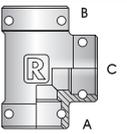
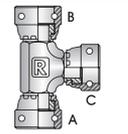
## SUPERLOK 45° ELBOW

<b>RL74SF</b> PAGE 117	<b>RL74S</b> PAGE 117
	
SUPERLOK MALE FEMALE FIXED 45° ELBOW	SUPERLOK MALE FEMALE SWIVEL 45° ELBOW

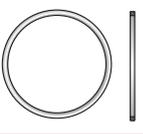
## SUPERLOK 90° ELBOW

<b>RL76SF</b> PAGE 117	<b>RL76S</b> PAGE 117	<b>RL45S</b> PAGE 118	<b>RL40S</b> PAGE 118
			
SUPERLOK MALE FEMALE FIXED 90° ELBOW	SUPERLOK MALE FEMALE SWIVEL 90° ELBOW	SUPERLOK FEMALE FIXED 90° ELBOW	SUPERLOK FEMALE SWIVEL 90° ELBOW

## SUPERLOK TEE

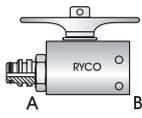
<b>RL55S</b> PAGE 118	<b>RL50S</b> PAGE 118
	
SUPERLOK FEMALE FIXED 90° ELBOW	SUPERLOK FEMALE SWIVEL 90° ELBOW

## SUPERLOK COMPONENTS & ACCESSORIES

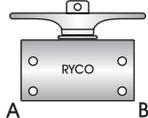
<b>RL175S</b> PAGE 120	<b>RL22S</b> PAGE 120	<b>RL180S</b> PAGE 120	<b>RL195S</b> PAGE 120	<b>RLCS</b> PAGE 115	<b>RL250</b> PAGE 120
					
Rectangular Section SUPERLOK STAINLESS STEEL STAPLE	SUPERLOK MALE O RING & BACKUP KIT	SUPERLOK MALE O RING	SUPERLOK MALE BACK-UP	SUPERLOK PLASTIC CAP/PLUG	STAPLELOK STAPLE INSTALLATION AND REMOVAL TOOL

**RL166SF** PAGE 121      **RL167SF** PAGE 121

**BALL VALVE**



BALL VALVE  
SUPERLOK  
MALE  
FEMALE FIXED



BALL VALVE  
SUPERLOK  
FEMALE FIXED  
FEMALE FIXED

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**SUPERLOK**

RKVF / RKVP

ROTARY + DBB

TECHNICAL

**SUPERLOK**

**T7876**

**T9876**

**69876N**

**STRAIGHT**

**O RING & BACK UP RING SUPPLIED**



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T700 SUPERLOK MALE	T900 SUPERLOK MALE	6900N SUPERLOK MALE
DN	inch	mm		bar	PART NO	PART NO	PART NO
12	1/2	12	-0812		<b>T7876-0812</b>		
16	5/8	16	-1016		<b>T7876-1016</b>		
19	3/4	20	-1220	420	<b>T7876-1220</b>	<b>T9876-1220</b>	<b>69876N-1220</b>
25	1	25	-1625	380	<b>T7876-1625</b>	<b>T9876-1625</b>	
31	1.1/4	32	-2032	350	<b>T7876-2032</b>	<b>T9876-2032</b>	
38	1.1/2	40	-2440	350	<b>T7876-2440</b>	<b>T9876-2440</b>	<b>69876N-2440</b>
51	2	50	-3250	350	<b>T7876-3250</b>	<b>T9876-3250</b>	<b>69876N-3250</b>

**SUPERLOK**

**T7876S**

**T9876S**

**69876NS**

**STRAIGHT**

**STAINLESS STEEL**

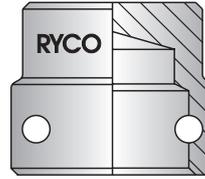
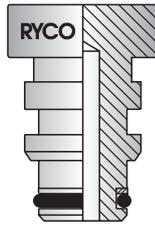
**O RING & BACK UP RING SUPPLIED**



HOSE SIZE		STAPLE SIZE	DASH SIZE	MAX WP	T700 SUPERLOK MALE STAINLESS STEEL	T900 SUPERLOK MALE STAINLESS STEEL	6900N SUPERLOK MALE STAINLESS STEEL
DN	inch	mm		bar	PART NO	PART NO	PART NO
12	1/2	12	-0812		<b>T7876S-0812</b>		
16	5/8	16	-1016		<b>T7876S-1016</b>		
19	3/4	20	-1220	420	<b>T7876S-1220</b>	<b>T9876S-1220</b>	<b>69876NS-1220</b>
25	1	25	-1625	380	<b>T7876S-1625</b>	<b>T9876S-1625</b>	
31	1.1/4	32	-2032	350	<b>T7876S-2032</b>	<b>T9876S-2032</b>	
38	1.1/2	40	-2440	350	<b>T7876S-2440</b>	<b>T9876S-2440</b>	<b>69876NS-2440</b>
51	2	50	-3250	350	<b>T7876S-3250</b>	<b>T9876S-3250</b>	<b>69876NS-3250</b>

**SUPERLOK RL165S RL160S**

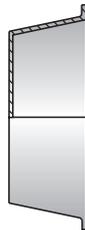
**PLUG  
CAP**



STAPLE SIZE	DASH SIZE	SUPERLOK PLUG	SUPERLOK CAP
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>
12	-12	RL165S-12	RL160S-12
20	-20	RL165S-20	RL160S-20
25	-25	RL165S-25	RL160S-25
32	-32	RL165S-32	RL160S-32
40	-40	RL165S-40	RL160S-40
50	-50	RL165S-50	RL160S-50

**SUPERLOK RLCS**

**PLASTIC PLUG  
PLASTIC CAP**



STAPLE SIZE	DASH SIZE	SUPERLOK PLASTIC CAP
<b>mm</b>		<b>PART NO</b>
12	-12	RLCS-12
20	-20	RLCS-20
25	-25	RLCS-25
32	-32	RLCS-32
40	-40	RLCS-40
50	-50	RLCS-50

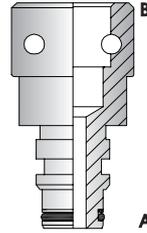
**SUPERLOK**

**RL120S**

**RL72SF**

**RL72S**

**STRAIGHT**

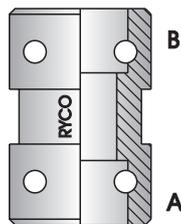


STAPLE SIZE MM		DASH SIZE	SUPERLOK MALE NIPPLE	SUPERLOK MALE FEMALE FIXED	SUPERLOK MALE FEMALE SWIVEL
A	B		PART NO	PART NO	PART NO
12	12	-1212	RL120S-1212		
20	12	-2012	RL120S-2012		
20	20	-2020	RL120S-2020		
25	20	-2520			
25	25	-2525	RL120S-2525		
32	25	-3225			
32	32	-3232	RL120S-3232		RL72S-3232
40	25	-4025			RL72S-4025
40	32	-4032	RL120S-4032	RL72SF-4032	
40	40	-4040	RL120S-4040		
40	50	-4050		RL72SF-4050	
50	32	-5032	RL120S-5032		RL72S-5032
50	40	-5040	RL120S-5040	RL72SF-5040	
50	50	-5050	RL120S-5050		

**SUPERLOK**

**RL30S**

**STRAIGHT**



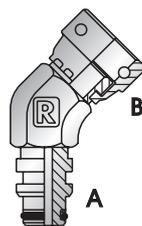
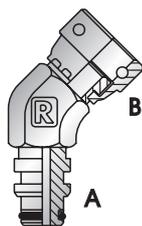
STAPLE SIZE		DASH SIZE	SUPERLOK FEMALE FIXED SOCKET
A	B		PART NO
mm	mm		
12	12	-1212	RL30S-1212
20	20	-2020	RL30S-2020
25	25	-2525	RL30S-2525
32	20	-3220	
32	32	-3232	RL30S-3232
40	24	-4024	
40	25	-4025	RL30S-4025
40	32	-4032	RL30S-4032
40	40	-4040	RL30S-4040
50	25	-5025	RL30S-5025
50	32	-5032	RL30S-5032
50	40	-5040	RL30S-5040

**SUPERLOK**

**RL74SF**

**RL74S**

**SUPERLOK  
45° ELBOW**



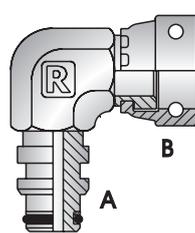
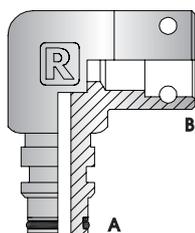
STAPLE SIZE		DASH SIZE	SUPERLOK MALE FEMALE FIXED 45° ELBOW	SUPERLOK MALE FEMALE SWIVEL 45° ELBOW
A	B		PART NO	PART NO
mm	mm			
12	12	-1212		
20	20	-2020		<b>RL74S-2020</b>
25	25	-2525		<b>RL74S-2525</b>
32	32	-3232		<b>RL74S-3232</b>
40	40	-4040	<b>RL74SF-4040</b>	
50	50	-5050	<b>RL74SF-5050</b>	

**SUPERLOK**

**RL76SF**

**RL76S**

**SUPERLOK  
90° ELBOW**



STAPLE SIZE		DASH SIZE	SUPERLOK MALE FEMALE FIXED 90° ELBOW	SUPERLOK MALE FEMALE SWIVEL 90° ELBOW
A	B		PART NO	PART NO
mm	mm			
12	12	-1212		<b>RL76S-1212</b>
20	20	-2020		<b>RL76S-2020</b>
25	25	-2525	<b>RL76SF-2525</b>	<b>RL76S-2525</b>
32	32	-3232	<b>RL76SF-3232</b>	<b>RL76S-3232</b>
40	40	-4040	<b>RL76SF-4040</b>	<b>RL76S-4040</b>
50	50	-5050	<b>RL76SF-5050</b>	

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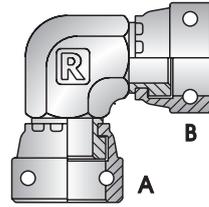
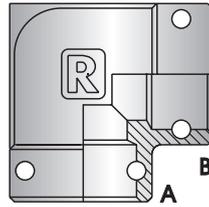
TECHNICAL

**SUPERLOK**

**RL45S**

**RL40S**

**SUPERLOK  
90° ELBOW**



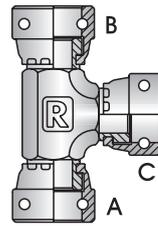
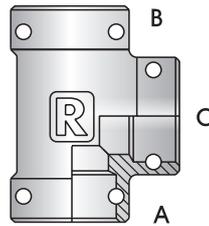
STAPLE SIZE		DASH SIZE	SUPERLOK FEMALE FIXED 90° ELBOW	SUPERLOK FEMALE SWIVEL 90° ELBOW
A	B			
mm	mm		PART NO	PART NO
12	12	-1212		
20	20	-2020		RL40S-2020
25	25	-2525		RL40S-2525
32	32	-3232	RL45S-3232	
40	40	-4040	RL45S-4040	
50	50	-5050	RL45S-5050	

**SUPERLOK**

**RL55S**

**RL50S**

**SUPERLOK  
TEE**

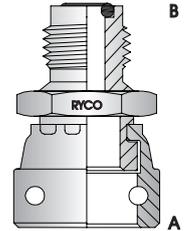
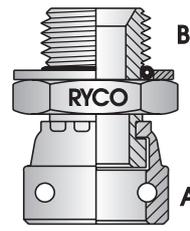
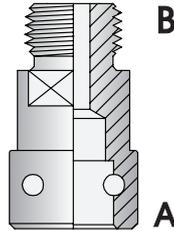
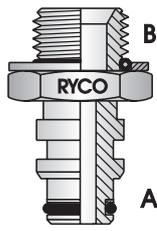


STAPLE SIZE			DASH SIZE	SUPERLOK FEMALE FIXED 90° ELBOW	SUPERLOK FEMALE SWIVEL 90° ELBOW
A	B	C			
mm	mm	mm		PART NO	PART NO
12	12	12	-121212		RL50S-121212
12	12	20	-121220		
20	20	12	-202012		
20	20	20	-202020	RL55S-202020	RL50S-202020
25	25	12	-252512	RL55S-252512	
25	25	25	-252525		RL50S-252525
32	20	20	-322020	RL55S-323220	
32	32	32	-323232	RL55S-323232	
40	40	40	-404040	RL55S-404040	
50	50	50	-505050	RL55S-505050	

**SUPERLOK RL155S RL114S RL115S RL116S**

**STRAIGHT**

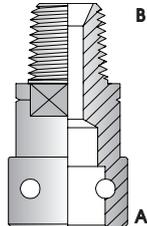
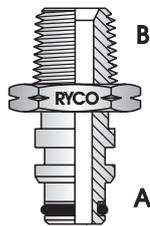
O RING & RETAINING RING SUPPLIED (RL155S & RL115S, END B)  
O RING SUPPLIED (RL116S, END B)



STAPLE SIZE		DASH SIZE	SUPERLOK MALE BSPP O RING MALE	SUPERLOK FEMALE FIXED BSPP O RING MALE	SUPERLOK FEMALE SWIVEL BSPP O RING MALE	SUPERLOK FEMALE SWIVEL BSPP FACE SEAL MALE
mm	inch		PART NO	PART NO	PART NO	PART NO
12	1/2	-1208				
20	3/4	-2012	<b>RL155S-2012</b>		<b>RL115S-2012</b>	<b>RL116S-2012</b>
20	1	-2016	<b>RL155S-2516</b>			
25	1	-2516	<b>RL155S-3216</b>		<b>RL115S-2516</b>	<b>RL116S-2516</b>
32	1.1/4	-3220	<b>RL155S-3220</b>	<b>RL114S-3220</b>		
40	1	-4016				
40	1.1/4	-4020		<b>RL114S-4020</b>		
40	1.1/2	-4024	<b>RL155S-4024</b>	<b>RL114S-4024</b>		
50	2	-5032	<b>RL155S-5032</b>	<b>RL114S-5032</b>		

**SUPERLOK RL125S RL85S**

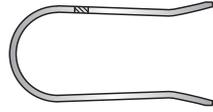
**MALE/FEMALE NPTF MALE**



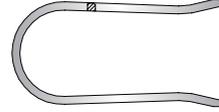
STAPLE SIZE		DASH SIZE	SUPERLOK MALE NPTF MALE	SUPERLOK FEMALE FIXED NPTF MALE
A	B		PART NO	PART NO
32	20	-3220		<b>RL85S-3220</b>
40	24	-4024		<b>RL85S-4024</b>
50	32	-5032	<b>RL125S-5032</b>	<b>RL85S-5032</b>

**SUPERLOK** **RL175S** **RL175SD**

**SUPERLOK  
COMPONENTS  
& ACCESSORIES**



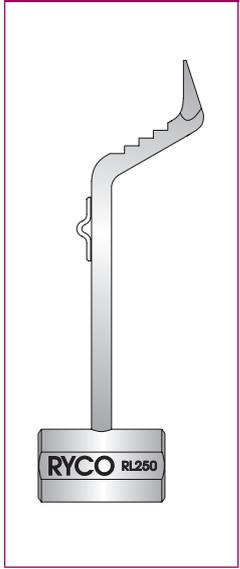
Rectangular Section



D - Section

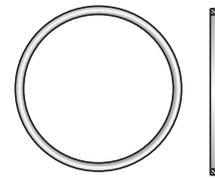
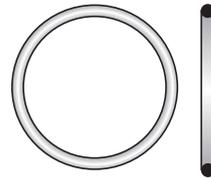
STAPLE SIZE	DASH SIZE	SUPERLOK STAINLESS STEEL STAPLE	SUPERLOK STAINLESS STEEL D-STAPLE
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>
12	-12	RL175S-12	RL175SD-12
20	-20	RL175S-20	RL175SD-20
25	-25	RL175S-25	RL175SD-25
32	-32	RL175S-32	RL175SD-32
40	-40	RL175S-40	RL175SD-40
50	-50	RL175S-50	RL175SD-50

**RL250  
SUPERLOK STAPLE  
INSTALLATION &  
REMOVAL TOOL**



**SUPERLOK** **RL22S** **RL180S** **RL195S**

**SUPERLOK  
COMPONENTS  
& ACCESSORIES**



STAPLE SIZE	DASH SIZE	SUPERLOK MALE O RING & BACKUP KIT	SUPERLOK MALE O RING	SUPERLOK MALE BACK-UP
<b>mm</b>		<b>PART NO</b>	<b>PART NO</b>	<b>PART NO</b>
12	-12	RL22S-12	RL180S-12	RL195S-12
20	-20	RL22S-20	RL180S-20	RL195S-20
25	-25	RL22-25	RL180-25	RL195-25
32	-32	RL22-32	RL180-32	RL195-32
40	-40	RL22S-40	RL180S-40	RL195S-40
50	-50	RL22S-50	RL180S-50	RL195S-50

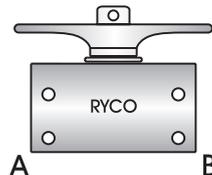
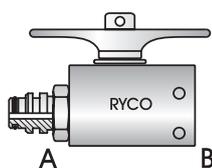
**NOTE:**  
Seals are sold only in packs of 10.

**EXAMPLE:**  
Order Part No RL22SD-xx for pack of 10.  
(D is added after RL22S).

**SUPERLOK BALL VALVE**

**RL166SF**

**RL167SF**



STAPLE SIZE MM		DASH SIZE	BALL VALVE SUPERLOK MALE FEMALE FIXED	BALL VALVE SUPERLOK FEMALE FIXED FEMALE FIXED
A	B		PART NO	PART NO
12	12	-1212	<b>RL166SF-1212</b>	<b>RL167SF-1212</b>
20	20	-2020	<b>RL166SF-2020</b>	<b>RL167SF-2020</b>
25	25	-2525	<b>RL166SF-2525</b>	<b>RL167SF-2525</b>
32	32	-3232	<b>RL166SF-3232</b>	<b>RL167SF-3232</b>
40	40	-4040	<b>RL166SF-4040</b>	<b>RL167SF-4040</b>
50	50	-5050	<b>RL166SF-5050</b>	<b>RL167SF-5050</b>

Note:

RL166F, RL167F and RL167SF Series Ball Valves have a "Butterfly" style Safety Handle that requires the handle to be lifted before turning to open or close the Ball Valve.

The brass nut securing the handle extends past the handle, and has a 6,5 mm hole that allows fitment of a padlock. This prevents the handle from being lifted to avoid deliberate, or inadvertent turning from its desired position.

**SUPERLOK TO CROCBITE BY SERIES**

SUPERLOK		CROCBITE	
SERIES	DESCRIPTION	SERIES	DESCRIPTION
T7876	T700 SUPERLOK MALE	T7880	T700 CROCBITE MALE
T9876	T900 SUPERLOK MALE	T9880	T900 CROCBITE MALE
69876N	6900N SUPERLOK MALE	69880N	6900N CROCBITE MALE
T7876S	T700 SUPERLOK MALE STAINLESS STEEL	T7880S	T700 CROCBITE MALE STAINLESS STEEL
T9876S	T900 SUPERLOK MALE STAINLESS STEEL	T9880S	T900 CROCBITE MALE STAINLESS STEEL
69876NS	6900N SUPERLOK MALE STAINLESS STEEL	69880NS	6900N CROCBITE MALE STAINLESS STEEL
RL22S	SUPERLOK MALE ORING & B/UP WASHER	RCB22	CROCBITE MALE ORING & B/UP WASHER
RL30S	SUPERLOK FEM FIXED SUPERLOK FEM FIXED SOCKET	RCB32	CROCBITE FEM SWIV CROCBITE FEM SWIV SOCKET
RL40S	SUPERLOK FEM SWIV 90' ELBOW	RCB40	CROCBITE FEM SWIV CROCBITE FEM SWIV 90' ELBOW
RL45S	SUPERLOK FEM FIXED SUPERLOK FEM FIXED 90' ELBOW	RCB40	CROCBITE FEM SWIV CROCBITE FEM SWIV 90' ELBOW
RL50S	SUPERLOK FEM SWIV TEE	RCB50	CROCBITE FEM SWIV TEE
RL55S	SUPERLOK FEM FIXED TEE	RCB50	CROCBITE FEM SWIV TEE
RL72S	SUPERLOK MALE SUPERLOK FEM SWIV ADAPTOR	RCB72	CROCBITE MALE CROCBITE FEM SWIV ADAPTOR
RL72SF	SUPERLOK MALE SUPERLOK FEM FIXED ADAPTOR	RCB72	CROCBITE MALE CROCBITE FEM SWIV ADAPTOR
RL74S	SUPERLOK MALE SUPERLOK FEM SWIV 45' ELBOW	RCB74	CROCBITE MALE CROCBITE FEM SWIV 45' ELBOW
RL74SF	SUPERLOK MALE SUPERLOK FEM FIXED 45' ELBOW	RCB74	CROCBITE MALE CROCBITE FEM SWIV 45' ELBOW
RL76S	SUPERLOK MALE SUPERLOK FEM SWIV 90' ELBOW	RCB76	CROCBITE MALE CROCBITE FEM SWIV 90' ELBOW
RL76SF	SUPERLOK MALE SUPERLOK FEM FIXED 90' ELBOW	RCB76	CROCBITE MALE CROCBITE FEM SWIV 90' ELBOW
RL80S	SUPERLOK FEM SWIV NPTFM ADAPTOR	RCB80	CROCBITE FEM SWIV NPTFM ADAPTOR
RL85S	SUPERLOK FEM FIXED NPTFM ADAPTOR	RCB80	CROCBITE FEM SWIV NPTFM ADAPTOR
RL114S	SUPERLOK FEM FIXED BSPPOM ADAPTOR	RCB114	CROCBITE FEM SWIV BSPPOM ADAPTOR
RL115S	SUPERLOK FEM SWIV BSPPOM ADAPTOR	RCB115	CROCBITE FEM SWIV BSPPEM ADAPTOR
RL116S	SUPERLOK FEM SWIV BSPPOFSM ADAPTOR	RCB116	CROCBITE FEM SWIV BSPPOFSM ADAPTOR
RL120S	SUPERLOK MALE SUPERLOK MALE NIPPLE	RCB120	CROCBITE MALE CROCBITE MALE NIPPLE
RL125S	SUPERLOK MALE NPTFM NIPPLE	RCB125	CROCBITE MALE NPTFM NIPPLE
RL155S	SUPERLOK MALE BSPPOM NIPPLE	RCB155	CROCBITE MALE BSPPEM NIPPLE
RL160S	SUPERLOK FEMALE CAP	RCB160	CROCBITE FEMALE CAP
RL165S	SUPERLOK MALE PLUG	RCB165	CROCBITE MALE PLUG
RL175S	SUPERLOK SQUARE STAPLE SS	RCT175	RYCO CROCTAIL
RL195S	SUPERLOK MALE TEFLON B/UP WASHER	RCB195	CROCBITE MALE TEFLON B/UP WASHER
RLCS	SUPERLOK PLASTIC CAP/PLUG	RCBC	CROCBITE PLASTIC CAP/PLUG

**RKV - CLAM SHELL CONNECTOR**

**RKV**

RYCO RKV Clam Shell Connector (RYCO Klemm Verbindung) comes in two styles.

RKVH is the High-Pressure style and RKVF is the High-Flow style.

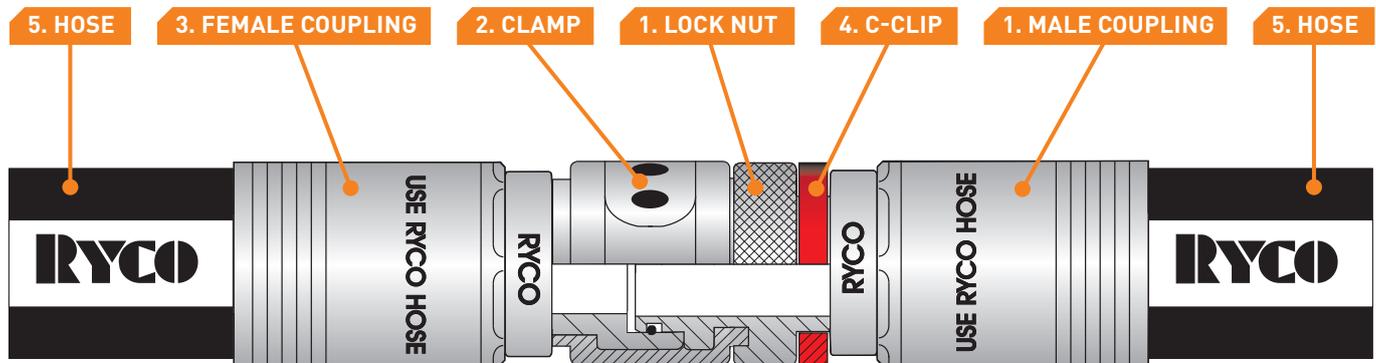
The RKVH is available from DN10 to DN63 and the RKVF is available from DN32 to DN76.

DESIGN FEATURES	BENEFITS
<b>POSITIVE LOCK</b>	RYCO RKV Couplings have positive lock
<b>CANNOT DISENGAGE</b>	RYCO RKV Couplings cannot disengage under pressure
<b>HIGH-PRESSURE</b>	RYCO RKVP have very high pressure ratings
<b>HIGH-FLOW</b>	RYCO RKVF Couplings have high flow
<b>TOUGH</b>	RYCO RKV Couplings are tough
<b>SLIM - COMPACT</b>	RYCO RKV Couplings are slim; approximately the same as the hose OD
<b>NO TOOLS</b>	RYCO RKV Couplings do not require tools to assemble
<b>SIMPLE INSTALLATION</b>	RYCO RKV Couplings are easy to install

**FIVE ELEMENTS**

There five elements to the Male – Female connection.

1. Male Coupling, including threaded locking nut
2. Clamping Shell
3. Female Coupling
4. Plastic C-Clip
5. Hose



**RYCO RKVF AND RKVH MAXIMUM WORKING PRESSURES**

DN	RKVF	RKVP
mm	bar	bar
10		450
12		450
20		420
25		420
31	210	420
40	185	420
50	165	420
63	70	350
75	70	

**RKVF  
RKVP**



T2896/ T2890 PAGE 126    T7896/ T7890 PAGE 126    T9896/ T9890 PAGE 126    69896N/ 69890N PAGE 126    T2899/ T2894 PAGE 127    T7899/ T7894 PAGE 127

**RYCO RKVP MALE COUPLINGS**



RYCO RKVP MALE COUPLING



RYCO RKVP MALE COUPLING



RYCO RKVP MALE COUPLING



RYCO RKVP MALE COUPLING

**RYCO RKVP FEMALE COUPLINGS**



RYCO RKVP FEMALE COUPLING



RYCO RKVP FEMALE COUPLING

T9899/ T9894 PAGE 127    69899N/ 69894N PAGE 127

**RYCO RKVP FEMALE COUPLINGS CONT'D**



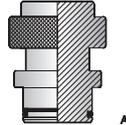
RYCO RKVP FEMALE COUPLING



RYCO RKVP FEMALE COUPLING

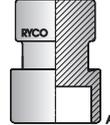
**RYCO RKVP PLUG & CAP**

RKVP165 PAGE 128



RYCO RKVP MALE PLUG

RKVP160 PAGE 128



RYCO RKVP FEMALE CAP

RKVP120 PAGE 129    RKVP72 PAGE 130    RKVP155 PAGE 131    RKVP30 PAGE 132    RKVP721 PAGE 132    RKVP115 PAGE 133

**RYCO RKVP STRAIGHT**



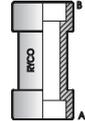
RYCO RKVP MALE NIPPLE



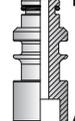
RYCO RKVP MALE FEMALE



RYCO RKVP MALE BSPP MALE



RYCO RKVP FEMALE SOCKET



RYCO RKVP FEMALE STAPLELOK MALE



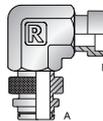
RYCO RKVP FEMALE BSPP MALE

RKVP74 PAGE 134    RKVP76 PAGE 134

**RYCO RKVP 45° AND 90° ELBOW**



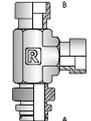
RYCO RKVP MALE FEMALE 45° ELBOW



RYCO RKVP MALE FEMALE 90° ELBOW

**RYCO RKVP TEE**

RKVP78 PAGE 135



RYCO RKVP MALE FEMALE FEMALE TEE

**RYCO RKVP MANIFOLD BOOMERANG**

RKVP225 PAGE 137



RYCO RKVP MALE MALE 135° BEND BOOMERANG

RKVP226 PAGE 137



RYCO RKVP FEMALE FEMALE 135° BEND BOOMERANG

RKVP170 PAGE 137    RKVPCA PAGE 137    RKVPCH PAGE 137    RKVP180 PAGE 138    RKVP195 PAGE 138    RKVP22 PAGE 138

**RYCO RKVP COMPONENTS & ACCESSORIES**



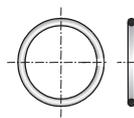
RYCO RKVP CLAMP SHELL



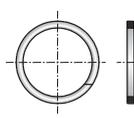
RYCO RKVP ADAPTOR CLIP



RYCO RKVP COUPLING CLIP



RYCO RKVP MALE O RING



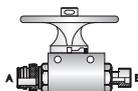
RYCO RKVP MALE BACKUP



RYCO RKVP O RING & BACKUP WASHER KIT

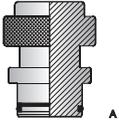
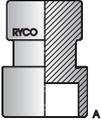
RKVP166 PAGE 138

**RYCO RKVP BALL VALVES**

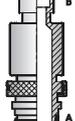
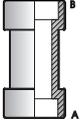


RYCO RKVP BALL VALVE MALE FEMALE LOCKABLE

**RYCO RKVF PLUG & CAP**

<b>RKVF165</b> PAGE 128	<b>RKVF160</b> PAGE 128
	
RYCO RKVF MALE PLUG	RYCO RKVF FEMALE CAP

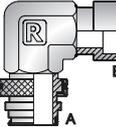
**RYCO RKVF STRAIGHT**

<b>RKVF120</b> PAGE 129	<b>RKVF72</b> PAGE 130	<b>RKVF155</b> PAGE 131	<b>RKVF30</b> PAGE 132
			
RYCO RKVF MALE NIPPLE	RYCO RKVF MALE FEMALE	RYCO RKVF MALE MALE BSPP MALE	RYCO RKVF FEMALE SOCKET

**RYCO RKVF STRAIGHT CONT'D**

<b>RKVF115</b> PAGE 133	<b>RKVF74</b> PAGE 134
	
RYCO RKVF FEMALE BSPP MALE	RYCO RKVF MALE FEMALE 45° ELBOW

**RYCO RKVF 45° ELBOW**

<b>RKVF76</b> PAGE 134

RYCO RKVF MALE FEMALE 90° ELBOW

**RYCO RKVF 90° ELBOW**

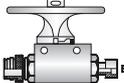
**RYCO RKVF MANIFOLD BOOMERANG**

<b>RKVF225</b> PAGE 137	<b>RKVF226</b> PAGE 137				
					
RYCO RKVF MALE MALE 135° BEND BOOMERANG	RYCO RKVF FEMALE FEMALE 135° BEND BOOMERANG				

**RYCO RKVP COMPONENTS & ACCESSORIES**

<b>RKVF170</b> PAGE 137	<b>RKVFCA</b> PAGE 137	<b>RKVFCH</b> PAGE 137	<b>RKVF180</b> PAGE 138	<b>RKVF195</b> PAGE 138	<b>RKVF22</b> PAGE 138
					
RYCO RKVP SHELL	RYCO RKVP ADAPTOR CLIP	RYCO RKVP COUPLING CLIP	RYCO RKVF MALE O RING	RYCO RKVF MALE BACKUP	RYCO RKVP O RING & BACKUP WASHER KIT

**RYCO RKVF BALL VALVES**

<b>RKVF166</b> PAGE 138					
					
RYCO RKVF BALL VALVE MALE FEMALE LOCKABLE					

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

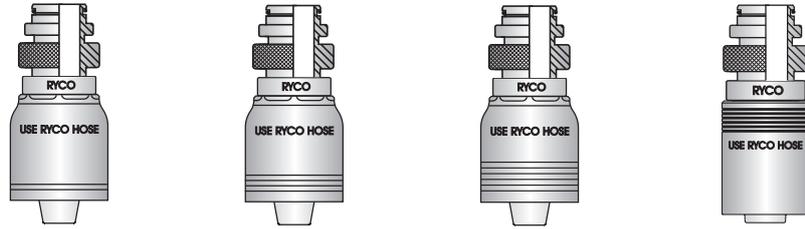
RKVF / RKVP

ROTARY + DBB

TECHNICAL

<b>RKVP</b>	<b>T2896</b>	<b>T7896</b>	<b>T9896</b>	<b>69896N</b>
<b>RKVF</b>	<b>T2890</b>	<b>T7890</b>	<b>T9890</b>	<b>69890N</b>

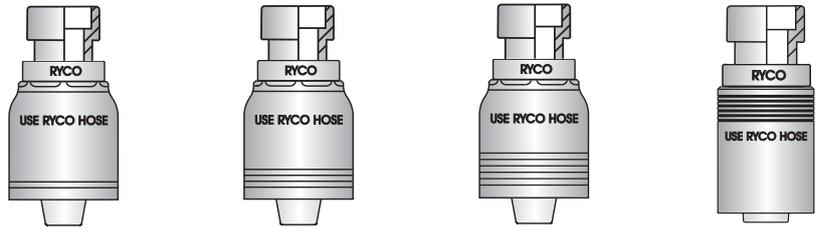
### MALE COUPLINGS



HOSE SIZE		RKVF/ RKVP SIZE	MAX WP	DASH SIZE	T200 T2890/T2896 RKVF/RKVP MALE	T700 T7890/T7896 RKVF/RKVP MALE	T900 T9890/T9896 RKVF/RKVP MALE	6900N 69890N/69896N RKVF/RKVP MALE
DN	inch	mm	bar		PART NO			
<b>HIGH PRESSURE - RKVP</b>								
10	3/8	10	450	-0610	<b>T2896-0610</b>	<b>T7896-0610</b>		
12	1/2	12	450	-0812	<b>T2896-0812</b>	<b>T7896-0812</b>		
16	5/8	20	420	-1020	<b>T2896-1020</b>	<b>T7896-1020</b>		
19	3/4	20	420	-1220	<b>T2896-1220</b>	<b>T7896-1220</b>	<b>T9896-1220</b>	<b>69896N-1220</b>
25	1	25	420	-1625	<b>T2896-1625</b>	<b>T7896-1625</b>	<b>T9896-1625</b>	<b>69896N-1625</b>
31	1.1/4	32	420	-2032	<b>T2896-2032</b>	<b>T7896-2032</b>	<b>T9896-2032</b>	<b>69896N-2032</b>
38	1.1/2	40	420	-2440		<b>T7896-2440</b>	<b>T9896-2440</b>	<b>69896N-2440</b>
51	2	50	420	-3250		<b>T7896-3250</b>	<b>T9896-3250</b>	<b>69896N-3250</b>
63	2.1/2	63	350	-4063		<b>T7896-4063</b>	<b>T9896-4063</b>	<b>69896N-4063</b>
<b>HIGH FLOW - RKVF</b>								
51	2	50	165	-3250		<b>T7890-3250</b>		
63	2.1/2	63	70	-4063		<b>T7890-4063</b>		
76	3	75	70	-4875		<b>T7890-4875</b>		

<b>RKVP</b>	<b>T2899</b>	<b>T7899</b>	<b>T9899</b>	<b>69899N</b>
<b>RKVF</b>	<b>T2894</b>	<b>T7894</b>	<b>T9894</b>	<b>69894N</b>

**FEMALE COUPLINGS**



HOSE SIZE		RKVF/ RKVP SIZE	MAX WP	DASH SIZE	T200 T2894/T2899 RKVF/RKVP FEMALE	T700 T7894/T7899 RKVF/RKVP FEMALE	T900 T9894/T9899 RKVF/RKVP FEMALE	6900N 69894N/69899N RKVF/RKVP FEMALE
DN	inch	mm	bar		PART NO			
<b>HIGH PRESSURE - RKVP</b>								
10	3/8	10	450	-0610	<b>T2899-0610</b>	<b>T7899-0610</b>		
12	1/2	12	450	-0812	<b>T2899-0812</b>	<b>T7899-0812</b>		
16	5/8	20	420	-1020	<b>T2899-1020</b>	<b>T7899-1020</b>		
19	3/4	20	420	-1220	<b>T2899-1220</b>	<b>T7899-1220</b>	<b>T9899-1220</b>	<b>69899N-1220</b>
25	1	25	420	-1625	<b>T2899-1625</b>	<b>T7899-1625</b>	<b>T9899-1625</b>	<b>69899N-1625</b>
31	1.1/4	32	420	-2032	<b>T2899-2032</b>	<b>T7899-2032</b>	<b>T9899-2032</b>	<b>69899N-2032</b>
38	1.1/2	40	420	-2440		<b>T7899-2440</b>	<b>T9899-2440</b>	<b>69899N-2440</b>
51	2	50	420	-3250		<b>T7899-3250</b>	<b>T9899-3250</b>	<b>69899N-3250</b>
63	2.1/2	63	350	-4063		<b>T7899-4063</b>	<b>T9899-4063</b>	<b>69899N-4063</b>
<b>HIGH FLOW - RKVF</b>								
51	2	50	165	-3250		<b>T7894-3250</b>		
63	2.1/2	63	70	-4063		<b>T7894-4063</b>		
76	3	75	70	-4875		<b>T7894-4875</b>		

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HOSE

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SUPERLOK

RKVF / RKVP

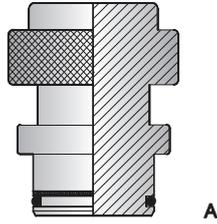
ROTARY + DBB

TECHNICAL

<b>RKVP</b>	<b>RKVP165</b>
<b>RKVF</b>	<b>RKVF165</b>

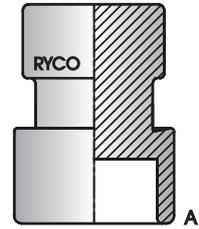
<b>RKVP</b>	<b>RKVP160</b>
<b>RKVF</b>	<b>RKVF160</b>

**RKV MALE PLUG**



A

**RKV FEMALE CAP**



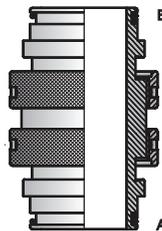
A

RKV NOMINAL SIZE			PLUG
DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>			
10	3/8	-10	<b>RKVP165-10</b>
13	1/2	-13	<b>RKVP165-13</b>
20	3/4	-20	<b>RKVP165-20</b>
25	1	-25	<b>RKVP165-25</b>
32	1.1/4	-32	<b>RKVP165-32</b>
40	2.1/2	-40	<b>RKVP165-40</b>
50	2	-50	<b>RKVP165-50</b>
63	2.1/2	-63	<b>RKVP165-63</b>
<b>HIGH FLOW - RKVF</b>			
32	1.1/4	-32	<b>RKVF165-32</b>
40	1.1/2	-40	<b>RKVF165-40</b>
50	2	-50	<b>RKVF165-50</b>
63	2.1/2	-63	<b>RKVF165-63</b>

RKV NOMINAL SIZE			CAP
DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>			
10	3/8	10	<b>RKVP160-10</b>
13	1/2	13	<b>RKVP160-13</b>
20	3/4	20	<b>RKVP160-20</b>
25	1	25	<b>RKVP160-25</b>
32	1.1/4	32	<b>RKVP160-32</b>
40	1.1/2	40	<b>RKVP160-40</b>
50	2	50	<b>RKVP160-50</b>
63	2.1/2	63	<b>RKVP160-63</b>
<b>HIGH FLOW - RKVF</b>			
32	1.1/4	32	<b>RKVF160-32</b>
40	1.1/2	40	<b>RKVF160-40</b>
50	2	50	<b>RKVF160-50</b>
63	2.1/2	63	<b>RKVF160-63</b>

<b>RKVP</b>	<b>RKVP120</b>
<b>RKVF</b>	<b>RKVF120</b>

**JOINING NIPPLE**



A RKV MALE			B RKV MALE			FEMALE SOCKET
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	10	10	3/8	10	<b>RKVP120-1010</b>
13	1/2	13	13	1/2	13	<b>RKVP120-1212</b>
20	3/4	20	20	3/4	20	<b>RKVP120-2020</b>
20	3/4	20	10	3/8	10	<b>RKVP120-2010</b>
25	1	25	25	1	25	<b>RKVP120-2525</b>
32	1.1/4	32	32	1.1/4	32	<b>RKVP120-3232</b>
40	1.1/2	40	40	1.1/2	40	<b>RKVP120-4040</b>
50	2	50	50	2	50	<b>RKVP120-5050</b>
63	2.1/2	63	63	2.1/2	63	<b>RKVP120-6363</b>
<b>HIGH FLOW - RKVF</b>						
32	1.1/4	-32	32	1.1/4	-32	<b>RKVF120-3232</b>
40	1.1/2	-40	40	1.1/2	-40	<b>RKVF120-4040</b>
50	2	-50	50	2	-50	<b>RKVF120-5050</b>
63	2.1/2	-63	63	2.1/2	-63	<b>RKVF120-6363</b>

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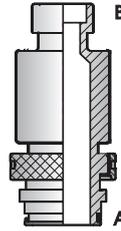
RKVP / RKVF

ROTARY + DBB

TECHNICAL

<b>RKVP</b>	<b>RKVP72</b>
<b>RKVF</b>	<b>RKVF72</b>

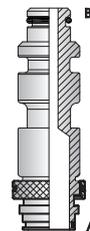
**RKV MALE**  
**RKV FEMALE**



A RKVP MALE			B RKVF FEMALE			MALE - FEMALE STRAIGHT COUPLING
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
13	1/2	-13	10	3/8	-10	<b>RKVP72-1212</b>
13	1/2	-13	20	3/4	-20	<b>RKVP72-1220</b>
20	3/4	-20	13	1/2	-13	<b>RKVP72-2012</b>
25	1	-25	20	3/4	-20	<b>RKVP72-2520</b>
<b>HIGH FLOW - RKVF</b>						
32	1.1/4	-50	40	1.1/2	-40	<b>RKVF72-5040</b>
40	1.1/2	-63	50	2	-50	<b>RKVF72-6350</b>

<b>RKVP</b>	<b>RKVP72F</b>
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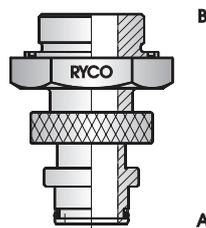
**RKVP MALE**  
**STAPLELOK MALE**



A RKVP MALE			B STAPLELOK MALE			MALE X STAPLE FEMALE ADAPTOR
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	10	10	3/8	-10	<b>RKVP72F-1010</b>

<b>RKVP</b>	<b>RKVP155</b>
<b>RKVF</b>	<b>RKVF155</b>

**STRAIGHT ADAPTOR  
MALE x BSPP MALE**



A RKV MALE			B BSPP MALE		STRAIGHT ADAPTOR MALE X BSPP MALE
DN	inch	Dash	Size	Type	PART NO
<b>HIGH PRESSURE - RKVP</b>					
10	1/4	-10	1/4 - 19	BSPP	<b>RKVP155-1004</b>
10	3/8	-10	3/8 - 19	BSPP	<b>RKVP155-1006</b>
10	3/8	-10	1/2 - 14	BSPP	<b>RKVP155-1008</b>
13	1/2	-13	1/2 - 14	BSPP	<b>RKVP155-1208</b>
20	3/4	-20	1/2 - 14	BSPP	<b>RKVP155-2008</b>
20	3/4	-20	3/4 - 14	BSPP	<b>RKVP155-2012</b>
20	3/4	-20	1 - 11	BSPP	<b>RKVP155-2016</b>
25	1	-25	1 - 11	BSPP	<b>RKVP155-2516</b>
32	1.1/4	-32	1.1/4 - 11	BSPP	<b>RKVP155-3220</b>
40	1.1/2	-40	1.1/4 - 11	BSPP	<b>RKVP155-4024</b>
50	2	-50	2 - 11	BSPP	<b>RKVP155-5032</b>
63	2.1/2	-63	2.1/2 - 11	BSPP	<b>RKVP155-6340</b>
<b>HIGH FLOW - RKVF</b>					
32	1.1/4	-32	1.1/4" - 11	BSPP	<b>RKVF155-3220</b>
40	1.1/2	-40	1.1/2 - 11	BSPP	<b>RKVF155-4024</b>
50	2	-50	2" - 11	BSPP	<b>RKVF155-5032</b>
63	2.1/2	63	2.1/2" - 11	BSPP	<b>RKVF155-6340</b>

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

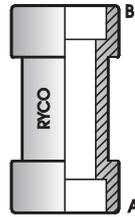
RKVP / RKVF

ROTARY + DBB

TECHNICAL

<b>RKVP</b>	<b>RKVP30</b>
<b>RKVF</b>	<b>RKVF30</b>

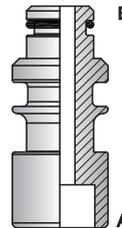
**FEMALE SOCKET**



A RKV FEMALE			B RKV FEMALE			FEMALE SOCKET
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	-10	10	3/8	-10	<b>RKVP30-1010</b>
13	1/2	-12	13	1/2	-13	<b>RKVP30-1212</b>
20	3/4	-20	20	3/4	-20	<b>RKVP30-2020</b>
<b>HIGH FLOW - RKVF</b>						
32	1.1/4	-32	32	1.1/4	-32	<b>RKVF30-3232</b>
40	1.1/2	-40	40	1.1/2	-40	<b>RKVF30-4040</b>
50	2	-50	50	2	-50	<b>RKVF30-5050</b>
63	2.1/2	-63	63	2.1/2	-63	<b>RKVF30-6363</b>

<b>RKVP</b>	<b>RKVP721</b>
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**RKV FEMALE  
STAPLELOK MALE**

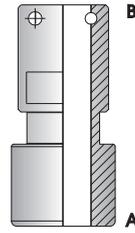


A RKV FEMALE			B STAPLELOK MALE			FEMALE X STAPLELOK MALE ADAPTOR
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	-10	10	3/8	-10	<b>RKVP721-1010</b>
10	3/8	-10	13	1/2	-13	<b>RKVP721-1013</b>
10	3/8	-10	20	3/4	-20	<b>RKVP721-1020</b>
13	1/2	-13	13	1/2	-13	<b>RKVP721-1212</b>
13	1/2	-13	25	1	-25	<b>RKVP721-1225</b>

**RKVP**

**RKVP30SF**

**RKV FEMALE  
STAPLELOK FIXED FEMALE**



A RKV FEMALE			B STAPLELOK FIXED FEMALE			FEMALE X STAPLELOK FEMALE ADAPTOR
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	10	10			<b>RKVP30SF-1010</b>

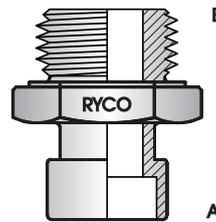
**RKVP**

**RKVP115**

**RKVF**

**RKVF115**

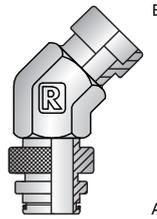
**RKV FEMALE  
BSPP MALE**



A RKV FEMALE			B BSPP MALE		FEMALE X BSPP MALE
DN	inch	Dash	Thread	Type	PART NO
<b>HIGH PRESSURE - RKVP</b>					
10	3/8	10	1/4" - 19	BSPP	<b>RKVP115-1004</b>
10	3/8	10	3/8" - 19	BSPP	<b>RKVP115-1006</b>
10	3/8	10	1/2" - 14	BSPP	<b>RKVP115-1008</b>
13	1/2	13	1/2" - 14	BSPP	<b>RKVP115-1208</b>
20	3/4	20	1/2" - 14	BSPP	<b>RKVP115-2008</b>
20	3/4	20	3/4" - 14	BSPP	<b>RKVP115-2012</b>
20	3/4	20	1" - 11	BSPP	<b>RKVP115-2016</b>
25	1	25	1" - 11	BSPP	<b>RKVP115-2516</b>
63	2.1/2	63	2.1/2" - 11	BSPP	<b>RKVP115-6340</b>
<b>HIGH FLOW - RKVF</b>					
32	1.1/4	32	1" - 11	BSPP	<b>RKVF115-3216</b>
40	1.1/2	40	1.1/2" - 11	BSPP	<b>RKVF115-4024</b>
50	2	50	2" - 11	BSPP	<b>RKVF115-5032</b>
63	2.1/2	63	2.1/2" - 11	BSPP	<b>RKVF115-6340</b>

<b>RKVP</b>	<b>RKVP74</b>
<b>RKVF</b>	<b>RKVF74</b>

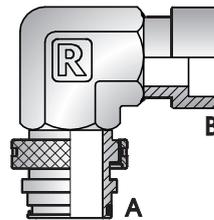
**RKV MALE - FEMALE  
45° ELBOW**



A RKV MALE			B RKV FEMALE			MALE FEMALE 45° ELBOW
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	-10	10	3/8	-10	<b>RKVP74-1010</b>
13	1/2	-13	13	1/2	-13	<b>RKVP74-1212</b>
20	3/4	-20	20	3/4	-20	<b>RKVP74-2020</b>
25	1	-25	25	1	-25	<b>RKVP74-2525</b>
<b>HIGH FLOW - RKVF</b>						
32	1.1/4	-32	32	1.1/4	-32	<b>RKVF74-3232</b>
40	1.1/2	-40	40	1.1/2	-40	<b>RKVF74-4040</b>
50	1	-50	50	1	-50	<b>RKVF74-5050</b>
63	2.1/2	-63	63	2.1/2	-63	<b>RKVF74-6363</b>

<b>RKVP</b>	<b>RKVP76</b>
<b>RKVF</b>	<b>RKVF76</b>

**RKV MALE FEMALE  
90° ELBOW**

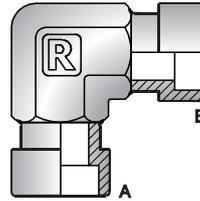


A RKV MALE			B RKV FEMALE			MALE FEMALE 90° ELBOW
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	-10	10	3/8	-10	<b>RKVP76-1010</b>
13	1/2	-13	13	1/2	-13	<b>RKVP76-1212</b>
20	3/4	-20	20	3/4	-20	<b>RKVP76-2020</b>
25	1	-25	25	1	-25	<b>RKVP76-2525</b>
50	2	-50	50	2	-50	<b>RKVP76-5050</b>
<b>HIGH FLOW - RKVF</b>						
32	1.1/4	-32	32	1.1/4	-32	<b>RKVF76-3232</b>
40	1.1/2	-40	40	1.1/2	-40	<b>RKVF76-4040</b>
50	1	-50	50	1	-50	<b>RKVF76-5050</b>
63	2.1/2	-63	63	2.1/2	-63	<b>RKVF76-6363</b>

**RKVP**

**RKVP45**

**RKV FEMALE FEMALE  
90° ELBOW**

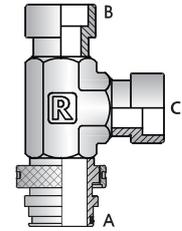


FEMALE A			FEMALE B			RKVP 90° ELBOW FIXED EQUAL FEMALE
DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>						
10	3/8	-10	10	3/8	10	<b>RKVP45-1010</b>
13	1/2	-13	13	1/2	13	<b>RKVP45-1212</b>
20	3/4	-20	20	3/4	20	<b>RKVP45-2020</b>

**RKVP**

**RKVP78**

**RKV MALE FEMALE FEMALE  
TEE**

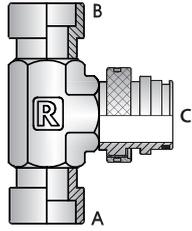


A RKV MALE			B RKV FEMALE			C RKV FEMALE			MALE FEMALE FEMALE TEE
DN	inch	Dash	DN	inch	Dash	DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>									
10	3/8	-10	10	3/8	10	10	3/8	10	<b>RKVP78-101010</b>
13	1/2	-13	13	1/2	13	13	1/2	13	<b>RKVP78-121212</b>
13	1/2	-13	13	1/2	13	10	3/8	10	<b>RKVP78-121210</b>
20	3/4	-20	20	3/4	20	20	3/4	20	<b>RKVP78-202020</b>
20	3/4	-20	20	3/4	20	10	3/8	10	<b>RKVP78-202010</b>
25	1	-25	25	1	25	25	1	25	<b>RKVP78-252525</b>

**RKVP**

**RKVP77**

**RKV FEMALE  
FEMALE MALE  
TEE**

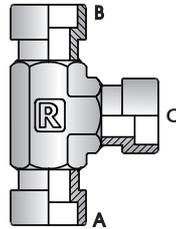


A+B+C			FEMALE FEMALE MALE TEE
DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>			
10	3/8	10	<b>RKVP77-101010</b>

**RKVP**

**RKVP55**

**RKV FEMALE  
FEMALE FEMALE  
TEE**

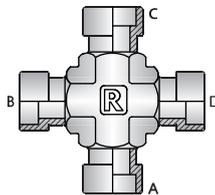


A+B+C			FEMALE FEMALE FEMALE TEE
DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>			
10	3/8	10	<b>RKVP55-101010</b>
20	3/4	20	<b>RKVP55-202020</b>
25	1	25	<b>RKVP55-252525</b>

**RKVP**

**RKVP60**

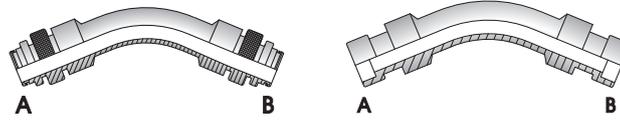
**RKV EQUAL FEMALE  
CROSS**



A+B+C+D			EQUAL FEMALE CROSS
DN	inch	Dash	PART NO
<b>HIGH PRESSURE - RKVP</b>			
10	3/8	10	<b>RKVP60-10101010</b>
12	1/2	12	<b>RKVP60-12121212</b>

<b>RKVP</b>	<b>RKVP225</b>	<b>RKVP226</b>
<b>RKVF</b>	<b>RKVF225</b>	<b>RKVF226</b>

**RKV BOOMERANG  
MALE MALE  
FEMALE FEMALE**



A+B			BOOMERANG MALE MALE		BOOMERANG FEMALE FEMALE	
DN	inch	Dash	Config	PART NO	Config	PART NO
<b>HIGH PRESSURE - RKVP</b>						
25	1	-25	M-M	<b>RKVP225-2525</b>	F - F	<b>RKVP226-2525</b>
40	1.1/2	-40	M-M	<b>RKVP225-4040</b>	F - F	<b>RKVP226-4040</b>
50	2	-50	M-M	<b>RKVP225-5050</b>	F - F	<b>RKVP226-5050</b>
63	2.1/2	-63	M-M	<b>RKVP225-6363</b>	F - F	<b>RKVP226-6363</b>
<b>HIGH FLOW - RKVF</b>						
50	2	-50	M-M	<b>RKVF225-5050</b>	F - F	<b>RKVF226-5050</b>
63	2.1/2	-63	M-M	<b>RKVF225-6363</b>	F - F	<b>RKVF226-6363</b>

Contact RYCO Technical Department for a monorail manifold/boomerang adaptor to suit your individual system requirements.

<b>RKVP</b>	<b>RKVP170</b>	<b>RKVPCA</b>	<b>RKVPCH</b>
<b>RKVF</b>	<b>RKVF170</b>	<b>RKVFCA</b>	<b>RKVFCH</b>

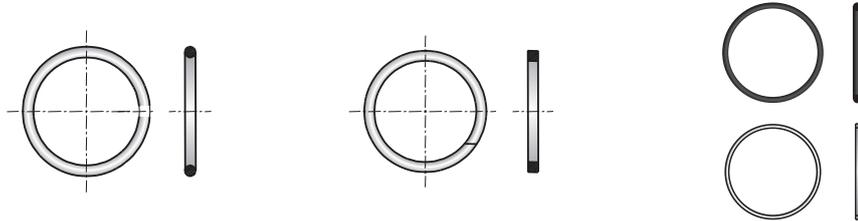
**CLAMP SHELL  
ADAPTOR CLIP  
COUPLING CLIP**



SIZE			RKV CLAMP SHELL	RKV ADAPTOR CLIP	RKV COUPLING CLIP
DN	inch	Dash	PART NO	PART NO	PART NO
<b>HIGH PRESSURE - RKVP</b>					
10	3/8	-10	<b>RKVP170-10</b>	<b>RKVPCA-10</b>	<b>RKVPCH-10</b>
13	1/2	-12	<b>RKVP170-13</b>	<b>RKVPCA-12</b>	<b>RKVPCH-12</b>
20	3/4	-20	<b>RKVP170-20</b>	<b>RKVPCA-20</b>	<b>RKVPCH-20</b>
25	1	-25	<b>RKVP170-25</b>	<b>RKVPCA-25</b>	<b>RKVPCH-25</b>
32	1.1/4	-32	<b>RKVP170-32</b>	<b>RKVPCA-32</b>	<b>RKVPCH-32</b>
40	1.1/2	-40	<b>RKVP170-40</b>	<b>RKVPCA-40</b>	<b>RKVPCH-40</b>
50	2	-50	<b>RKVP170-50</b>	<b>RKVPCA-50</b>	<b>RKVPCH-50</b>
63	2.1/2	-63	<b>RKVP170-63</b>	<b>RKVPCA-63</b>	<b>RKVPCH-63</b>
<b>HIGH FLOW - RKVF</b>					
25	1	-25	<b>RKVF170-25</b>	<b>RKVFCA-25</b>	<b>RKVFCH-25</b>
32	1.1/4	-32	<b>RKVF170-32</b>	<b>RKVFCA-32</b>	<b>RKVFCH-32</b>
40	1.1/2	-40	<b>RKVF170-40</b>	<b>RKVFCA-40</b>	<b>RKVFCH-40</b>
50	2	-50	<b>RKVF170-50</b>	<b>RKVFCA-50</b>	<b>RKVFCH-50</b>
63	2.1/2	-63	<b>RKVF170-63</b>	<b>RKVFCA-60</b>	<b>RKVFCH-60</b>

<b>RKVP</b>	<b>RKVP180</b>	<b>RKVP195</b>	<b>RKVP22</b>
<b>RKVF</b>	<b>RKVF180</b>	<b>RKVF195</b>	<b>RKVF22</b>

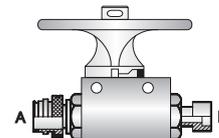
**O RING  
BACKUP WASHER**



SIZE			O RING	BACK UP WASHER	O RING & BACK UP WASHER KIT
DN	inch	Dash	PART NO	PART NO	PART NO
<b>HIGH PRESSURE - RKVP</b>					
10	3/8	10	<b>RKVP180-10</b>	<b>RKVP195-10</b>	<b>RKVP22-10</b>
13	1/2	13	<b>RKVP180-12</b>	<b>RKVP195-12</b>	<b>RKVP22-12</b>
20	3/4	20	<b>RKVP180-20</b>	<b>RKVP195-20</b>	<b>RKVP22-20</b>
25	1	25	<b>RKVP180-25</b>	<b>RKVP195-25</b>	<b>RKVP22-25</b>
32	1.1/4	32	<b>RKVP180-32</b>	<b>RKVP195-32</b>	<b>RKVP22-32</b>
40	1.1/2	40	<b>RKVP180-40</b>	<b>RKVP195-40</b>	<b>RKVP22-40</b>
50	2	50	<b>RKVP180-50</b>	<b>RKVP195-50</b>	<b>RKVP22-50</b>
63	2.1/2	63	<b>RKVP180-63</b>	<b>RKVP195-63</b>	<b>RKVP22-63</b>
<b>HIGH FLOW - RKVF</b>					
25	1	25	<b>RKVF180-25</b>	<b>RKVF195-25</b>	<b>RKVF22-25</b>
32	1.1/4	32	<b>RKVF180-32</b>	<b>RKVF195-32</b>	<b>RKVF22-32</b>
40	1.1/2	40	<b>RKVF180-40</b>	<b>RKVF195-40</b>	<b>RKVF22-40</b>
50	2	50	<b>RKVF180-50</b>	<b>RKVF195-50</b>	<b>RKVF22-50</b>
63	2.1/2	63	<b>RKVF180-63</b>	<b>RKVF195-63</b>	<b>RKVF22-63</b>

<b>RKVP</b>	<b>RKVP166</b>
<b>RKVF</b>	<b>RKVF166</b>

**BALL VALVE  
MALE - FEMALE  
LOCKABLE**



A+B			MAXIMUM WORKING PRESSURE		MOUNTING HOLES	BODY	BALL VALVE MALE - FEMALE LOCKABLE
DN	inch	Dash	bar	psi			PART NO
<b>HIGH PRESSURE - RKVP</b>							
6	3/8	10	500	7250	1	Block	<b>RKVP166-1010</b>
8	1/2	13	500	7250	1	Block	<b>RKVP166-1212</b>
12	3/4	20	500	7250	2	Block	<b>RKVP166-2020</b>
16	1	25	400	5800	2	Block	<b>RKVP166-2525</b>
24	1.1/2	40	250	3600	N/A	Cast	<b>RKVP166-4040</b>
32	2	50	250	3600	N/A	Cast	<b>RKVP166-5050</b>
<b>HIGH FLOW - RKVF</b>							
50	2	50	200	2900			<b>RKVF166-5050</b>

## ASSEMBLY INSTRUCTIONS

The RYCO SSKV (RKVP) is a connection system that eliminates the need for special tools and staples.

The RKVP uses a spring loaded shell clamp for retention and uses a hand tightened threaded nut to hold the shell clamp in place. It can be further supported by a safety clip which prevents unintentional loosening of the nut.

### ASSEMBLY

- Step 1:** Ensure that you have all corresponding components to make the connection;
- Safety Clip
  - Clamp Shell
  - Male End with Retaining Nut
  - Female End.
- Step 2:** Lubricate the O-ring and the internal female fitting using an appropriate lubricant. Insert the male end until the shoulder surfaces are against each other.
- Step 3:** Fit the spring loaded clamp shell over the male / female connection, ensuring the two halves of the shell align evenly where they meet.
- Step 4:** Lubricate the thread of the Retaining Nut then tighten towards the Clamp Shell until it is firmly pushed against the shoulder of the Clamp Shell.
- Step 5:** Securely locate the safety pin in the groove behind the Retaining Nut to prevent the nut from loosening.

**BI-DIRECTIONAL 360° SWIVEL**

RYCO Rotary Unions are for applications where complete rotation may be necessary.

**ROTATION UNDER PRESSURE**

The slow rotation design allows hydraulic hose to realign themselves after sudden movement, resulting in an extended service life of the hose assembly.

**MULTIPLE CONFIGURATIONS**

Available with RYCO CROCBITE, RYCO SUPERLOK, RYCOLOK and RYCO RKV end terminations as standard. Available in steel or stainless steel.

**CORROSION RESISTANT**

Features RYCO's RYCOPLATE plating system which achieves greater protection against corrosion. Other models are available to suit specific applications.

RYCO design and manufacture the Rotary Union to meet your specific needs. Contact RYCO Technical Department for a complete customised engineered solution.

*“Higher Technology Equals Greater Performance”*



# ROTARY UNION

HIGH PRESSURE ROTARY COUPLING



- ELIMINATES FAILURE FROM HOSE TWIST
- 420 BAR (6000 PSI)
- COMPACT DESIGN
- CONFORMS WITH MDG 41 REQUIREMENTS

*“Higher Technology Equals Greater Performance”*



DESIGN FEATURES	BENEFITS
<b>SAFE</b>	RYCO 300 Series Rotary Union are locked and will not undo under pressure
<b>HEAVY LOAD</b>	Hi Performance Axial and Radial bearings provide unparalleled load performance
<b>HIGH PRESSURE</b>	420 bar up to DN50 (2"); 350 Bar DN63 (2.1/2")
<b>SWIVEL</b>	Female Port swivels for self alignment and assembly
<b>MULTIPLE CONFIGURATIONS</b>	Customizable. Call RYCO to order end configurations that you require
<b>ROTATION</b>	Rated to 10 RPM Continuous - 30 RPM Intermittent
<b>SLIM - COMPACT</b>	RYCO's sleek design provides slim, efficient and compact workspace
<b>CORROSION RESISTANT</b>	RYCO's RYCOTE provides 500 hours minimum to RED rust
<b>TOUGH</b>	Available in High Strength Steel or Stainless Steel

**WARNING** When a Roof Support (Chock) advances the interchock hoses are forced to bend in three planes introducing severe twisting of the hoses Rotary unions are used.

**RYCO Rotary Unions eliminate hose twisting and eliminate premature failures**

**WITH** RYCO Rotary Unions installed  
Hose is not twisted and bends in one plane

**NO HOSE TWIST, SAFE OPERATION** ✓

Chock advance

With RYCO Rotary Union, hoses are able to swivel, eliminating stress caused from twisting, resulting in extended service life of the hose.

**MDG 41 and Industry Standards prohibit hoses being bent in more than one plane**

**WITHOUT** RYCO Rotary Unions installed  
Hose is twisted and bends in multiple planes

**HOSE TWISTED, FAILURE IMMINENT** ✗

Chock advance

Without RYCO Rotary Union, hoses can twist, which places extra stress on the hose and coupling connection. This reduces the hose life and increases the chance of premature hose failure.

## ROTARY UNION SPECIFICATIONS

### MEDIA

Water, air and hydraulic fluid.

### MAX TEMPERATURE

+100°C (+212°F)

### MATERIAL

RYCOTE plated steel components.

Synthetic rubber seal.

Also available in stainless steel.

### MAX WORKING PRESSURE

420 bar (1" to 2")

350 bar (2.1/2")

### ROTATION/RPM

10 RPM - continuous.

30 RPM - intermittent.

### SIZES AVAILABLE

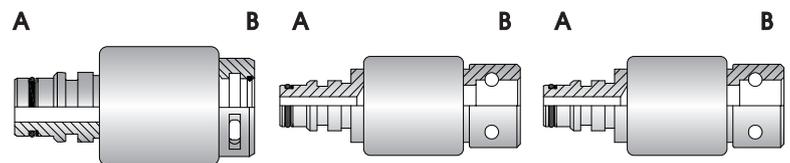
1" to 2.1/2" (-16 to -40)

### END TERMINATIONS

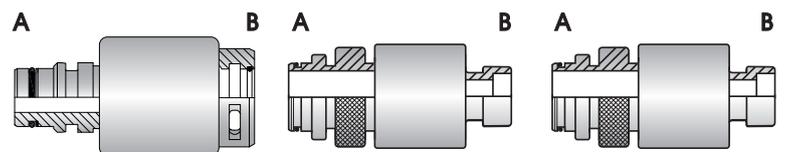
Standard configurations:

RYCO CROCBITE, STAPLELOK, SUPERLOK, RKVP and RKVF

Other configurations made to order.



NOMINAL HOSE SIZE ID			MALE PORT A	FEMALE PORT B	SIZE	CROCBITE RCB300	MWP	STAPLELOK RL300	MWP	SUPERLOK RL300S	MWP
DN	inch	Dash	mm	mm	Dash	HI-PRESSURE	bar		bar	D-STAPLE	bar
25	1	-16	25	25	-2525	RCB300-2525	420	RL300-2525	280	RL300S-2525	420
31	1.1/4	-20	32	32	-3232	RCB300-3232	420	RL300-3232	210	RL300S-3232	420
38	1.1/2	-24	40	40	-4040	RCB300-4040	420	RL300-4040	90	RL300S-4040	420
51	2	-32	50	50	-5050	RCB300-5050	420	RL300-5050	80	RL300S-5050	420
63	2.1/2	-40	63	63	-6363	RCB300-6363	350	RL300-6363	70		



NOMINAL HOSE SIZE ID			MALE PORT A	FEMALE PORT B	SIZE	CROCBITE RCB300A	MWP	RKVP RKVP300	MWP	RKVF RKVF300	MWP
DN	inch	Dash	mm	mm	Dash	HI-FLOW	bar		bar		bar
25	1	-16	25	25	-2525			RKVP300-2525	420		
31	1.1/4	-20	32	32	-3232			RKVP300-3232	420	RKVF300-3232	210
38	1.1/2	-24	40	40	-4040			RKVP300-4040	420	RKVF300-4040	185
51	2	-32	50	50	-5050	RCB300A-5050	350	RKVP300-5050	420	RKVF300-5050	165
63	2.1/2	-40	63	63	-6363	RCB300A-6363	350	RKVP300-6363	350	RKVF300-6363	70

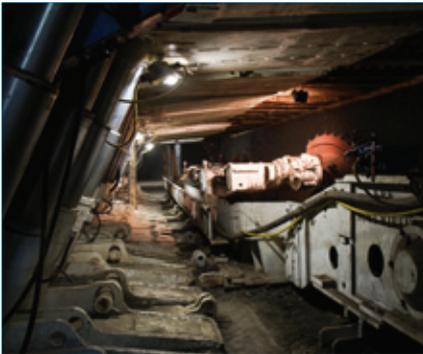
**RYCO DOUBLE BLOCK & BLEED VALVE**



**MDG 41 SAFE**

Design based on the MDG41 guidelines section 3.6, the RYCO Double Block & Bleed (RYCO-DBB) is a safe isolation solution, with a unique space saving design, offering reduced installation times and safe work environments. The innovative design has been developed to meet the increasing demands of health and safety requirements where traditional single isolation of hydraulics systems is inadequate.

The manifold safely isolates a system while maintenance, repair or shutdown activities are being conducted. This is achieved by the innovative single handle design which actuates the two ball valves simultaneously into a safe block position, before releasing the remaining fluid left inside the manifold.



**A SINGLE SOLUTION FOR SAFE DOUBLE ISOLATION**

This innovative design incorporates two isolation valves and a bleed port in one compact assembly making it easy to use and commission, without pipe work modifications, into the space left by an existing single isolation valve.

The RYCO Double Block & Bleed Valve has been developed to meet the increasing demands of health and safety requirements where traditional single isolation of plant is inadequate. The compact design of the RYCO Double Block & Bleed Valve makes it the ideal first choice for new sites, where safety and space is at a premium.

KEY FEATURES	BENEFITS
<b>Double Block &amp; Bleed integrated safe solution</b>	Combines both block & bleed components into a single integrated unit, minimising the risk of incorrect operation. RYCO Double Block & Bleed is a fail safe, full isolation solution and is safer than relying on the integrity of a single isolation valve and reduces the need for costly and bulky multi-valve systems.
<b>Lockable single-handle design</b>	Isolates both upstream and downstream with a single operation. Actuating the "bleed" can only be performed once there is pure isolation of the main pressure circuit. The handle can be locked in any position; Open, Block or Bleed.
<b>Single assembly construction</b>	Allow fewer potential leak paths compared to traditional multi-valve installation, thereby increasing safety to personnel and reducing inspection and maintenance times.
<b>Positive isolation Energy dissipation</b>	The RYCO Double Block & Bleed valve creates a safe zone for personnel both upstream and downstream. The bleed functionality allows for a safe method of releasing fluid under high pressure.
<b>Customisable design</b>	RYCO design and manufacture the Double Block & Bleed to meet your specific needs. Contact RYCO Technical Department for a complete customised, engineered solution.



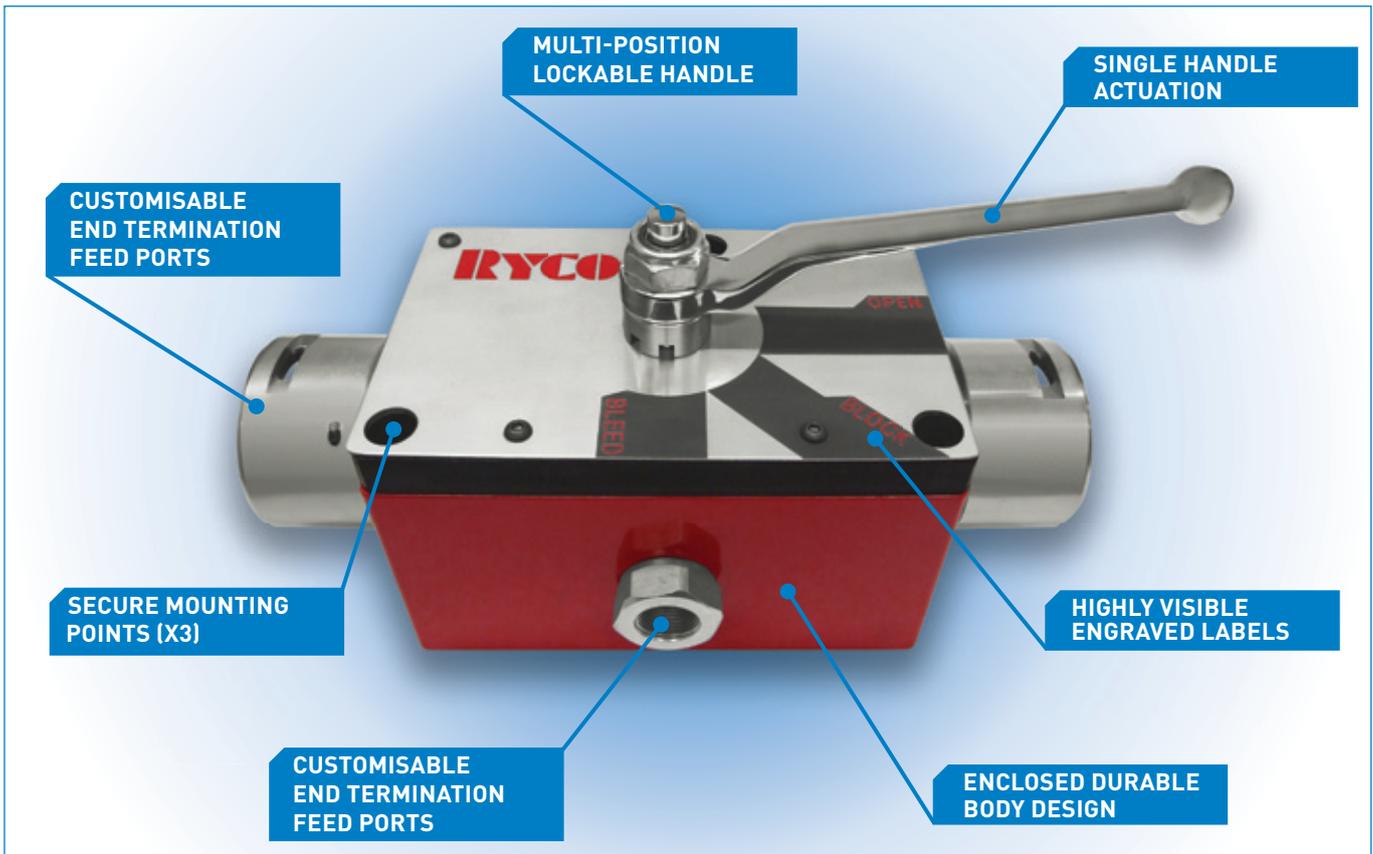
# DOUBLE BLOCK & BLEED

## SINGLE HANDLE ISOLATION VALVE

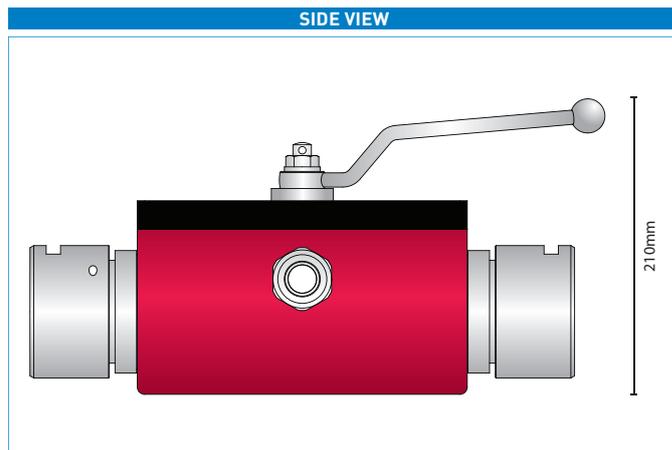
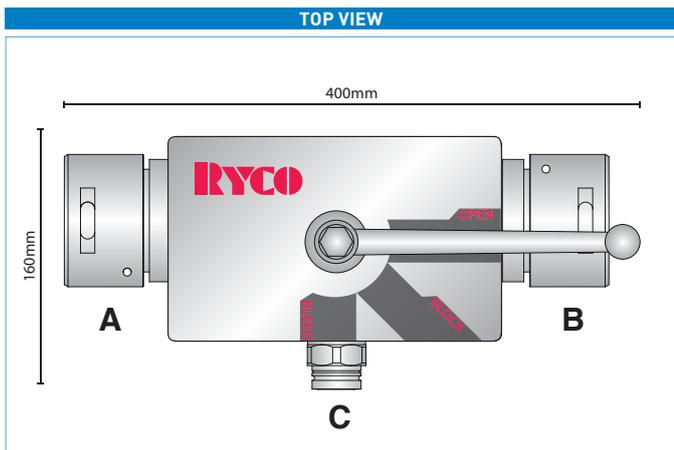


- MINE SAFE CIRCUIT ISOLATION
- SINGLE HANDLE ACTUATION
- 420 BAR (6000 PSI)
- COMPACT
- LIGHTWEIGHT
- CONFORMS WITH MDG 41 REQUIREMENTS

*"Higher Technology Equals Greater Performance"*



	HANDLE POSITION	ILLUSTRATION	SCHEMATIC	DESCRIPTION
<b>OPEN</b>				<b>FEED PORTS OPEN BLEED PORT BLOCKED</b>  Allows free flow of liquid in the main circuit with no restriction.
<b>BLOCK</b>				<b>ALL PORTS BLOCKED</b>  Isolated upstream and downstream simultaneously. Positive isolation.
<b>BLEED</b>				<b>FEED PORTS BLOCKED BLEED PORT OPEN</b> <b>“DOUBLE BLOCK &amp; BLEED”</b>  Bleed off the remaining fluid left in the manifold.



Approximate weight with couplings: 30kg

INTRODUCTION

HOSE

CROCBITE

STAPLELOK

SUPERLOK

RKVF / RKVP

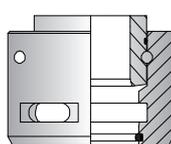
ROTARY + DBB

TECHNICAL

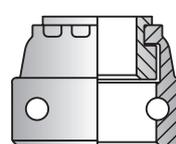
### END STYLES AVAILABLE

Contact your nearest RYCO distributor about the many types of end terminations available for your double block and bleed valve.

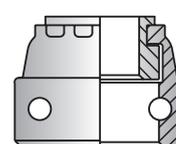
### RYCO CROCBITE



### STAPLELOK



### SUPERLOK

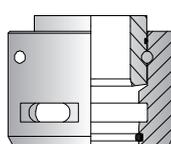


NOMINAL HOSE SIZE ID		FLOW PORT A	FLOW PORT B	BLEED PORT C	SIZE	CROCBITE RDDB10	MWP	STAPLELOK RDDB20	MWP	SUPERLOK RDDB30	MWP
DN	inch	mm	mm		Dash	HI-PRESSURE	bar		bar	D-STAPLE	bar
25	1	25	25	12	-252512	RDDB10-252512	420	RDDB20-252512	280	RDDB30-252512	420
31	1.1/4	32	32	12	-323212	RDDB10-323212	420	RDDB20-323212	210	RDDB30-323212	420
38	1.1/2	40	40	12	-404012	RDDB10-404012	420	RDDB20-404012	90	RDDB30-404012	420
51	2	50	50	12	-505012	RDDB10-505012	420	RDDB20-505012	80	RDDB30-505012	420
63	2.1/2	63	63	12	-636312	RDDB10-636312	350	RDDB20-636312	70		

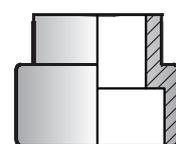
### END STYLES AVAILABLE

Contact your nearest RYCO distributor about the many types of end terminations available for your double block and bleed valve.

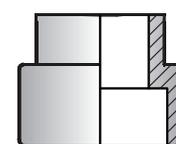
### RYCO CROCBITE



### RKVP



### RKVF



NOMINAL HOSE SIZE ID		FLOW PORT A	FLOW PORT B	BLEED PORT C	SIZE	CROCBITE RDDB10A	MWP	RKVP RDDB40	MWP	RKVF RDDB50	MWP
DN	inch	mm	mm		Dash	HI-PRESSURE	bar		bar	D-STAPLE	bar
25	1	25	25	12	-252512			RDDB40-252512	420		
31	1.1/4	32	32	12	-323212			RDDB40-323212	420	RDDB50-323212	210
38	1.1/2	40	40	12	-404012			RDDB40-404012	420	RDDB50-404012	185
51	2	50	50	12	-505012	RDDB10A-505012	350	RDDB40-505012	350	RDDB50-505012	165
63	2.1/2	63	63	12	-636312	RDDB10A-636312	280	RDDB40-636312	350	RDDB50-636312	70

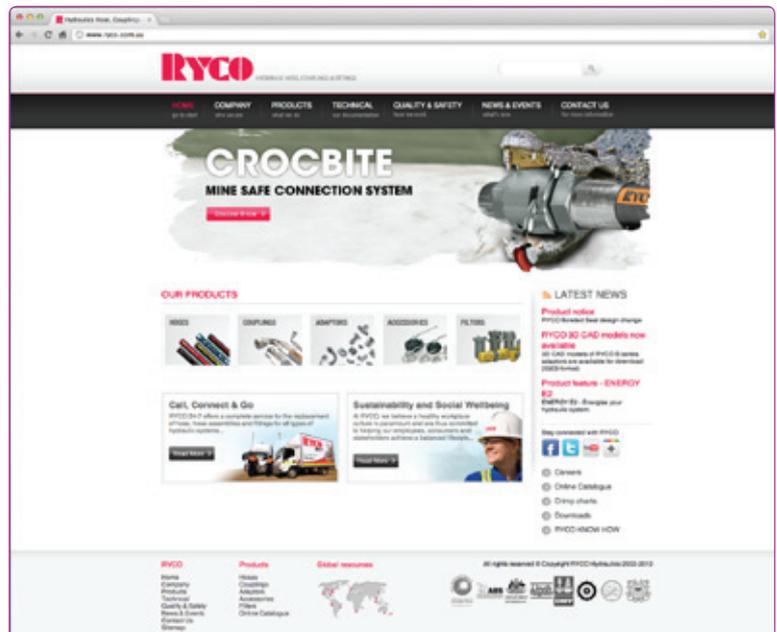


Assembly instructions on how to assemble RYCO hydraulic hose and couplings are listed in the RYCO Product Technical Manual, and are available for download from the RYCO website [www.ryco.com.au](http://www.ryco.com.au)

The RYCO Crimp Chart outlines the necessary parameters to which all RYCO matched hose and coupling combinations should be assembled. The latest version of the RYCO Crimp Chart is available for download from the RYCO website [www.ryco.com.au](http://www.ryco.com.au)

For any hoses currently not listed in the RYCO Product Technical Manual, please contact RYCO for further information or visit the RYCO website [www.ryco.com.au](http://www.ryco.com.au)

For any further assistance or enquiries, please contact your nearest RYCO representative.



**DO NOT MIX/MATCH HOSE AND COUPLINGS FROM ONE MANUFACTURER WITH HOSE AND COUPLINGS FROM ANOTHER MANUFACTURER.**

**RYCO HOSE IS MATCHED TO RYCO COUPLINGS**

## INDICATING FLOW CAPACITY OF HOSE ASSEMBLIES AT RECOMMENDED FLOW VELOCITIES

### Selecting the Right Hose Size

With this nomograph, you can easily select the correct Hose ID size, Desired Flow Rate and Recommended Flow Velocity. If any two of these factors are known, the third can be determined.

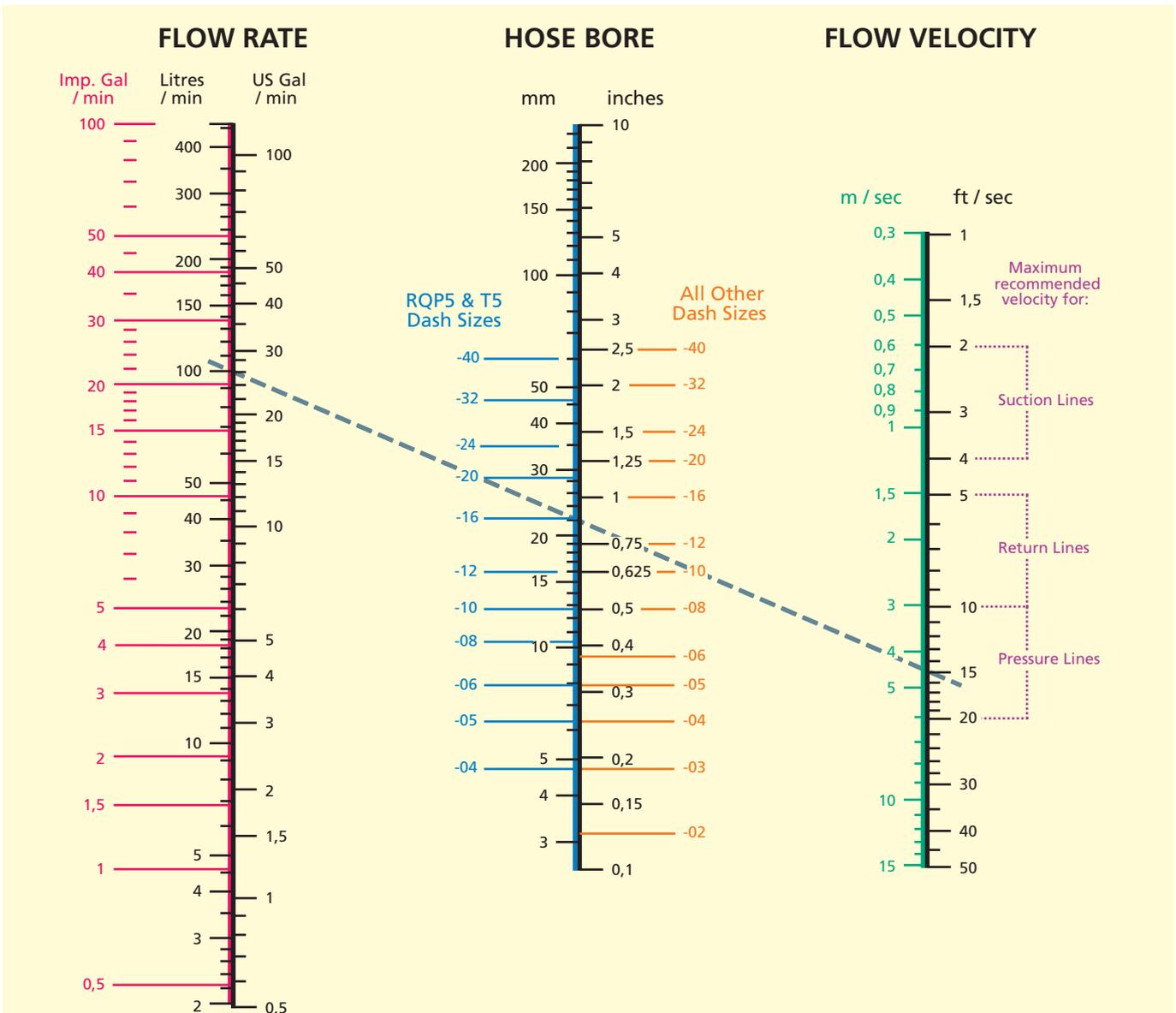
#### To use this nomograph:

1. Pick the two known values.
2. Lay a straightedge to intersect the two values.
3. Intersection on the third vertical line gives the value of that factor.

#### Example:

To find the bore size for a Pressure Line consistent with a Flow Rate of 100 litres per minute (26 US or 22 Imperial gallons per minute), and a Flow Velocity of 4,5 metres per second (14.8 feet per second), connect Flow Rate to Flow Velocity and read Hose Bore on centre scale.

**Answer:** The line crosses Hose Bore between -12 and -16 on "All Other Dash Sizes" side of Hose Bore axis, so a -16 hose is required. If RQP5 or T5 Hose is to be used, for this example -16 would also be required.



The velocity of the fluid should not exceed the range shown in the right hand column. When oil velocities are higher than recommended in the chart, turbulent flow occurs, resulting in loss of pressure and excessive heating. For long hoses and/or high viscosity oil, or if the flow of hydraulic fluid is continuous, it is recommended to use figures at the lower end of the Maximum Recommended Velocity range. For short hoses and/or low viscosity oil, or if the flow of hydraulic fluid is intermittent or for only short periods of time, figures at the higher end of the Maximum Recommended Velocity range can be used.

#### A FURTHER EXAMPLE WILL HELP YOU TO USE THIS CHART:

Determine the hose size required to carry 40 litres of oil per minute and determine the velocity of the oil through the hose assembly. The assembly is to be used as a pressure line and the flow will be continuous. Locate the flow, 40 litres per minute (left hand column), and velocity, 15 feet per second (right hand column), since 15 is the centre of the Pressure Lines Maximum recommended velocity range. Lay a straight edge across these two points. The straight edge crosses the centre column just above the -08 on "All Other Dash Sizes" side of Hose Bore axis. Keeping the straight edge on 40 litres per minute, cross the centre column at -08 and -10 sizes and read the Flow Velocity in the right hand column. It can be seen that using -08 Hose Size, Flow Velocity will be 18 feet per second, and for -10 Hose Size, Flow Velocity will be 11 feet per second. As the flow is continuous, -10 Hose Size is recommended.

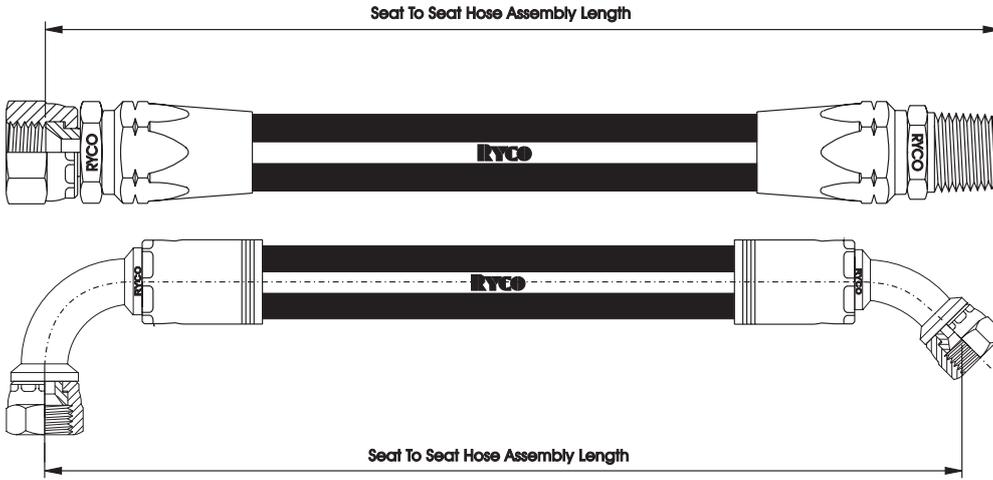
**HOSE ASSEMBLIES OF SPECIFIC LENGTHS**

ALL RYCO HOSE ASSEMBLIES ARE MANUFACTURED SEAT TO SEAT LENGTH UNLESS OTHERWISE SPECIFIED BY CUSTOMER.

length of a hose assembly can be measured in three ways:

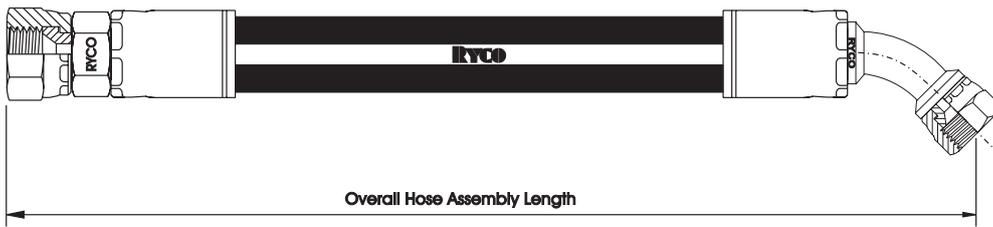
**1. SEAT TO SEAT LENGTH. (RYCO STANDARD, UNLESS OTHERWISE SPECIFIED).**

Length is measured from tip of seat to tip of seat.



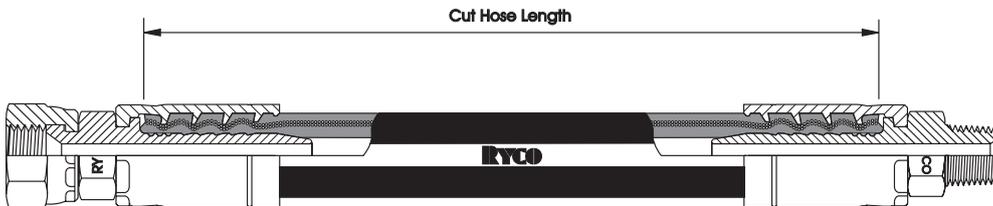
**2. OVERALL LENGTH. (OA)**

Length is measured from tip of nut to tip of nut.

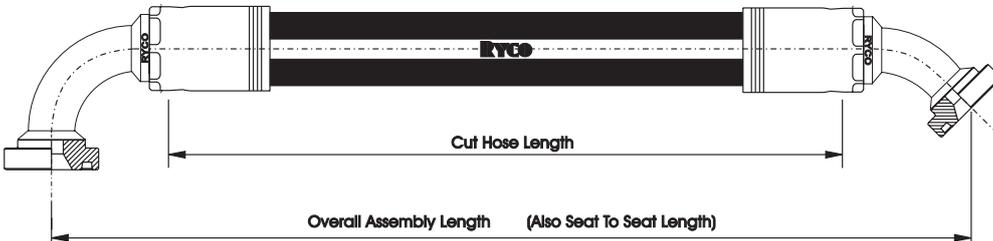


**3. CUT HOSE LENGTH. (CL)**

This is the length that the hose is cut to before couplings are attached. The length of the couplings is extra.



**NOTE:** For male fittings and flanged fittings, seat and overall length measurement points are the same.



**ORIENTATION OF FITTINGS**

Proper positioning of elbow end fittings on a hose is governed by the offset angle, or the amount of angular offset between connecting parts in the installation. If this angle of orientation is not correct in the construction of a hose assembly the performance and life of the assembly will be greatly reduced.

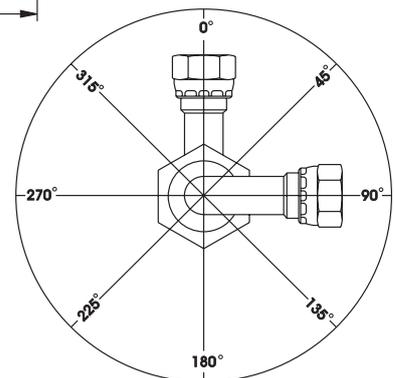
**HOW TO MEASURE**

Orientation is determined by the number of degrees between the fitting furthest from the viewer and the fitting nearest to the viewer, measured in a clockwise direction.

Orientation Tolerances:

± 3° on lengths up to 600 mm (24").

± 5° on lengths over 600 mm (24").



When ordering Hose Assemblies, specifying by the following system will assist; or alternatively supply a clear, concise drawing or sketch.

1. Hose Type.
2. (Hose Protection or extra operations to hose) - if applicable.
3. Hose Assembly Length (expressed in mm), followed by method of measurement:  
 blank if "Seat to Seat Length"  
 -OA if "Overall Length"  
 -CL if "Cut Hose Length"
4. Fitting End 1.
5. Fitting End 2.
6. Angle of Orientation if both fittings are elbows and/or tube bends.

**EXAMPLES:**

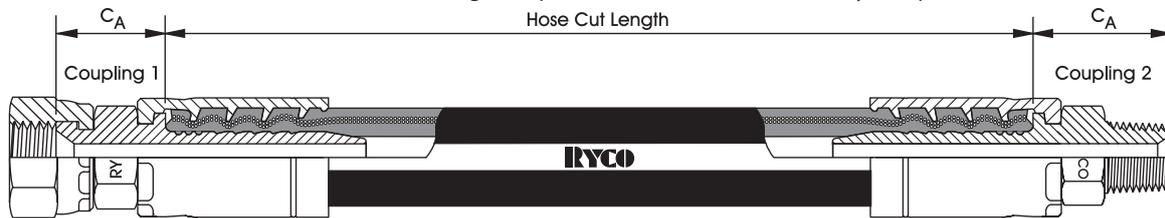
1. T18A \* 1830 \* T209-0808 \* T204-0814  
Hose will be made 1830 mm Seat to Seat.
2. T18A \* 1830-OA \* T209-0808 \* T204-0814  
Hose will be made 1830 mm tip of T209 male to tip of T204 nut.
3. T28D \* 1830 \* T205-0808 \* T273-0824 @ 135°  
Hose assembly will be manufactured so that when T205-0808 is furthest away the T273-0824 will be oriented 135° clockwise.
4. T28A \* 1640-CL \* L01-0812 \* L04-0817  
Hose will be cut to 1640 mm and length of fittings will be extra.
5. H1212A \* (RSG-32 \* 1000) \* 1000-OA \* T763-1236 \* T772-1236  
Hose will be covered with RSG for full length of hose assembly. Length will be overall from T763 tip to T772 bend centreline.
6. RQP212 \* (PIERCE \* 2200) \* 2200 \* T209-1212 \* T204-1217  
Hose cover will be pierced/pin pricked.
7. T18A \* 1830 \* T201-0808 \* T202-0808 + S27-0808  
The length of the S27-0808 is **extra, not included** in the 1830 mm.

## Cut-Off Allowance (C<sub>A</sub>)



Values for Cut-off Allowance (CA) dimensions are published in this Product Technical Manual.

CA dimensions allow calculation of the Hose Cut Length required to make a Hose Assembly of a particular Seat to Seat Length.



**EXAMPLE:** For a Hose Assembly using T204-0609 coupling one end, and T209-0606 coupling other end, with a required Seat to Seat Length of 750 mm, calculate the Hose Cut Length required.

From RYCO Product Technical Manual, C<sub>A</sub> dimension for T204-0609 is 20 mm. This is "coupling 1" for the required hose assembly. From RYCO Product Technical Manual, C<sub>A</sub> dimension for T209-0606 is 33 mm. This is "coupling 2" for the required hose assembly.

$$\text{Cut Length of Hose} = \text{Seat to Seat Length of Hose Assembly} - C_A (\text{coupling 1}) - C_A (\text{coupling 2}) = 750 \text{ mm} - 20 \text{ mm} - 33 \text{ mm} = 697 \text{ mm}$$

**IMPORTANT NOTES:**

**1. CHECK AND MEASURE COUPLING BEFORE CUTTING HOSE**

For all Couplings, before calculating the Cut Length of the hose, measure and check that the CA dimension of the physical coupling complies with that published. CA dimensions may vary due to manufacturing method or design refinement.

**2. HOSE ASSEMBLY LENGTH GROWTH AFTER COUPLING ATTACHMENT**

The CA dimension is measured from where the hose abuts when fully inserted, to the connection end seat of the coupling. With most Crimp Couplings\*, and Field Attachable Couplings having ferrules\*\*, due to compression of the hose within the coupling after attachment, a growth in length occurs, in addition to the published CA dimension. Growth varies with different types and sizes of hose and couplings. For longer hoses, and non-critical applications, it is common practice to ignore the growth, as the extra length generated usually does not affect the function of the hose assembly. In applications where the length of the hose assembly is critical, the growth must be allowed for when calculating Cut Length of hose. RYCO recommends measuring the growth when the first coupling is attached by measuring between reference points marked on the coupling and hose before and after coupling attachment, then adjusting the Cut Length of the hose to compensate.

3. See RYCO Product Technical Manual for extra information about CA dimensions for A00, B00, K00, L00 and 400 Series Field Attachable couplings.

4. See RYCO Product Technical Manual regarding Drop Length (DL) and Cut-off Allowance (CA) published dimensions.

5. For Hose Assemblies, the following must be considered:

Maximum Working Pressure of the Hose; End Style (Connector Termination), and Minimum Free Length, see "Safety Guide".

\* For 1100 Series with RTH1 hose, growth is less than 5 mm; for T400 Series couplings with SR and SRF hose series, growth varies and must be measured each time.

\*\* For practical purposes, 800 Series Push-On and 3300 Series couplings do not experience extra growth.

## SELECTION, INSTALLATION AND MAINTENANCE OF HOSE AND HOSE ASSEMBLIES

### SCOPE:

1. Many factors affect the selection, making, installation and maintenance of hose assemblies. This catalogue, RYCO Hydraulics (RYCO), and The Society of Automotive Engineers recommended practice SAE J1273, have useful information about selecting, making, installing and servicing hydraulic hose assemblies. For further information, please contact your local RYCO representative.

RYCO recommends hose and coupling combinations in the catalogue only after completing extensive testing. Evaluation of a hose and coupling combination requires considerable impulse testing and cannot be determined by a simple burst or pressure hold test. RYCO disclaims all liability for any hose assembly made in violation of RYCO recommendations, procedures and current crimp data. Crimp data is updated from time to time.

The consumer's exclusive remedy with respect to any claim shall be a refund of the purchase price or replacement of the product at the option of RYCO. In no event shall RYCO be liable for any incidental or consequential damages whatsoever.

**WARNING: IMPROPER SELECTION, INSTALLATION, OR MAINTENANCE MAY RESULT IN PREMATURE FAILURES, BODILY INJURY, PROPERTY DAMAGE.**

### SELECTION:

2. The following is a list of factors which must be considered before final hose selection can be made:
  - 2.1 **PRESSURE** – After determining the system pressure, hose selection must be made so that the recommended maximum operating pressure is equal to or greater than the system pressure. Surge pressures higher than the maximum operating pressure will shorten hose life and must be taken into account by the hydraulic engineer.
  - 2.2 **SUCTION** – Hoses used for suction applications must be selected to ensure that the hose will withstand the vacuum and pressure of the system.
  - 2.3 **TEMPERATURE** – Care must be taken to ensure that fluid and ambient temperatures, both static and transient, do not exceed the limitations of the hose. Special care must be taken when routing near hot objects such as manifolds.
  - 2.4 **FLUID COMPATIBILITY** – Hose selection must assure compatibility of the hose tube, cover, and fittings with the fluid used. Additional caution must be observed in hose selection for gaseous applications.
  - 2.5 **SIZE** – Transmission of power by means of pressurised 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 to the hose due to heat generation or excessive turbulence.
  - 2.6 **ROUTING** – Attention must be given to optimum routing to minimise inherent problems.
  - 2.7 **ENVIRONMENT** – Care must be taken to ensure that the hose and fittings are either compatible with, or protected from, the environment to which they are exposed. Environmental conditions such as ultraviolet light, ozone, salt water, chemicals and air pollutants can cause degradation and premature failure and, therefore, must be considered.
  - 2.8 **MECHANICAL LOADS** – External forces can significantly reduce hose life. 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 adaptors may be required to ensure no twist is put into the hose. Unusual applications may require special testing prior to hose selection.
  - 2.9 **ABRASION** – While a hose is designed with a reasonable level of abrasion resistance, care must be taken to protect the hose from excessive abrasion which can result in erosion, snagging, and cutting of the hose cover. Exposure of the reinforcement will significantly accelerate hose failure.
  - 2.10 **PROPER END FITTING** – Care must be taken to ensure proper compatibility exists between the hose and coupling selected based on the manufacturer's recommendations substantiated by testing to industry standards such as SAE J517.
  - 2.11 **LENGTH** – When establishing proper hose length; motion absorption, hose length changes due to pressure, as well as hose and machine tolerances must be considered.
  - 2.12 **SPECIFICATIONS AND STANDARDS** – When selecting hose; government, industry, and manufacturer's specifications and recommendations must be reviewed as applicable.
  - 2.13 **HOSE CLEANLINESS** – Hose components vary in cleanliness levels. Care must be taken to ensure that the assemblies selected have an adequate level of cleanliness for the application.
  - 2.14 **ELECTRICAL CONDUCTIVITY** – Certain applications require that hose be non-conductive to prevent electrical current flow. Other applications require the hose to be sufficiently conductive to drain off static electricity. Hose and fittings must be chosen with these needs in mind.
  - 2.15 **HIGH PRESSURE GAS** – Do not use hydraulic hose to transmit high pressure gases.

## INSTALLATION:

3. After selection of proper hose, the following factors must be considered by the installer:
  - 3.1 **Pre-installation Inspection** – Prior to installation, a careful examination of the hose must be performed. All components must be checked for correct style, size and length. In addition, the hose must be examined for cleanliness, I.D. obstructions, blisters, loose cover, or any other visible defects.
  - 3.2 **Follow Manufacturer's Assembly Instructions.**
  - 3.3 **Minimum Bend Radius** – Installation at less than minimum bend radius may significantly reduce hose life. Particular attention must be given to preclude sharp bending at the hose/fittings juncture.
  - 3.4 **Twist Angle and Orientation** – Hose installations must be such that relative motion of machine components produces bending of the hose rather than twisting.
  - 3.5 **Securement** – In many applications, it may be necessary to restrain, 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 ensure such restraints do not introduce additional stress or wear points.
  - 3.6 **Proper Connection of Ports** – Proper physical installation of the hose requires a correctly installed port connection while ensuring that no twist or torque is transferred to the hose.
  - 3.7 **Avoid External Damage** – Proper installation is not complete without ensuring that all tensile loads, side loads, kinking, flattening, potential abrasion, thread damage, or damage to sealing surfaces are corrected or eliminated.
  - 3.8 **System Check out** – After completing the installation, all entrapped air must be eliminated, then the system must be pressurised to the maximum system pressure and checked for proper function, and for freedom from leaks.

**NOTE:** Avoid potential hazardous areas while testing.

## MAINTENANCE:

4. Even with proper selection and installation, hose life may be significantly reduced without a continuing maintenance program. Maintenance and Inspection frequency should be determined by the severity of the application and risk potential. A maintenance program should include the following as a minimum.
  - 4.1 **Hose Storage** – Hose products in storage can be adversely affected by temperatures, humidity, ozone, sunlight, oils, solvents, corrosive liquids and fumes, insects, rodents, and radioactive materials. Storage areas should be relatively cool and dark and free of dust, dirt, dampness and mildew.
  - 4.2 **Visual Inspection** – Any of the following conditions require immediate sytem shut down and replacement of the hose assembly:
    - a) Leaks at fittings or in hose. (Leaking fluid is a fire hazard.)
    - b) Damaged, cut, or abraded cover. (Any reinforcement exposed.)
    - c) Kinked, crushed, flattened, or twisted hose.
    - d) Hard, stiff, heat cracked, or charred hose.
    - e) Blistered, soft, degraded, or loose cover.
    - f) Cracked, damaged, or badly corroded fittings.
    - g) Slippage or movement of fittings on the hose.
  - 4.3 **Visual Inspection** – The following items must be tightened, repaired or replaced as required.
    - a) Leaking port conditions.
    - b) Clamps, guards, shields.
    - c) Remove excessive dirt build-up.
    - d) 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 freedom from leaks.
 

**NOTE:** Avoid potential hazardous areas while testing.
  - 4.5 **Replacement Intervals** – Specific replacement intervals must be considered based on previous service life, government or industry recommendations, or when failures could result in unacceptable down time, damage, or injury risk.

## SAFETY GUIDE FOR SELECTION AND USE OF HOSE, FITTINGS AND RELATED ACCESSORIES

### STOP!

Failure or improper selection or improper use of hose, fittings, or related accessories can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of hose, fittings, or related accessories include, but are not limited to:

### DANGER!



- Fittings blown off at high speed.
- High velocity fluid discharge.
- Explosion, or burning, of the conveyed fluid.
- Electrocution from high voltage electric power lines or other sources of electricity.
- Contact with suddenly moving, or falling, objects that are held in position, or moved, by conveyed fluid.
- Dangerously whipping hose.
- Contact with conveyed fluids that may be hot, cold, toxic or otherwise injurious.
- Sparking or explosion caused by static electricity build-up.
- Sparking, or explosion, while spraying paint or other flammable liquid.

Before selecting or using any RYCO Hydraulics (RYCO) hose or fittings or related accessories, it is essential that you read the following instructions.

### 1. GENERAL INSTRUCTIONS:

- 1.1 **Scope:** This safety guide provides instructions for selecting and using (including assembling, installing and maintaining) hose fittings (including all products commonly called "fittings" or "couplings" for attachment to hose), and related accessories (including crimping machines and tooling). This safety guide is to be used in conjunction with the specific publications for the specific hose, fittings and related accessories that are being considered for use.
- 1.2 **Fail-Safe:** Hose and hose assemblies can and do fail. Design all systems in a fail-safe mode, so that failure of the hose or hose assembly or related accessories will not endanger persons or property.
- 1.3 **Distribution:** Provide a copy of this safety guide to each person who is responsible for selecting, or using, hose and fittings and related accessories. Do not select, or use, hose and fittings or related accessories without thoroughly understanding this safety guide.
- 1.4 **User Responsibility:** Due to the wide variety of operating conditions and uses for hose and fittings and related accessories, RYCO do not represent or warrant that any particular hose or fitting or related accessories is suitable for any specific end use. This safety guide does not analyse all technical parameters that must be considered in selecting a product. The product user, through its own analysis and testing, is solely responsible for:
  - The final selection of the hose and fittings and related accessories.
  - Assuming that requirements are met and the use presents no health or safety hazards.
  - Providing all appropriate health and safety warnings where hose and fittings and related accessories are used.
- 1.5 **Additional Questions:** Contact the RYCO Hydraulics Technical Department if you have any questions or require any additional information.

### 2. HOSE AND FITTING SELECTION INSTRUCTIONS:

- 2.1 **Electrical Conductivity:** Certain applications require that a hose be non-conductive to prevent electrical current flow. Other applications require the hose 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. For applications that require hose to be electrically non-conductive, including but not limited to applications near high voltage electric lines, only special non-conductive hose can be used. The manufacturer of the equipment must be consulted to be certain that the hose and fittings selected are correct for the application. Do not use any RYCO hose or fittings for any such application unless:

- (i) the application is expressly approved by RYCO
- (ii) the hose is both orange colour and marked "non-conductive"
- (iii) the manufacturer of the equipment specifically approves the particular RYCO hose and fittings.

Do not use any RYCO hose or fittings for conveying paint in airless spraying or similar applications without the written approval of RYCO in each case. A special hose and fittings assembly is required for this application. If the correct hose and fitting application is not used for this application, static electricity can build up and cause sparks that may result in an explosion and/or fire.

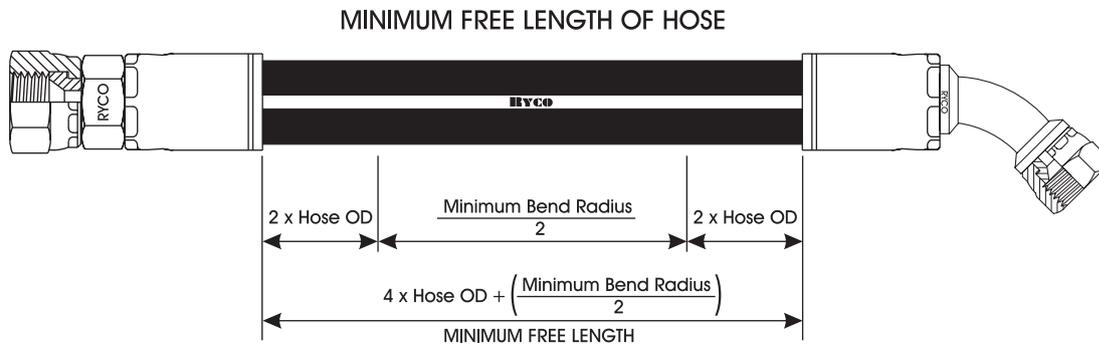
The electrical conductivity or non-conductivity of hose and fittings is dependent upon many factors and may be susceptible to change.

- 2.2 **Pressure:** Hose selection must be made so that the published maximum recommended working pressure of the hose is equal or greater than the maximum system pressure. Surge pressures in the system higher than the published maximum recommended working pressure will cause failure, or shorten hose life.

- 2.3 **Suction:** Hoses used for suction applications must be selected to ensure that the hose will withstand the vacuum and pressure of the system.
- 2.4 **Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the hose. Care must be taken when routing hose near hot objects such as manifolds.
- 2.5 **Fluid Compatibility:** Hose selection must assure compatibility of the hose tube, cover, reinforcement, and fittings with the fluid media used.
- 2.6 **Permeation:** Permeation (that is, seepage through the hose) will occur from inside the hose to the outside environment when hose is used with gases, liquid and gas fuels, and refrigerants (including but not limited to such materials such as helium, fuel, oil, natural gas or freon). This permeation may result in high concentrations of vapours which are potentially flammable, explosive, or toxic, and in loss of fluid. You must take into account the fact that permeation will occur and could be hazardous.
- Permeation of moisture from the outside environment to inside the hose will also occur. If this moisture permeation would have detrimental effects (particularly for, but not limited to, refrigeration and air conditioning systems), incorporation of appropriate system safeguards should be selected and used.
- 2.7 **Size:** Transmission of power by means of pressurised fluid varies with pressure and rate flow. The size of the components must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation of excessive fluid velocity.
- 2.8 **Routing:** Attention must be given to optimum routing to minimise inherent problems.
- 2.9 **Environment:** Care must be taken to ensure that the hose and fittings are either compatible with or protected from the environment to which they are exposed including but not limited to ultraviolet radiation, sunlight, heat, ozone, moisture, water, salt water, chemicals and air pollutants.
- 2.10 **Mechanical Loads:** Consideration must be given to excessive flexing, twist, kinking, tensile or side loads, bend radius, and vibration. Use of swivel type fittings or adaptors may be required.
- 2.11 **Physical Damage:** Care must be taken to protect hose from wear, snagging and cuts.
- 2.12 **Proper End Fittings:** See instructions 3.2 through 3.5. These recommendations may be substantiated by testing to industry standards.
- 2.13 **Length:** When establishing a proper hose length; motion absorption, hose length changes due to pressure, and hose and machine tolerances must be considered.
- 2.14 **Specifications and Standards:** When selecting hose and fittings; government, industry, and RYCO 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 ensure that the assembly selected has an adequate level of cleanliness for the application.
- 2.16 **Fire Resistant Fluids:** Some fire resistant fluids require the same hose as used with petroleum oil. Some use a special hose, while a few fluids will not work with any hose at all. See General Instructions 1.5 and Hose and Fitting Selection Instructions 2.5.
- 2.17 **Radiant Heat:** Hose can be heated to destruction without contact by nearby items such as hot manifolds or molten metal.
- 2.18 **Welding and Brazing:** Heating of plated parts, including hose fittings and adaptors, above 232°C (450°F) such as during welding, brazing, or soldering may emit deadly gases.
- 2.19 **Atomic Radiation:** Atomic radiation affects all materials used in hose assemblies. Do not expose hose assemblies to atomic radiation.
- 3. HOSE AND FITTING ASSEMBLY AND INSTALLATION INSTRUCTIONS:**
- 3.1 **Pre-Installation Inspection:** Prior to installation, a careful examination of the hose assembly must be performed. All components must be checked for correct style, size, and length. The hose must be examined for cleanliness, obstructions, blisters, cover looseness, or any other visible defects.
- 3.2 **Hose and Fitting Assembly:** Do not assemble a RYCO fitting on a RYCO hose that is not specifically listed for that fitting by RYCO. Do not assemble RYCO fittings on another manufacturer's hose or a RYCO hose on another manufacturer's fitting unless RYCO approves the assembly in writing, and the user verifies the assembly and the application through analysis and testing. See instruction 1.4. The RYCO published instructions must be followed for assembling the fittings on the hose. These instructions are provided in the RYCO catalogue.
- 3.3 **Related Accessories:** Do not crimp or swage any RYCO hose or fitting with anything but the proper RYCO swage machine or crimp machine and in accordance with RYCO published instructions. Do not crimp or swage another manufacturer's hose fitting with a RYCO crimp machine or swage machine unless authorised in writing by RYCO.
- 3.4 **Parts:** Do not use any RYCO hose or fitting part unless used with the correct RYCO mating parts, in accordance with published instructions, unless authorised in writing by RYCO.
- 3.5 **Field Attachable/Permanent:** Field Attachable couplings may be reattached once only after their first use, provided that they have not been part of a hose assembly that has failed, and are in a fit condition for reuse. Do not reuse any field attachable hose coupling that has blown or pulled off a hose. Do not reuse any permanent (that is, crimped or swaged) hose fittings or any part thereof.
- 3.6 **Minimum Bend Radius:** Installation of a hose at less than the minimum listed bend radius may significantly reduce hose life.

- 3.7 **Twist Angle and Orientation:** Hose installations must be such that relative motion of machine components does not produce twisting.
- 3.8 **Securement:** In many applications, it may be necessary to restrain, protect, or guide the hose to protect it from damage. Care must be taken to ensure such restraints do not introduce additional stress or wear points.
- 3.9 **Proper Connection of Ports:** Proper physical installation of the hose requires a correctly installed port connection while ensuring that no twist or torque is transferred to the hose.
- 3.10 **External Damage:** Proper installation is not complete without ensuring that tensile loads, side loads, kinking, flattening, potential abrasion, thread damage, or damage to sealing surfaces are corrected or eliminated. See instruction 2.10.
- 3.11 **System Check-out:** After completing the installation, all air entrapment must be eliminated and the system pressurised to the maximum system pressure and checked for proper function and freedom from leaks. **NOTE:** Avoid potential hazardous areas while testing.
- 3.12 **Minimum Free Length of Hose Assemblies:** Occasionally requests or orders arise for hydraulic hose assemblies where the 'Free Length' of hose between the ferrules of the couplings is not long enough, and could hinder the ability of the hose assembly to function properly. This is particularly the case when utilising very short hose assemblies, where a shortening or shrinkage of the hose under pressure may result in hose and coupling separation. In addition, small misalignments, vibration and other displacements may induce very high stresses upon the hose/coupling juncture, as there is little capacity for the flexible nature of the hose to compensate.

Due to the possible problems associated with using very short hose assemblies, RYCO has adopted the following general rule (equation) for the allowable Minimum Free Length (MFL) of hose to be used as a guide when fabricating or ordering a hydraulic hose assembly.



$$\text{MINIMUM FREE LENGTH} \Rightarrow \text{MFL} = 4 \times \text{Hose OD} + \left( \frac{\text{Minimum Bend Radius}}{2} \right)$$

Should the Minimum Free Length (MFL) of the actual hose assembly fall below the derived MFL value from the above equation (when calculated using information for the relevant hose size from the relevant, and most current, hose specification), RYCO **CAUTIONS** the hose assembly as being "under recommended Minimum Free Length – may cause premature hose assembly failure".

**4. HOSE AND FITTING MAINTENANCE INSTRUCTIONS:**

Even with proper selection and installation, hose life may be significantly reduced without a continuing maintenance program. Frequency should be determined by the severity of the application and risk potential. A maintenance program must include the following as a minimum.

- 4.1 **Visual Inspection Hose/Fitting:** Any of the following conditions require immediate system shut down and replacement of the hose assembly:
  - Slippage or movement of fittings on the hose
  - Damaged, cut or abraded cover
  - 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
  - Blistered, soft, degraded or loose cover
- 4.2 **Visual Inspection All Other:** The following items must be tightened, repaired or replaced as required:
  - Leaking port conditions
  - Remove excess dirt build-up
  - Clamps, guards, shields
  - System fluid level, fluid type and any air entrapment
- 4.3 **Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and freedom from leaks.
- 4.4 **Replacement Intervals:** Specific replacement intervals must be considered based on previous service life, government or industry recommendations. See instructions 1.2.

The following RYCO Hose Series are not listed on this page: **T1F, TJ2D, RQG1, M2G, M1, FB2, RTH1, TW1, PW2, MP1.**

These hoses are specific purpose hoses, and their temperature limits are specified in the HOSE section of this Product Technical Manual. Refer to RYCO Hydraulics Technical Department for any further queries.

Other RYCO Hose Series are listed below. The Maximum Working Temperatures for these hoses as listed in the HOSE section of this Product Technical Manual; are for use with general purpose, mineral (petroleum) oil based hydraulic fluids, except where otherwise stated.

Temperature limits for other hydraulic fluids, and some other common applications, are listed below.

**CAUTION:**

Life expectancy of hoses is shortened at high temperatures. Detrimental effects increase when temperature is elevated, and when operating pressure, flow velocity, duration and frequency of exposure, and level of impurities in the media are high. Actual service life at temperatures approaching the recommended limits will depend on the particular application and the fluid being used.

Maximum Working Temperatures refer to the temperature of the media in the hose; not the environmental temperature of around the outside of the hose. Please refer to RYCO Hydraulics Technical Department for environmental temperatures in excess of 80°C (176°F), except **RQP1** and **RQP2** Series where environmental temperature is the same as media temperature.

Maximum Working Temperatures shown are for continuous temperatures. Slightly higher intermittent temperatures (up to 10% of total operating time) may be acceptable with some hoses and some fluids if reduced service life is acceptable. Please refer to RYCO Hydraulics Technical Department for more information.

DO NOT expose hose to maximum temperature and maximum rated working pressure at the same time.

The fluid manufacturer's recommended maximum operating temperature for the fluid must not be exceeded. If different to the below listed temperatures, the lower limit must take precedence. We recommend keeping the hose filled with the pressure medium at all times. Further information available on request.

	GROUP 1	GROUP 2
<b>DIEHARD</b>	T3000D, T4000D, T5000D, T6000D, T1D, T2D	H3000D, H4000D, H5000D, H6000D, H12D, H13D, H15D
<b>SLIDER</b>	T3000S, T4000S, T5000S, T6000S, T1S, T2S	H3000S, H4000S, H5000S, H6000S, H12S, H13S
<b>OTHER SERIES</b>	PL1D, SR, SRF	
<b>MEDIA</b>	<b>TEMPERATURE LIMITS</b>	
GENERAL PURPOSE MINERAL (PETROLEUM) BASED HYDRAULIC OIL (see Note 1)	-40°C to +100°C (-40°F to +212°F)	-40°C to +121°C (-40°F to +250°F)
WATER	0°C to +71°C (+32°F to +160°F)	0°C to +71°C (+32°F to +160°F)
WATER IN MINERAL OIL (40% to 80% water)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)
MINERAL OIL IN WATER (more than 80% water)	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)
WATER / GLYCOL	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)
GLYCOL	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)
PHOSPHATE ESTERS (see Note 2)	Not suitable	Not suitable
AIR (see Note 3)	-40°C to +71°C (see Note 3) (-40°F to +160°F) (see Note 3)	-40°C to +71°C (see Note 3) (-40°F to +160°F) (see Note 3)
PETROL (GASOLINE)	Contact RYCO Hydraulics	Contact RYCO Hydraulics
DIESEL FUEL	-40°C to +50°C (-40°F to +122°F)	-40°C to +50°C (-40°F to +122°F)
ENGINE LUBRICATING OIL, GEARBOX OIL	-40°C to +100°C (-40°F to +212°F)	-40°C to +100°C (-40°F to +212°F)
AUTOMATIC TRANSMISSION FLUID	-40°C to +100°C (-40°F to +212°F)	-40°C to +100°C (-40°F to +212°F)

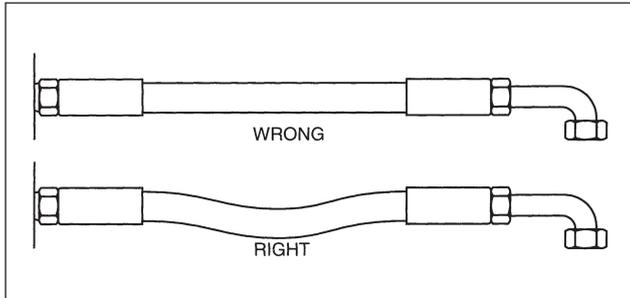
**Note 1** For highly refined and special purpose mineral based hydraulic oils (for example aviation hydraulic oils, MIL spec oils, etc), contact RYCO Hydraulics Technical Department.

**Note 2** Not suitable for use with aerospace type phosphate esters such as Monsanto Skydrol 500B, Stauffer Aero-Safe 2300W and Chevron Hy-jet IV.

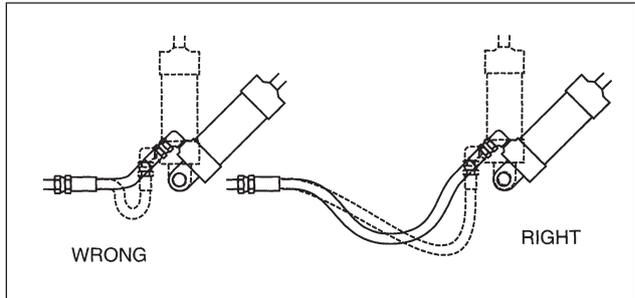
**Note 3** For use with Air, cover of hose must be perforated/pin-pricked (except RQP5 and T5), to allow air permeating through hose to escape without blistering the cover. Maximum working pressure of wire braid and spiral reinforced hose must be reduced by 30% (except for RQP1 and RQP2). Observe all State and Federal Safety Regulations.

Proper hose installation is essential for satisfactory performance. If hose length is excessive, the appearance of the installation will be unsatisfactory and unnecessary cost of equipment will be involved. If hose assemblies are too short to permit adequate flexing and changes in length due to expansion or contraction, hose service life will be reduced.

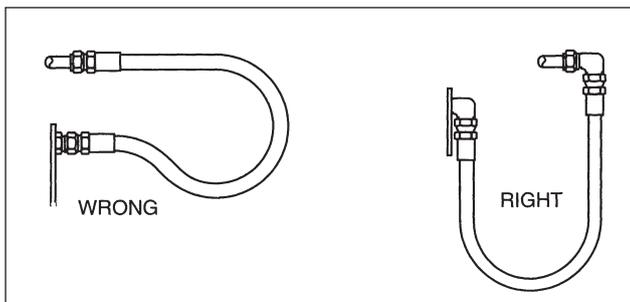
The following diagrams show proper hose installations which provide maximum performance and cost savings. Consider these examples in determining length of a specific assembly.



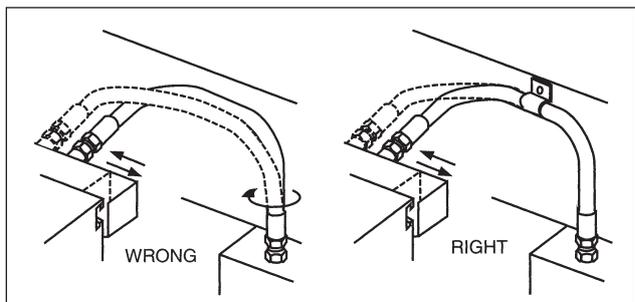
When hose installation is straight, allow enough slack in hose line to provide for length changes that will occur when pressure is applied.



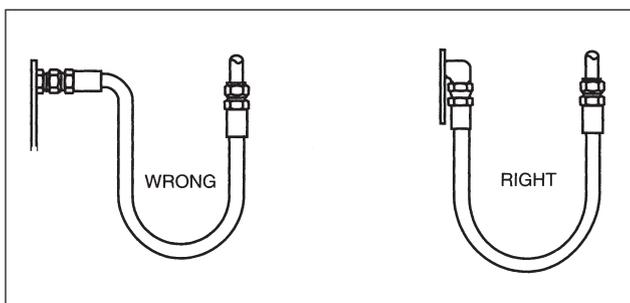
Adequate hose length is necessary to distribute movement on flexing applications, and to avoid abrasion.



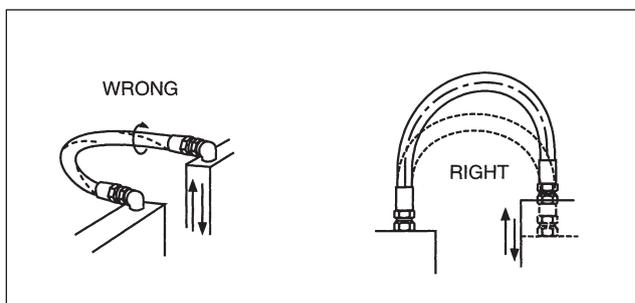
When radius is below the required minimum, use an angle adaptor to avoid sharp bends.



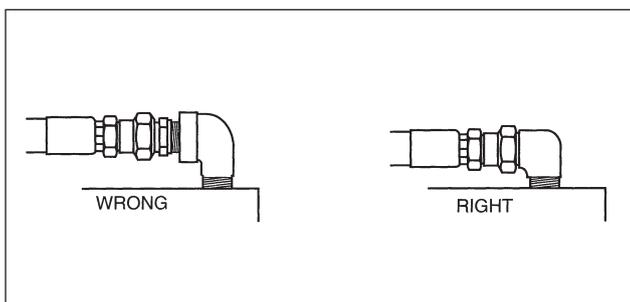
Avoid twisting of hose lines bent in two planes by clamping hose at change of plane.



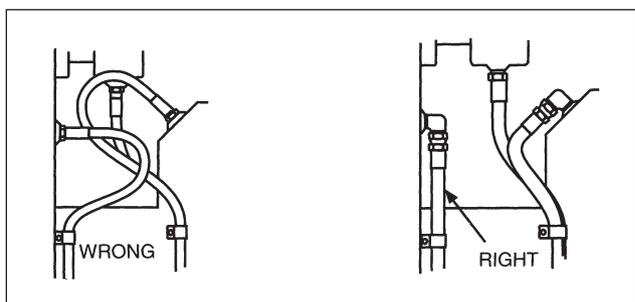
Use proper angle adaptors to avoid sharp twists or bends in the hose.



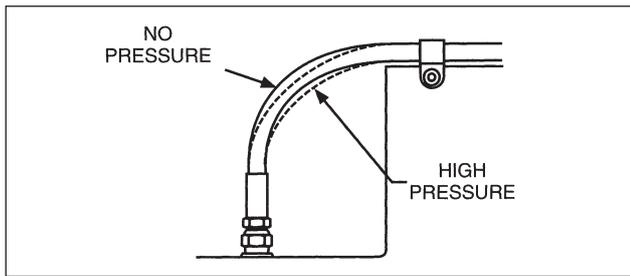
Prevent twisting and distortion by bending hose in same plane as the motion of the boss to which hose is connected.



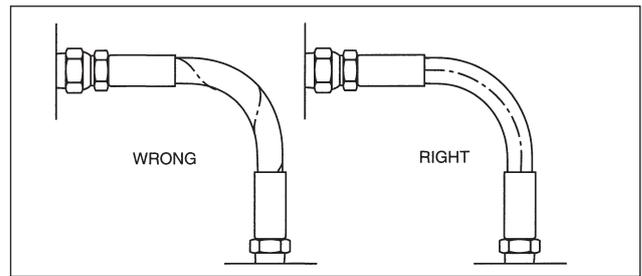
Reduce number of pipe thread joints by using proper hydraulic adaptors instead of pipe fittings.



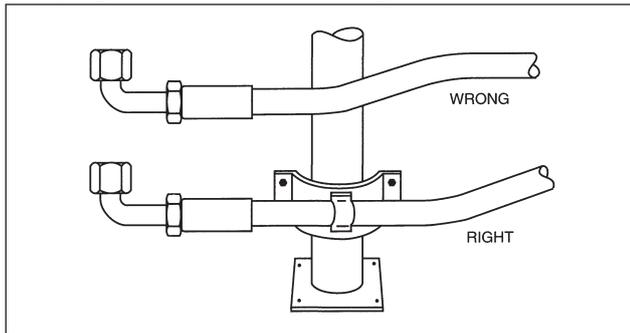
Route hose directly by using 45° and/or 90° adaptors and fittings. Avoid excessive hose length to improve appearance.



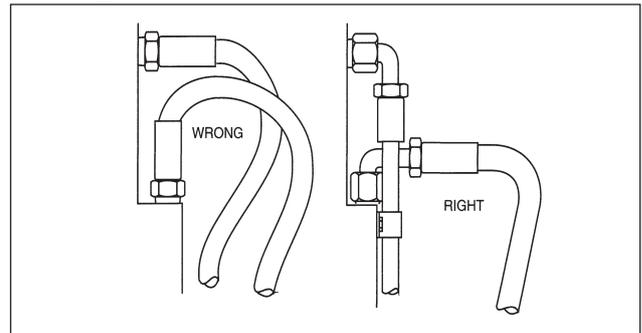
To allow for length changes when hose is pressurised, do not clamp at bends. Curves will absorb changes. Do not clamp high and low pressure lines together.



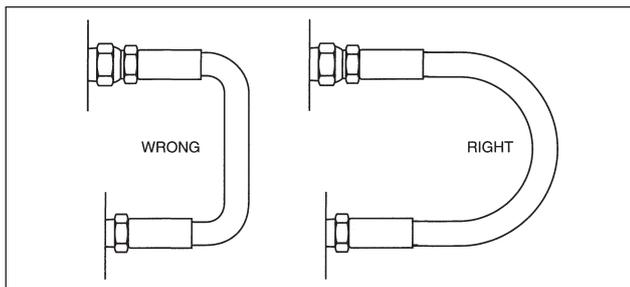
When installing hose, make sure it is not twisted. Pressure applied to a twisted hose can result in hose failure or loosening of connections.



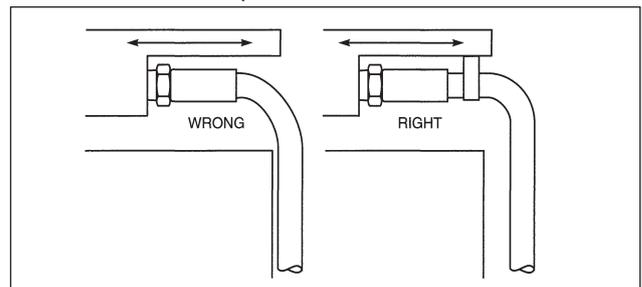
High ambient temperatures shorten hose, therefore ensure hose is kept away from hot parts. If this is not possible, insulate hose.



Elbows and adaptors should be used to relieve strain on the assembly, and to provide neater installations which will be more accessible for inspection and maintenance.



To avoid hose collapse and flow restriction, keep hose bend radii as large as possible. Refer to hose specification tables for minimum bend radii.



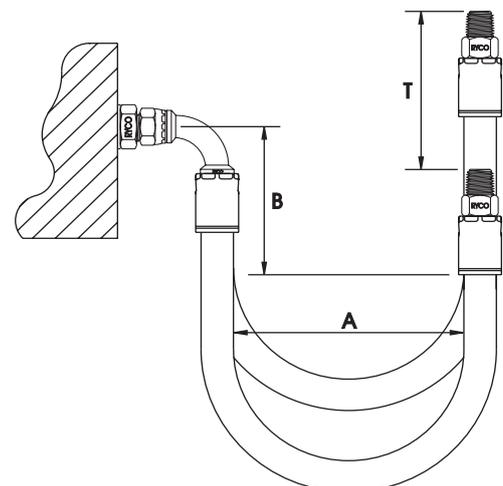
Run hose in the installation so that it avoids rubbing and abrasion. Often, clamps are required to support long hose runs or to keep hose away from moving parts. Use clamps of the correct size. A clamp too large allows hose to move inside the clamp and causes abrasion.

When determining the length of hose assemblies, provide sufficient length to prevent bending strain from localising at the back of the coupling. In the diagram below, measurement "B" allows for a strain section of hose beyond the coupling to prevent concentration of bending strain. "T" designates the amount of travel. "A" indicates the smallest diameter to which hose should be bent.

$$\text{Overall length} = B + 1.57A + T$$

## TYPICAL DIMENSIONS FOR ONE & TWO WIRE BRAID HOSE

HOSE SIZE			"B" CONSTANT FOR STRAIGHT PORTION INCLUDING COUPLING
DN	inch	Dash	
6	1/4	-04	250 mm (10")
10	3/8	-06	250 mm (10")
12	1/2	-08	300 mm (12")
19	3/4	-12	350 mm (14")
25	1	-16	400 mm (16")
31	1.1/4	-20	450 mm (28")
38	1.1/2	-24	500 mm (20")
51	2	-32	500 mm (20")



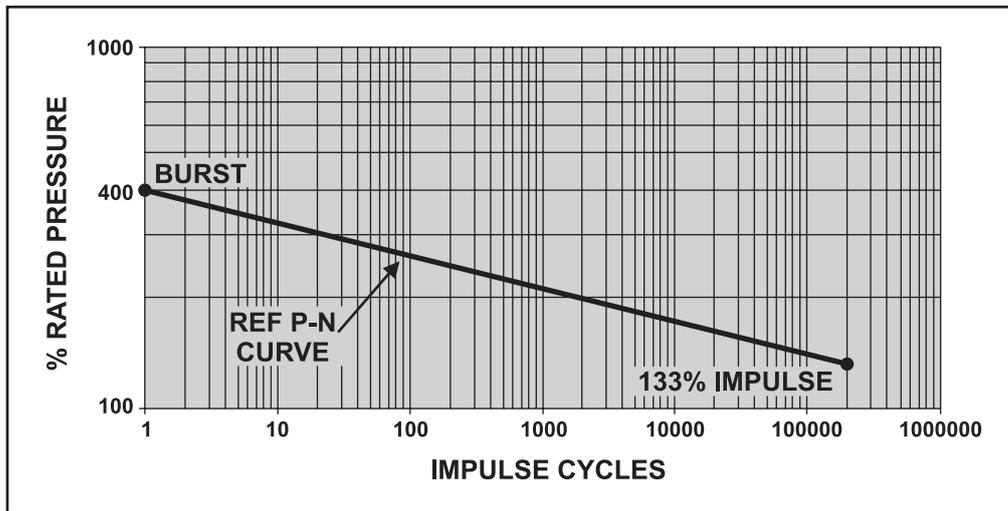
**FACTOR OF SAFETY (FOS)**

Hydraulic Hose Assemblies have a rated maximum working pressure (MWP) of the lesser of the MWP of the hydraulic hose and the MWP of the connector terminations.

Hydraulic Hose has a finite life. The lifespan of Hydraulic Hose Assemblies is affected by many factors (see 'Hose Selection' and 'Safety Guide' pages, and RYCO HALP program page herein). Three limiting factors are working pressure, temperature and impulse pressures (pulses). High Impulse Pressures will fatigue hydraulic hose and consume their life.

Fatigue life is specified by a logarithmic P-N Curve, where P = Pressure and N = Impulses.

Hydraulic hose assemblies require a FOS (Factor of Safety) of 4:1.



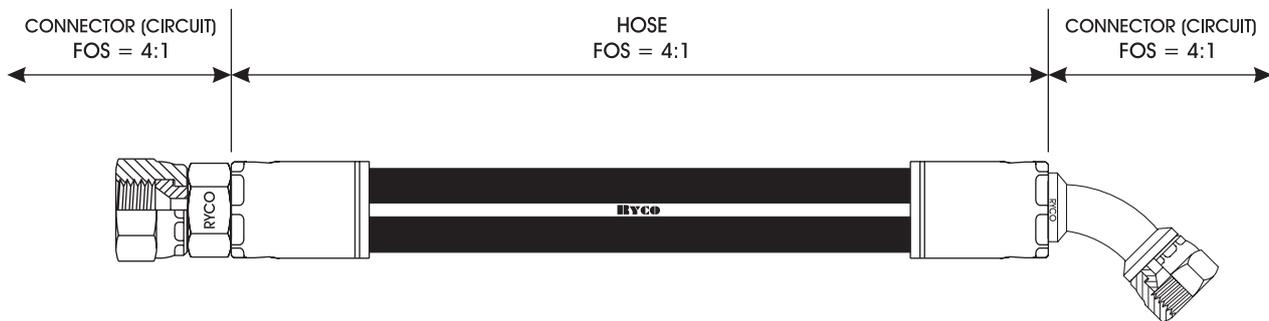
Impulse curve for EN853-2SN (SAE 100R2AT)

This implies that an unused hydraulic hose assembly has to be able reach four times its MWP (4 x MWP) once only (one pulse).

Depending upon the specification requirements of the hydraulic hose, the Hydraulic Hose Assembly (be sure to use couplings that are MATCHED to the hose) must pass an Impulse Test (fatigue life test) at a specified percentage of the hose MWP for a specified number of pressure impulses. In the example above we see that EN853-2SN requires 200,000 impulses at 133% of its MWP (rated pressure). Impulse Tests are generally conducted with fluid heated to the maximum rated operating temperature of the hose.

This 4:1 FOS applies to the Hydraulic Hose Assembly (unless otherwise stated).

**FACTOR OF SAFETY (FOS) OF HOSE ASSEMBLY**



RYCO Hydraulics Connector Terminations have a FOS of 4:1.

## WORKING PRESSURES - Adaptors, Hose Couplings and Hose Assemblies.

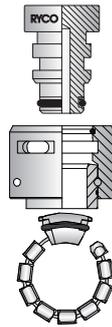
Since many factors influence the pressure at which a hydraulic system will, or will not, perform satisfactorily, maximum working pressures listed below should be used as a guide only and not as a “standard” nor “specification”, nor construed as a “guaranteed minimum.” Within the fluid power industry, many criteria are used for the determination of pressure capability. Various fibre stresses, minimum yields and design factors are applied, commensurate with total system conditions. Thus, it is impractical to lay down specific allowable working pressures that satisfy all design criteria. Unless otherwise specified in this document, and given correct working conditions, including, but not limited to, torque setting, assembly, alignment, support, pressures (internal and external), temperature limits, environmental, installation, vibration free, damage free, chemical, cleanliness and regular maintenance and inspection, the following may be used as a guide to maximum working pressure.

For further technical assistance contact RYCO Hydraulics Technical Department or your RYCO Hydraulics distributor.

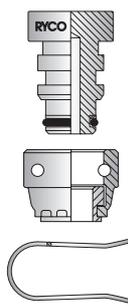
The Maximum Working Pressure of a Hose Assembly is the lesser rated Working Pressure of the Hose or Tube or End Style (Connector termination). The Maximum Rated Working Pressure of an Adaptor with a combination of Thread / End Styles and sizes, is the Maximum Working Pressure of the least rated end.

### CROCBITE – FAIL SAFE: RYCO RECOMMENDS CROCBITE Mine Safe Connection System

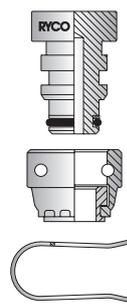
**RCB  
CROCBITE**



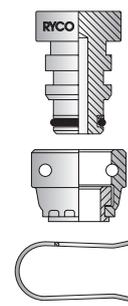
**SUPERLOK  
D-STAPLE**



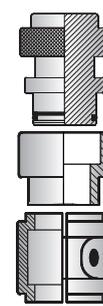
**SUPERLOK  
SQUARE STAPLE**



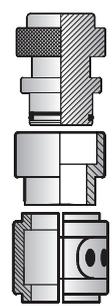
**STAPLELOK**



**RKVP**



**RKVF**



THREAD SIZE	CROCBITE CROCTAIL SIZE	MAXIMUM WORKING PRESSURE												
		bar	psi											
<b>HIGH PRESSURE</b>														
10	3/8	10	450	6525					420	6100	450	6525		
12	1/2	12	450	6525					415	6020	450	6525		
19	3/4	20	420	6100	420	6100	420	6100	350	5100	420	6100		
25	1	25	420	6100	420	6100	380	5500	280	4100	420	6100		
31	1.1/4	32	420	6100	420	6100	350	5100	210	3050	420	6100		
38	1.1/2	40	420	6100	420	6100	350	5100	210	3050	420	6100		
51	2	50	420	6100	420	6100	350	5100			420	6100		
63	2.1/2	63	350	5100			350	5100			350	5100		
<b>HIGH FLOW</b>														
51	2	50	350	5100					170	2465			165	2400
63	2.1/2	63	280	4100					70	1000			70	1000
76	3	75	210	3050									70	1000

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## OCCUPATIONAL HEALTH AND SAFETY POLICY

RYCO is committed to protecting the health and safety of its employees, contractors and visitors in its workplaces. RYCO shall fulfil this commitment through its health and safety management system that is integrated with RYCO's business activities related to products, services and people.

RYCO employees, contractors and visitors have a duty of care to behave and work responsibly, to behave and work safely, to take practical care of their own health and safety, and to consider the health and safety of other persons who may be affected by their actions.

RYCO will take reasonably practicable steps to improve workplace health and safety conditions and to prevent injury and illness to its employees, contractors and visitors.

RYCO shall:

- **Comply with Legal Obligations** – by ensuring that our business is conducted in accordance with relevant occupational health and safety legislation and RYCO Occupational Health and Safety Policies.
- **Manage Risk** – by identifying workplace hazards, undertaking assessments and taking realistic actions to control exposure to prevent injury, illness, loss or damage.
- **Provide appropriate Instruction, Training and Supervision** to enable RYCO employees, contractors and visitors to work safely and carry out their duties and responsibilities.
- **Involve and Ensure meaningful and effective Consultation** with its employees and contractors in matters potentially impacting workplace health and safety.
- **Communicate** clearly and openly RYCO's occupational health and safety commitments and performance.
- **Establish clear Objectives and Targets** to improve health and safety in the workplace.

This Policy applies to RYCO fixed and mobile workplaces and persons attending those workplaces. This Policy will be reviewed from time to time for Continuous Improvement, changes to legislation, industry best practices and policy directions within RYCO.

## ENVIRONMENTAL POLICY

RYCO Hydraulics develops products and services that allow RYCO and our clients to meet our environmental challenges. Our senior management is committed to conducting operations in a manner that is protective of the health and safety of our employees and clients while contributing to the overall protection and enhancement of the environment.

RYCO Hydraulics is committed to achieving the following results with respect to its activities, products and services:

To meet all applicable legal and regulatory environmental requirements from local, state, and national authorities.

To ensure that employees are aware of their environmental responsibilities in relation to RYCO Hydraulics business operations.

To prevent the creation of pollution and waste products or, when this is not feasible or possible to make arrangements to recycle or safely treat and dispose.

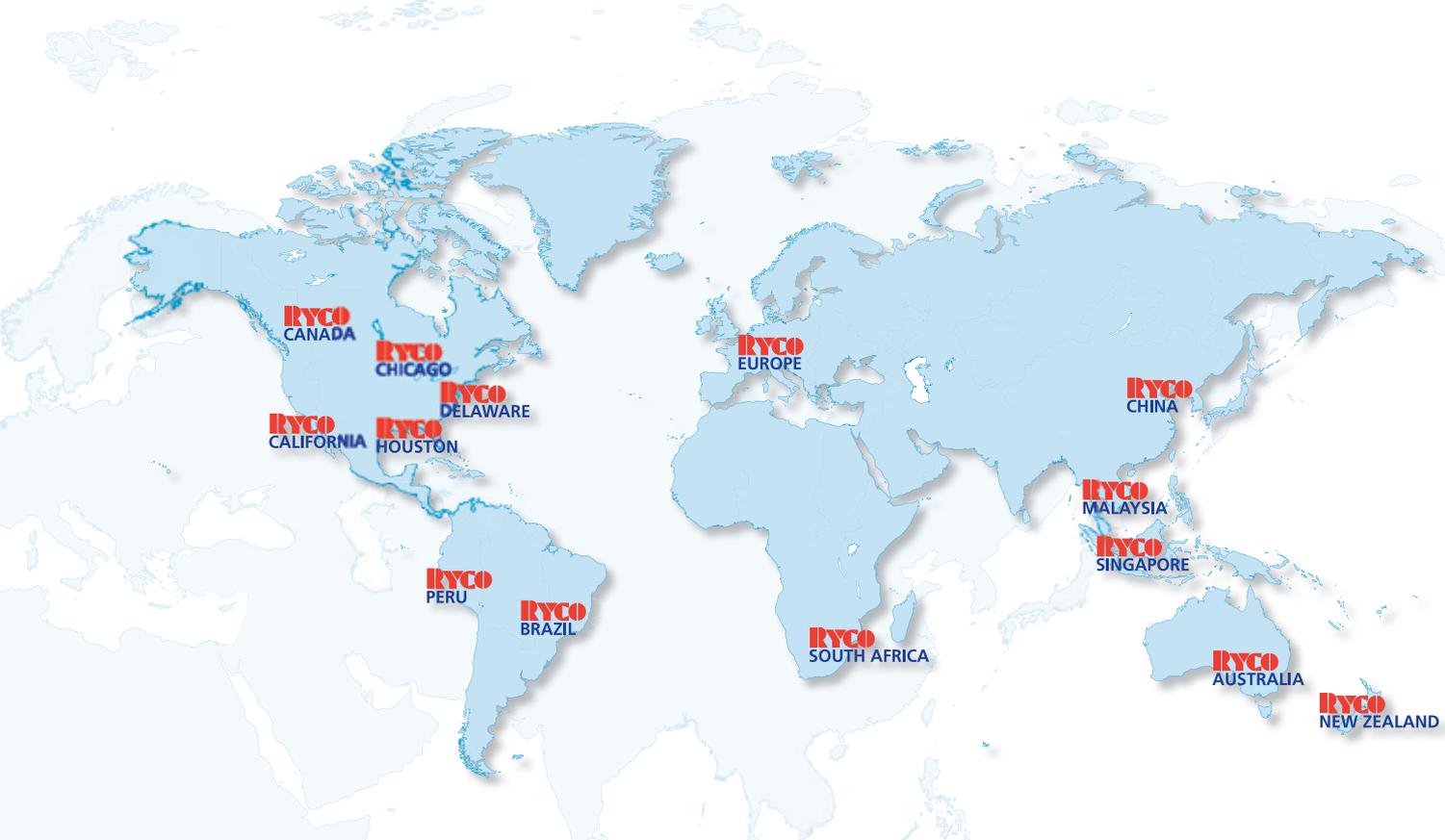
RYCO Hydraulics supports the concept of being responsible for the sensible management of natural resources. RYCO Hydraulics encourages environmentally friendly practices that will help preserve the ecosystem.

### GLOBAL RESOURCES

RYCO Hydraulics continues to grow, establishing new enterprises around the globe to service all of our customers needs.

Our main manufacturing facilities: Melbourne, Australia; Kuala Ketil, Malaysia and Dalian, China are continually investing in modern, state of the art equipment and process methods that ensures the highest quality product is produced.

RYCO builds relationships with a wide range of organisations and individuals across the globe. We understand 'people build businesses'. Our people connect us to our clients, suppliers and stakeholders; Connecting Partnerships around the Globe.



Melbourne, Australia



Kuala Ketil, Malaysia



Dalian, China



Houston, USA

### CONNECTING GLOBAL PARTNERSHIPS

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<b>A/F</b>	Across Flats	<b>FLNG</b>	Flange	<b>NPS</b>	National Pipe Straight Thread
<b>ABS, Abs.</b>	Absolute	<b>FOS</b>	Factor Of Safety	<b>NPSM</b>	National Pipe Straight Mechanical
<b>ABS</b>	American Bureau of Shipping	<b>FS</b>	Female Swivel	<b>NPSMFS</b>	National Pipe Straight Mechanical Female Swivel
<b>AC</b>	Air Conditioning	<b>ft</b>	Foot	<b>NPT</b>	National Pipe Taper Thread
<b>AGA</b>	Australian Gas Association	<b>ft.lbf</b>	Foot Pound force	<b>NPTF</b>	National Pipe Taper for Fuel
<b>AS</b>	Australian Standard	<b>g</b>	Gram	<b>NPTFF</b>	National Pipe Taper Female Fixed
<b>AV</b>	Average	<b>GL</b>	Germanischer Lloyd	<b>NPTM</b>	National Pipe Taper Male
<b>BCS</b>	British Coal Standard	<b>GPM</b>	Gallons Per Minute	<b>OA, O/A</b>	Overall
<b>BH</b>	Bulkhead	<b>HP</b>	High Pressure	<b>OD</b>	Outside Diameter
<b>BP</b>	Burst Pressure	<b>hp</b>	Horse Power	<b>ORFS</b>	O Ring Face Seal
<b>BS</b>	British Standard	<b>HTS</b>	High Tensile Steel	<b>ORFSFS</b>	ORFS Female Swivel
<b>BSP</b>	British Standard Pipe	<b>HW</b>	Heavy Wall	<b>ORFSM</b>	ORFS Male
<b>BSPP</b>	British Standard Pipe Parallel Thread	<b>ID</b>	Inside Diameter	<b>PCD</b>	Pitch Circle Diameter
<b>BSPPFS</b>	British Standard Pipe Parallel Female Swivel	<b>inHg</b>	Inches of Mercury	<b>PCV</b>	Positive Crankcase Ventilation
<b>BSPPMBH</b>	British Standard Pipe Parallel Male Bulkhead	<b>IMP</b>	Imperial	<b>P/N, P/NO</b>	Part Number
<b>BSPPOM</b>	British Standard Pipe Parallel O Ring Male	<b>INV</b>	Inverted	<b>PREV</b>	Previous
<b>BSPPOM EXT</b>	British Standard Pipe Parallel O Ring Male Extended	<b>ISO</b>	International Organization for Standardization	<b>psi</b>	Pounds per Square Inch
<b>BSPT</b>	British Standard Pipe Taper Thread	<b>JIC</b>	Joint Industries Council (Thread UN)	<b>PTFE</b>	Polytetrafluoroethylene
<b>BSPTFF</b>	British Standard Pipe Taper Female Fixed	<b>JICFS</b>	JIC Female Swivel	<b>PW</b>	Pressure Washer
<b>BSPTM</b>	British Standard Pipe Taper Male	<b>JICM</b>	JIC Male	<b>QA</b>	Quality Assurance
<b>BSW</b>	British Standard Whitworth	<b>JICMBH</b>	JIC Male Bulkhead	<b>QC</b>	Quality Control
<b>C/W</b>	Complete With	<b>JICMEXT</b>	JIC Male Extended	<b>QRC</b>	Quick Release Coupling
<b>C<sub>A</sub></b>	Cut-off Allowance	<b>JIS</b>	Japanese Industrial Standard	<b>RED</b>	Reducing
<b>CAT</b>	Caterpillar	<b>kg</b>	Kilogram	<b>RKV</b>	RYCO Klemm Verbindung
<b>CL, C/L</b>	Cut Length	<b>kg.m</b>	Kilogram Metres	<b>RMA</b>	Rubber Manufacturers Association
<b>CrVI</b>	Chromium 6	<b>kPa</b>	KiloPascal	<b>RPM</b>	Revolutions Per Minute
<b>cSt</b>	Centistoke	<b>kW</b>	Kilowatt	<b>RQP</b>	RYCO Quality Product
<b>DIA, DIAM</b>	Diameter	<b>LNG</b>	Long	<b>SAE</b>	Society of Automotive Engineers (USA)
<b>DIN</b>	Deutsche Industrie Normen (German Industrial Standard)	<b>L</b>	Litre	<b>SAEFS</b>	SAE Female Swivel
<b>DKL</b>	Dicht Kegel Leicht (Metric Light Series 24° Cone)	<b>lb</b>	Pound	<b>SAEM</b>	SAE Male
<b>DKM</b>	Dicht Kegel Metric (Metric 60° Cone)	<b>LP</b>	Low Pressure	<b>SF</b>	Swivel Female (Union)
<b>DKO</b>	Dicht Kegel O Ring (Metric O Ring Seal 24° Cone)	<b>LPG</b>	Liquified Petroleum Gas	<b>SS</b>	Stainless Steel
<b>DKOL</b>	Dicht Kegel O Ring Leicht (Metric Light O Ring Series 24° Cone)	<b>LPM</b>	Litres Per Minute	<b>SSKV</b>	Steckschalenklemmverbindung Standard
<b>DKOS</b>	Dicht Kegel O Ring Schwer (Metric Heavy O Ring Series 24° Cone)	<b>LR</b>	Lloyd's Register	<b>STD</b>	Standard
<b>DKS</b>	Dicht Kegel Schwer (Metric Heavy Series 24° Cone)	<b>M</b>	Male	<b>STPL</b>	Staple
<b>DL</b>	Drop Length	<b>m</b>	Metre	<b>SWIV</b>	Swivel
<b>DN</b>	Diameter Nominal (mm)	<b>MAX</b>	Maximum	<b>T/NESS</b>	Thickness
<b>DNV</b>	Det Norske Veritas	<b>MBP</b>	Minimum Burst Pressure	<b>TBA</b>	To Be Advised
<b>DoT</b>	Department of Transportation (USA)	<b>MED</b>	Marine Equipment Directive	<b>THRD</b>	Thread
<b>EEC</b>	Evaporative Emission Control	<b>MFL</b>	Minimum Free Length	<b>TP</b>	Test Pressure
<b>ELB</b>	Elbow	<b>MIC, Mic.</b>	Micron (µm)	<b>TPI</b>	Threads Per Inch
<b>EPDM</b>	Ethylene Propylene Diene Monomer	<b>MIL</b>	Military Specification (USA)	<b>TW</b>	Tube Weld
<b>EXT</b>	Extended	<b>MIN</b>	Minimum	<b>UN</b>	Unified National Thread
<b>F, FEM</b>	Female	<b>mm</b>	Millimetre	<b>UNO</b>	UN O Ring (O Ring Boss)
<b>FF</b>	Female Fixed	<b>mmHg</b>	Millimetres of Mercury	<b>UNOM</b>	UNO Male (O Ring Boss Male)
<b>FIX</b>	Fixed	<b>MPa</b>	MegaPascal	<b>UNOMEXT</b>	UNO Male Extended (O Ring Boss Male Extended)
		<b>MSHA</b>	USA Department of Labor, Mine Safety and Health Administration.	<b>USCG</b>	United States Coast Guard
		<b>MWP</b>	Maximum Working Pressure	<b>WP</b>	Working Pressure
		<b>NA, N/A</b>	Not Applicable	<b>°C</b>	Degrees Celcius
		<b>NAHAD</b>	National Association of Hose and Accessories Distributors (USA)	<b>°F</b>	Degrees Fahrenheit
		<b>NATA</b>	National Association of Testing Authorities (Aus.)	<b>β</b>	Beta (filtration)
		<b>NB</b>	Nominal Bore	<b>µm</b>	Micron
		<b>NCB</b>	National Coal Board		
		<b>NCS</b>	NATA Certification Services		
		<b>NFPA</b>	National Fluid Power Association (USA)		
		<b>Nm</b>	Newton Metre		
		<b>NOM, Nom.</b>	Nominal		







These RTS are the terms and conditions of each of RYCO HYDRAULICS PTY LTD A.B.N. No 96 085 527 724; RYCO 24.7 Pty Ltd ABN 97 054 946 173 and each is referred to, severally, as "RYCO".

1. Unless otherwise expressly agreed in writing, the products and services supplied by RYCO ("RPS") are supplied upon the following RTS to the exclusion of any (written or verbal) terms and conditions of the purchaser and no agent or representative of RYCO has any authority to vary or omit any of these terms in relation to a specific purchaser.
2. Before purchasing any RPS the purchaser:
  - a) agrees that they have read and understood these RTS, the safety information, notes, warnings and instructions contained in RYCO's current relevant catalogues, product technical manuals, manuals and published technical data ("Documents"); and
  - b) holds themselves as a responsible, competent and appropriately skilled user or reseller of RPS and that they comprehend and understand the dangers of incorrect use, installation or assembly of such products. Documents are available on the RYCO website [www.ryco.com.au](http://www.ryco.com.au).
3. Each request for RPS (whether in writing or verbally) which sets out the quantity, price and a description of the RPS required, including a date and address for delivery (or, in the case of services, date for performance) ("Order") placed by the purchaser amounts to an offer by it to acquire from RYCO the RPS described in the Order upon these RTS. RYCO may, in its discretion, accept an offer by doing one of the following within 30 days after the date that RYCO receives the Order:
  - a) deliver the RPS (or perform the services) to the address for delivery set out in the Order; or
  - b) provide express written acceptance of the Order to the purchaser giving an estimated date for delivery.

Failure of RYCO to accept the order in accordance with this clause 3 will be a rejection of the Order.
4. Each Order that is accepted by RYCO under clause 3 constitutes a separate contract between RYCO and the purchaser which the parties agree is governed by these RTS.
5. RYCO may, in its discretion, refuse to sell or supply RPS to the purchaser, and may, but is not obliged to, give written notice to that effect. RYCO is not required to give reasons for its refusal.
6. Any Order, including any order for special production runs under clause 17, that has been accepted by RYCO may not be reduced or cancelled by the purchaser after acceptance without the agreement of RYCO in writing.
7. The purchaser agrees that all RPS it orders are for the purposes of business and the purpose of re-supply or transforming them in the process of trade or commerce, and not for personal, domestic or household use or consumption, and that the Australian Consumer Law does not apply to the supply of RPS to the purchaser to the extent permitted by that Act. The purchaser acknowledges and agrees that RYCO relies upon this representation in agreeing to deliver or provide the RPS.
8. All products supplied by RYCO must be examined by the purchaser at the time of delivery and any deficiency in quantity or quality of or damage to product delivered ("Defect") must be notified to RYCO within 5 business days of the date of delivery to the purchaser. If the purchaser does not provide such notification to RYCO then this shall be deemed to be an acknowledgment by the purchaser that the:
  - a) quantities as set out by the invoice are correct; and
  - b) products are of an acceptable quality; and
  - c) the products are not damaged and will not be returned.
9. Subject to clauses 11 and 13 below, RYCO warrants to the purchaser that the RPS will be of an acceptable quality on delivery and for twelve months from issue of invoice by RYCO ("Warranty"). The purchaser agrees that it will not provide any express warranty in respect of the RPS to any customer other than the Warranty as provided here, and releases and indemnifies RYCO from any liability for any representation made by the purchaser to a customer that exceeds the Warranty. RYCO will not provide any warranty whatsoever on items manufactured, built or acquired wholly or partially to the purchaser's designs or specifications.
10. If the purchaser provides notification of a Defect to RYCO pursuant to clause 8 and lodges a Warranty claim in relation to RPS, RYCO's liability will be limited as set out in clause 13.
11. To the extent permitted by law, RYCO will not be liable for a breach of the Warranty set out in clause 9 for any of the following:
  - a) the purchaser not providing notification to RYCO pursuant to clause 8;
  - b) the purchaser or the user of the RPS has not used the RPS in accordance with the instructions or specifications set out in the Documents;
  - c) use of the RPS that is contrary to the instructions contained in RYCO's Documents, as this may result in an unsatisfactory or even dangerous product;
  - d) defects caused by normal or accelerated deterioration; physical, chemical, electrochemical or environmental conditions; insufficient maintenance or incorrect repair; failure to follow correct storage, user and operating instructions; use of unsuitable materials;
  - e) products that have been incorrectly assembled in accordance with the assembly operations specified in RYCO's Documents;
  - f) the modification of RPS, other than in accordance with RYCO's written approval;
  - g) the performance of any RPS that are welded (except if the welding is carried out by RYCO, its servants or its agents) by a person who is not suitably qualified including, but not limited to, weldons, salvage, life saver or any other components. These welded products should be tested and proved fit for the use intended; and
  - h) the claimant does not extend to RYCO a reasonable opportunity to fully inspect the product, the subject of the claim and the circumstances giving rise to the claim.
12. Subject to clause 9 and except as conferred by law, no express warranty or guarantee is given with respect to any of the characteristics or quality of RPS supplied.
13. Where any law or statute implies in these RTS, any term, condition or warranty and that Act, law or statute avoids or prohibits a contract excluding or modifying the application of or exercise of or liability under such term, condition or warranty, such term, condition or warranty will be deemed to be included in these RTS. The liability of RYCO to the purchaser for any breach of such term, condition or warranty, or any breach of the Warranty will be limited, at the option of RYCO, to:
  - a) if the breach relates to goods:
    - i) the replacement of the goods or the supply of the equivalent goods;
    - ii) repair of the goods
    - iii) the payment of the cost of replacing the goods or of acquiring equivalent goods or having the goods repaired; or
  - b) if the breach relates to services:
    - i) the resupply of the services (or part of them); or
    - ii) the payment of the cost of having the services supplied again.
14. RYCO sets out, in its Documents and other product material, suggestions as to the use, installation and care of its products on the understanding that those suggestions are made solely to assist the purchaser to obtain the best results from their purchase and those suggestions do not constitute warranties or otherwise add to or vary these terms in any way.
15. Unless otherwise stated to the contrary by the purchaser on a written Order, RYCO will supply products on the understanding that they will be used in hydraulic applications with mineral oil within the limits shown in RYCO's current Documents.
16. RYCO will use its best endeavours to deliver at the time stated in the Order, but all delivery dates shall be regarded as estimates only. The purchaser must accept the actual delivery date and RYCO shall not be liable for any losses, costs, damages or expenses suffered by the purchaser or any other party as a result of any delay in delivery.

17. Where Orders are accepted by RYCO for special production runs, unless otherwise agreed to in writing, RYCO reserves the right to make delivery and charge for plus or minus 20 units or 15% of the order quantity, whichever is greater. RYCO will not accept any restriction of its right to manufacture or sell or offer to any other purchaser products which may have been manufactured specially for a specific purchaser or purchasers.
18. Payment is to be made in cash, cheque or by direct debit within 30 days of invoice date. If:
- the purchaser fails to make any payments that are due to RYCO on or before the due date stipulated in the invoice, under this or any other contract, RYCO may delay, suspend or cancel deliveries in whole or in part at its sole discretion;
  - the payment is not made within these RTS, interest will be calculated and charged at the interest rate fixed from time to time in section 2 of the Penalty Interest Rates Act 1983 (Vic) plus an additional 2% per month, and will be charged monthly and accrue from the date of invoice until all overdue amounts are paid in full; and
  - any amount becomes overdue, all amounts recorded on the purchaser's account will be deemed to be immediately due and payable. The purchaser agrees to pay all costs and expenses incurred by RYCO, its agents and its servants in the recovery of the overdue amounts, including but not limited to all legal costs, debt recovery costs and debt recovery agency costs.
19. The RPS remain the property of RYCO and title in the RPS only passes from RYCO to the purchaser once RYCO has received all amounts due to it from the purchaser for those RPS. Risk in the RPS passes to the purchaser when the RPS leave RYCO's premises for delivery to the purchaser and the purchaser must indemnify RYCO against any loss to the RPS occurring after delivery. The purchaser must store the RPS separately from any other goods of its own or other suppliers and in a way that enables the RPS to be clearly identifiable as RYCO's. While RYCO retains title to the RPS, the purchaser holds the RPS as RYCO's fiduciary and the purchaser is authorised to sell the RPS as RYCO's agent and fiduciary and the proceeds of any sale of RPS or insurance claim regarding RPS must be held on trust for RYCO until title to the RPS passes to the purchaser. The parties acknowledge that under this arrangement, when the purchaser receives the RPS the purchaser is deemed to grant RYCO a security interest (as that term is defined in section 12 of the Personal Property Securities Act 2009) (PPSA) in the RPS securing the purchaser's obligation to return the goods to RYCO or pay the purchase price.
20. At any time after the due date for payment of any account owing from the purchaser to RYCO, or if the purchaser is subject to an insolvency event (ie in relation to a body corporate, a winding up, the appointment of a voluntary administrator, receiver, manager or similar insolvency administrator to a party or any substantial part of its assets, or in relation to an individual, becoming bankrupt or entering into a scheme or arrangement with creditors or, in relation to a body corporate or an individual, the occurrence of any event that has a substantially similar effect to any of the above events) and has not paid any outstanding amount owing to RYCO, and so long as such amounts have not been received by RYCO in full, RYCO at the purchaser's expense, may recover possession of these, or any other RPS that RYCO has previously delivered to the purchaser which are of an equivalent value. If this occurs, the purchaser grants a licence to RYCO to enter any premises where such RPS are situated to search for, inspect and/or repossess such RPS. RYCO has the right to resell any RPS repossessed and is not liable to the purchaser or any person claiming through the purchaser arising from any repossession of RPS (or any other act or omission by RYCO or its agents engaged in by RYCO or them pursuant to the licence granted under this clause).
21. The purchaser acknowledges and agrees that these RTS constitute a Security Agreement which creates a Security Interest (a Purchase Money Security Interest) under the PPSA in favour of RYCO. RYCO holds a Security Interest in all RPS previously supplied by RYCO to the purchaser, and will hold a Security Interest in all after acquired RPS supplied on the terms set out in clauses 19 and 20, notwithstanding anything express or implied to the contrary contained in the purchaser's purchase order.
- The purchaser agrees:
- that RYCO may effect a registration of its Security Interest on the Personal Properties Securities Register (PPSR) at its sole discretion;
  - to provide RYCO with all information (which information the purchaser warrants to be complete, accurate and up to date in all respects) and execute any document or do anything that RYCO may reasonably require to enable perfection of its Security Interest or registration of a Financing Statement or Financing Change Statement on the PPSR;
  - not to register a Financing Change Statement or an amendment demand without the prior written consent of RYCO;
  - to provide to RYCO not less than fourteen days prior written notice of any proposed change in the purchaser's name or any other change in its details (including but not limited to change in the address, facsimile, email, trading name or business practice);
  - if requested by RYCO, and to the extent permissible under the PPSA, pay all reasonable costs incurred by RYCO to register a Financing Statement and to maintain up-to-date registration of its Security Interest on the PPSR;
  - reimburse RYCO the full cost incurred by RYCO (including legal costs and disbursements on an indemnity basis) in obtaining an order pursuant to section 182 of the PPSA;
  - as between the purchaser and RYCO, where RYCO has rights under this Agreement in addition to those in Chapter 4 of the PPSA, those rights will continue to apply and will not be limited by s125 of the PPSA;
  - to the extent permitted by law, to waive any rights that the purchaser may have to:
    - receive notice of removal of an accession under section 95 of the PPSA, and not to have the RPS damaged when RYCO removes the accession;
    - reinstatement of the security agreement pursuant to s143 of the PPSA;
    - receive any notice required under the PPSA, including but not limited to a notice of retention or a notice of disposal or a statement of account on enforcement of the Security Interest in accordance with s115 of the PPSA;
    - receive a Verification Statement in respect of any Financing Statement relating to the Security Interest pursuant to section 157 of the PPSA,
- For the purposes of this clause 21, capitalised terms have the meaning of those terms in the PPSA.
22. RYCO will not be liable for breach of contract arising from or caused by, directly or indirectly, fire, flood, earthquake, storm or tempest; the action of any government or any public authority or corporation; the lack of labour, supplies or equipment, from whatever cause; or any other cause beyond RYCO's control.
23. This contract shall be governed by and construed by the laws of the State of Victoria, Australia.
24. If any of these RTS or any part thereof is held by a court to be void or unenforceable such provision shall be read down to such extent as may be necessary to ensure that it does not so infringe and as may be reasonable in all circumstances so as to give it valid operation of a partial character and in the event that the infringing condition cannot be so read down it will be severed from the other provisions.
25. RYCO may amend these RTS from time to time, but those amendments will not take effect until RYCO has notified the purchaser in writing of those amendments. The applicable version will be those RTS attached to or forming part of the relevant Order and will take precedence over any earlier version contained in the Documents.
26. RYCO may cancel these RTS at any time by giving written notice to the purchaser of the cancellation. RYCO will supply any Order that has been accepted by it (under clause 3) on or before the date of that cancellation notice.
27. RPS are designed for use in static equipment, mobile ground vehicles, mobile ground equipment and marine applications. RPS are not designed for use in flight applications. RYCO does not recommend use of its products on aircraft and has no liability to the purchaser if the purchaser supplies the goods to consumers for use on aircraft.
28. The purchaser may not assign, transfer or otherwise dispose of any of the rights or obligations of this or any other contract with RYCO that is subject to these RTS without the prior written consent of RYCO.

# RYCO MINING



## AUSTRALIA

### MELBOURNE

19 Whitehall Street  
Footscray, VIC 3011  
Australia  
Tel +61 3 9680 8000  
Fax +61 3 9680 8001  
Email sales@ryco.com.au

### SYDNEY

78 Hassall Street  
Wetherill Park, NSW 2164  
Australia  
Tel +61 2 9765 2500  
Fax +61 2 9604 4210  
Email sales@ryco.com.au

### BRISBANE

97 Northlink Place  
Northgate, QLD 4013  
Australia  
Tel +61 7 3866 8888  
Fax +61 7 3866 8880  
Email sales@ryco.com.au

### PERTH

47 Tacoma Circuit  
Canning Vale, WA 6155  
Australia  
Tel +61 8 9360 3800  
Fax +61 8 9360 3801  
Email sales@ryco.com.au

### ADELAIDE

217 Richmond Road  
Richmond, SA 5033  
Australia  
Tel +61 8 8237 0547  
Fax +61 8 8237 0555  
Email sales@ryco.com.au

### NEWCASTLE

14 Ironbark Close  
Warabrook, NSW 2304  
Australia  
Tel +61 2 4014 7000  
Fax +61 2 4968 9977  
Email sales@ryco.com.au

### SINGLETON

Lot 2 Rosella Street  
Maison Dieu, NSW 2330  
Australia  
Tel +61 2 6572 3967  
Fax +61 2 6572 3918  
Email sales@ryco.com.au

### MACKAY

37 Enterprise Street  
Paget, QLD 4740  
Australia  
Tel +61 7 4968 2300  
Fax +61 7 4952 4479  
Email sales@ryco.com.au

### KALGOORLIE

16 Broadwood Street  
West Kalgoorlie, WA 6430  
Australia  
Tel +61 8 9093 9800  
Fax +61 8 9093 9801  
Email sales@ryco.com.au

### PORT HEDLAND

13B Murrena Street  
Wedgefield, WA 6721  
Australia  
Tel +61 8 9140 0000  
Fax +61 8 9140 0001  
Email sales@ryco.com.au

### GUNNEDAH

12 Borthistle Road  
Gunnedah, NSW 2380  
Australia  
Tel +61 2 6742 0089  
Fax +61 2 6742 0371  
Email sales@ryco.com.au

## UNITED STATES

### TEXAS

1616 Greens Road  
Houston, Texas 77032  
USA  
Tel +1 281 821 4100  
Fax +1 281 821 4300  
Email sales@ryco.us

### NEW JERSEY

1274 Highway 77  
Bridgeton, New Jersey 08302  
USA  
Tel +1 281 821 4100  
Fax +1 281 821 4300  
Email sales@ryco.us

### CALIFORNIA

1150 Valencia Avenue  
Tustin, California 92780  
USA  
Tel +1 281 821 4100  
Fax +1 281 821 4300  
Email sales@ryco.us

### IOWA

1007 West 10th Street  
Pella, Iowa 50219  
USA  
Tel +1 281 821 4100  
Fax +1 281 821 4300  
Email sales@ryco.us

## CANADA

### CANADA

40 Engelhard Drive, Unit 6.  
Aurora, ON L4G 6X6  
Canada  
Tel +1 281 821 4100  
Fax +1 281 821 4300  
Email sales@ryco.us

## PERU

### PERU

Av. La Encalada 569 Of. 201-A  
C.C. Monterrico Surco, Lima 33  
Peru  
Tel +51 1 435 8323  
Fax +51 1 437 0278  
Email ventas@ryco.com.pe

## BRAZIL

### BRAZIL

Rodovia SP 73, nº 4.509  
Galpão 3 - Distrito Industrial  
Indaiatuba - SP  
CEP: 13347-390  
Brazil  
Tel +55 19 3935 9686  
Fax +55 19 3935 3075  
Email vendas@ryco.com.br

## UNITED KINGDOM

### UNITED KINGDOM

Po Box 8734,  
Airdrie ML6 1AD  
United Kingdom  
Tel +44 1698 730687  
Fax +44 1698 730687  
Email sales@ryco.eu

## CZECH REPUBLIC

### CZECH REPUBLIC

Vysoké Pole 248,  
763 25 Czech Republic  
Tel +420 739 599 088  
Email sales@ryco.eu

## NEW ZEALAND

### NEW ZEALAND

24 Sylvia Park Road  
Mt Wellington, Auckland 1130  
New Zealand  
Tel +64 9 573 2680  
Fax +64 9 573 0255  
Email sales@ryconz.co.nz

## SINGAPORE

### SINGAPORE

30 Cecil Street  
Level 15, Prudential Tower  
049712 Singapore  
Tel +65 6483 5655  
Fax +65 6483 5755  
Email sales@ryco.com.sg

## MALAYSIA

### MALAYSIA

Plot 207 Kuala Ketil Ind. Estate  
Kuala Ketil, Kedah, 09300  
Malaysia  
Tel +60 4 416 0571  
Fax +60 4 416 0627  
Email sales@ryco.com.sg

## CHINA

### CHINA

38 Yingri Road  
Ying Cheng Zi Industrial Zone,  
Gan Jing Zi District  
Dalian 116036 China  
Tel +86 411 8886 0006  
Fax +86 411 8886 0008  
Email sales@ryco.com.cn

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