

R1620

EASY TEST



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RECOMMENDED FOR:

RYCO R1620 Easy Test Series is a complete system of Test Points, Inline Test Adaptors, Test Hose Assemblies, Pressure Gauges, Adaptors and Test Point Kits. The system is designed to allow fast, direct connection of pressure measuring gauges and transducers to a hydraulic system. Other applications include; switching, control, and pilot lines; venting/bleeding points; and sample points.

Once installed, connection to the Test Point can be made at up to 400 bar system pressure without the need for tools, and without leakage or spillage. Connection at pressures between 400 bar and Maximum Working Pressure of 630 bar may require tools.

Typical applications include mobile plant, agricultural equipment, industrial equipment, power packs and cylinders, logging and mining, oil processing and exploration, and steel production.

RYCO R1620 Easy Test Test Points can be installed into hydraulic circuits as permanent original equipment, or can be installed temporarily while testing is performed. Inline Test Adaptors also allow quick and easy retro-fitting of Test Points between hoses, or hoses and ports.

RYCO R1620 Easy Test Series utilise the M16x2,0 connection system. Adaptors that enable connection to other connection systems are available: M16x1,5; M12x1,5; S12,65x1,5; and Stake.

FEATURES:

- Connect, and disconnect, under system pressure; up to 400 bar by hand, and up to 630 bar with tools.
- Maximum Working Pressure 630 bar.
- No leakage or spillage when connections are made. The probe in the hose or gauge connection seals into the coupling before the ball check valve is opened.
- Metal protective cap, with captive chain.
- Anti vibration O Ring on body fitted as standard, stops chain collar from rattling.

TECHNICAL DATA:

TEST POINTS AND CAPS:

Steel, zinc-nickel plated for corrosion resistance.

INLINE TEST ADAPTORS:

Steel, RYCOTE CrVI free plated for corrosion resistance.

VALVE IN TEST POINT:

Metal Ball, sealing on metal seat.

SEALS:

Nitrile (Buna N).

OPERATING TEMPERATURE RANGE:

From -35°C to +100°C (-31°F to +212°F).

MAXIMUM WORKING PRESSURE:

630 bar / 9135 psi. Size and temperature dependent - refer to hose working pressures and dimensions data tables for further information.

MAXIMUM CONNECTION PRESSURE:

Up to 400 bar/5800 psi by hand. Between 400 bar and 630 bar requires tools (such as multi-grip pliers to ensure effective connection. Caution: do not overtighten when using tools to tighten connection as this may damage the test point connection, which may result in premature leakage or failure of the connection.

FLUID COMPATIBILITY:

Mineral/petroleum based hydraulic oils.

ACCESSORIES

R1620 EASY TEST - TEST POINT COUPLINGS

NOTE: RYCO R1620 EASY TEST Test Points Couplings can be installed into hydraulic circuits as permanent original equipment, or can be installed temporarily while testing is performed.

BSP/NPT

BT

BP

NT

TEST POINT COUPLINGS



THREAD SIZE		DASH SIZE	BSP		
TEST POINT	MALE		BSPT MALE	ENCAPSULATED MALE	NPT MALE
	inch		PART NO	PART NO	PART NO
M16x2,0	1/8	-02	R1620-BT02	R1620-BP02	R1620-NT02
M16x2,0	1/4	-04	R1620-BT04	R1620-BP04	R1620-NT04

METRIC

MR

MP

MM

TEST POINT COUPLINGS

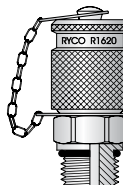


THREAD SIZE		DASH SIZE	METRIC		
TEST POINT	MALE		METRIC MALE O RING SEAL	ENCAPSULATED MALE	METRIC MALE METAL SEAL
			PART NO	PART NO	PART NO
M16x2,0	M8x1,0	-08	R1620-MR08		
M16x2,0	M10x1,0	-10	R1620-MR10		
M16x2,0	M12x1,5	-12		R1620-MP12	
M16x2,0	M14x1,5	-14			R1620-MM14

UNO (O RING BOSS)

UN

TEST POINT COUPLINGS



THREAD SIZE		DASH SIZE	UN O RING MALE (O RING BOSS)
TEST POINT	MALE		
	inch		PART NO
M16x2,0	7/16	-07	R1620-UN07
M16x2,0	1/2	-08	R1620-UN08
M16x2,0	9/16	-09	R1620-UN09

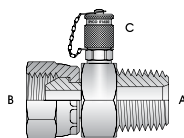
R1620 EASY TEST - INLINE TEST POINT ADAPTORS

NOTE: RYCO R1620 EASY TEST Inline Test Point Adaptors can be installed into circuits as permanent original equipment, or can be installed temporarily while testing is performed. InLine Test Point Adaptors also allow quick and easy retro-fitting of Test Points between hoses, or hoses and ports.

BSP

S160

INLINE TEST POINT ADAPTORS

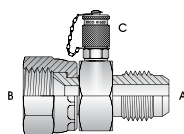


THREAD SIZE			DASH SIZE	BSPT MALE BSPP FEMALE SWIVEL M16 X 2,0 TEST POINT
A	B	C		
inch	inch			PART NO
1/4	1/4	M16x2,0	-040416	S160-040416
3/8	3/8	M16x2,0	-060616	S160-060616
1/2	1/2	M16x2,0	-080816	S160-080816
3/4	3/4	M16x2,0	-121216	S160-121216
1	1	M16x2,0	-161616	S160-161616
1.1/4	1.1/4	M16x2,0	-202016	S160-202016

JIC

S159

INLINE TEST POINT ADAPTORS



THREAD SIZE			DASH SIZE	JIC MALE JIC FEMALE SWIVEL M16 X 2,0 TEST POINT
A	B	C		
inch	inch			PART NO
7/16	7/16	M16x2,0	-070716	S159-070716
9/16	9/16	M16x2,0	-090916	S159-090916
3/4	3/4	M16x2,0	-121216	S159-121216
7/8	7/8	M16x2,0	-141416	S159-141416
1.1/16	1.1/16	M16x2,0	-171716	S159-171716
1.5/16	1.5/16	M16x2,0	-212116	S159-212116
1.5/8	1.5/8	M16x2,0	-262616	S159-262616

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R1620 EASY TEST – INLINE TEST POINT ADAPTORS

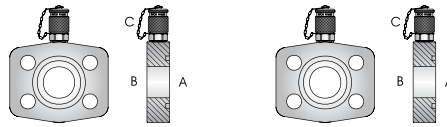
NOTE: RYCO R1620 EASY TEST Inline Test Point Adaptors can be installed into circuits as permanent original equipment, or can be installed temporarily while testing is performed. InLine Test Point Adaptors also allow quick and easy retrofitting of Test Points between hoses, or hoses and ports.

SAE FLANGE

S961

S962

INLINE TEST POINT ADAPTORS



NOMINAL FLANGE SIZE		THREAD SIZE C	DASH SIZE	CODE 61 CODE 61 FLAT M16X2,0 TEST POINT	CODE 62 CODE 62 FLAT M16X2,0 TEST POINT
A	B				
inch	inch			PART NO	PART NO
3/4	3/4	M16x2,0	-121216		S962-121216
1	1	M16x2,0	-161616	S961-161616	S962-161616
1.1/4	1.1/4	M16x2,0	-202016	S961-202016	S962-202016
1.1/2	1.1/2	M16x2,0	-242416	S961-242416	S962-242416
2	2	M16x2,0	-323216	S961-323216	S962-323216

NOTE: Longer bolts are required when mounting S961 and S962 Inline Test Adaptors between an SAE Flange Hose Coupling and an SAE Flange Port. Fastening Kits, consisting of the four hex head Long Bolts, four Spring Washers, and O Ring are available. See table below.

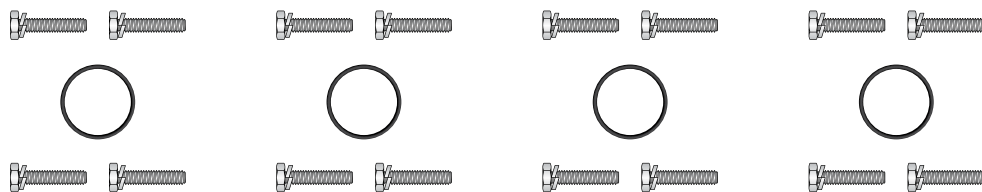
FASTENING KITS

FK61L

FK62L

FK61LM

FK62LM



NOMINAL FLANGE SIZE	DASH SIZE	CODE 61 FASTENING KIT UNC BOLTS	CODE 62 FASTENING KIT UNC BOLT	CODE 61 FASTENING KIT METRIC BOLT	CODE 62 FASTENING KIT METRIC BOLTS
inch		PART NO	PART NO	PART NO	PART NO
3/4	-12		FK62L-12		FK62LM-12
1	-16	FK61L-16	FK62L-16	FK61LM-16	FK62LM-16
1.1/4	-20	FK61L-20	FK62L-20	FK61LM-20	FK62LM-20
1.1/2	-24	FK61L-24	FK62L-24	FK61LM-24	FK62LM-24
2	-32	FK61L-32	FK62L-32	FK61LM-32	FK62LM-32

R1620 EASY TEST – TEST HOSE AND HOSE ASSEMBLIES

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RT7 TEST HOSE FOR R1620 EASY TEST

RECOMMENDED FOR:

Connections between Test Points and pressure measuring gauges and transducers; or between Test Points and control, charging or pilot lines.

TUBE:

Black, oil resistant seamless thermoplastic (Polyamide).

REINFORCEMENT:

One braid of synthetic yarn (Polyester).

COVER:

Black, oil and abrasion resistant thermoplastic (Polyamide).

TEMPERATURE RANGE:

From -35°C to +100°C (-31°F to +212°F) continuous.
From -35°C to +120°C (-31°F to +248°F) intermittent.

WORKING PRESSURE:

Maximum Working Pressures as shown below are dependent on temperature. Refer to chart below for adjustment factors.

COUPLINGS:

7200 Series Two Piece Crimp page 378.
Contact RYCO for assembly instructions.

RT7-M HOSE WORKING PRESSURES AND DIMENSIONS

RT7 - M TEST HOSE													
PART NO	HOSE SIZE	NOMINAL HOSE ID	NOMINAL HOSE OD	MAXIMUM WORKING PRESSURE ¹	MINIMUM BEND RADIUS ²	AVERAGE WEIGHT	COUPLING SERIES TWO-PIECE						
Hose	DN	Dash	mm	inch	mm	inch	bar	psi	mm	inch	kg/m	lb/ft	NON-SKIVE
RT7-M02	2	-02	2,0	5/64	5,0	0.17	630	9135	20	0.79	0,016	0.011	7200
RT7-M04	4	-04	4,0	5/32	8,6	0.34	380	5510	40	1.57	0,042	0.028	7200

NOTE:

1) PRESSURES are for temperature of +30°C to +50°C (+86°F to +122°F).
If working temperature is not in this range, use the working pressures as shown in the table below.
2) Minimum Bend Radii, when operating at temperatures at or below -20°C (-4°F) are; RT7-M02 = 30mm (1.18"); RT7-M04 = 60mm (2.36").

PART NO	FROM -35°C TO 0°C (-31°F TO +32°F)		FROM 0°C TO 30°C (+32°F TO +86°F)		FROM +30°C TO +50°C (+86°F TO +122°F)		FROM +50°C TO +80°C (+122°F TO +176°F)		FROM +80°C TO +100°C (+176°F TO +212°F)	
	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
RT7-M02	768	11140	693	10050	630	9135	542	7860	485	7030
RT7-M04	463	6710	418	6060	380	5510	327	4740	293	4250

R1621/R1622 - TEST HOSE ASSEMBLIES

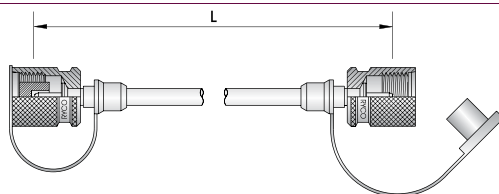
Two combinations of hose couplings with **RT7-M02** Test Hose Assemblies are available as easy to order assemblies:

HOSE ASSEMBLY R1621-XXXX

7262-M0216 (M16x2,0) swivels both ends (replace xxxx with the length required in mm)

Standard lengths available are:

R1621-200, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000, 4000, 5000, 6000

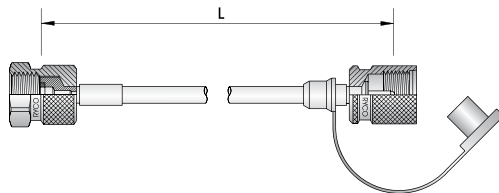


HOSE ASSEMBLY R1622-XXXX

7262-M0216 (M16x2,0) swivel one end, 7202G-M0204 (1/4" BSP Gauge) swivel other end (replace xxxx with the length required in mm)

Standard lengths available are:

R1622-200, 400, 600, 800, 1000, 1200, 1500, 2000, 2500, 3000, 4000, 5000, 6000



OTHER COUPLING COMBINATIONS

Other couplings combinations can be ordered as hose assemblies using, Hose Part No*Length*Coupling End 1*Coupling End 2 for example **RT7-M02*3000*7204-M0207*7262-M0216**

ACCESSORIES

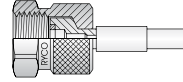
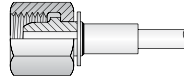
R1620 EASY TEST – COUPLINGS FOR TEST HOSES

BSP/BSP GAUGE

7202

7202G

PLASTIC PLUG INCLUDED



HOSE PART NO	THREAD SIZE	DASH SIZE	BSPP FEMALE SWIVEL 60° CONE SEAT	BSPP FEMALE SWIVEL GAUGE SEAT
	inch		PART NO	PART NO
RT7-M02	1/4	-M0204	7202-M0204	7202G-M0204
RT7-M02	1/2	-M0208		7202G-M0208
RT7-M04	1/4	-M0404	7202-M0404	7202G-M0404

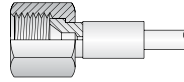
JIC

7204

ACCESSORIES

750-M

PLASTIC PLUG INCLUDED



HOSE PART NO	THREAD SIZE	DASH SIZE	JIC FEMALE SWIVEL 37° SEAT
	inch		PART NO
RT7-M02	7/16	-M0207	7204-M0207
RT7-M02	9/16	-M0209	7204-M0209
RT7-M04	7/16	-M0407	7204-M0407
RT7-M04	9/16	-M0409	7204-M0409

HOSE PART NO	BEND RESTRICTOR SPRING
	PART NO
RT7-M02	750-M02
RT7-M04	750-M04

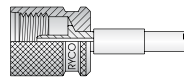
METRIC M16X2,0

7262

ACCESSORIES

CP01

CP01-M02
PLASTIC PLUG INCLUDED



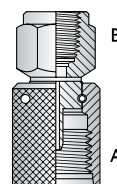
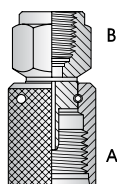
HOSE PART NO	THREAD SIZE	DASH SIZE	METRIC SUITS M16X2,0 TEST POINT
	mm		PART NO
RT7-M02	M16x2,0	-M0216	7262-M0216
RT7-M04	M16x2,0	-M0416	7262-M0416

HOSE PART NO	PLASTIC PLUG M16X2,0 WITH PLASTIC COLLAR
	PART NO
RT7-M02	CP01-M02

NOTE: CP01-M02 is included with 7262-M0216. 750-M Spring must be ordered separately.

DIRECT GAUGE ADAPTORS
C81
C81N
PLASTIC PLUG INCLUDED

Direct Gauge Adaptors allow the connection of a Pressure Gauge directly to a Test Point. The Pressure Gauge can be oriented to face any particular direction by adjustment of the Swivel Nut.

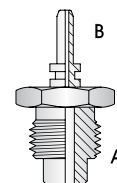
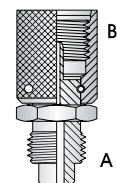
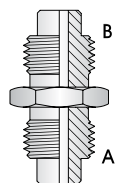


THREAD SIZE		DASH SIZE	M16X2,0 FEMALE BSPP FEMALE	M16X2,0 FEMALE NPT FEMALE
A	B			
	inch		PART NO	PART NO
M16x2,0	1/4 BSPP	-1604	C81-1604	
M16x2,0	1/2 BSPP	-1608	C81-1608	
M16x2,0	1/4 NPT	-1604		C81N-1604

JOINER/CONVERSION ADAPTORS
C27
C80
C99
PLASTIC PLUG INCLUDED

Joiners allow the connection of two female hose couplings with M16x2,0 threads.

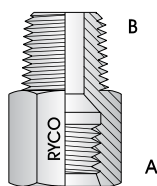
Conversion Adaptors allow the interconnection of other series of Test Points with threads other than M16x2,0.



THREAD SIZE		DASH SIZE	JOINER	CONVERSION ADAPTOR	CONVERSION ADAPTOR
A	B				
			PART NO	PART NO	PART NO
M16x2,0	M16x2,0	-1616	C27-1616		
S12,65x1,5	M16x2,0	-1216		C80-1216	
M16x2,0	S12,65x1,5	-1612		C80-1612	
M16x2,0	M16x1,5	-1615		C80-1615	
M16x2,0	PLUG IN	-16SK			C99-16SK

REDUCING ADAPTOR
C24

C24-1004 can be used with many other RYCO M and S Series adaptors, allowing **R1620-MR10** Test Points to be plumbed into the hydraulic system.



THREAD SIZE		DASH SIZE	M10X1,0 FIXED FEMALE BSPT MALE
A	B		
			PART NO
M10x1,0	1/4	-1004	C24-1004

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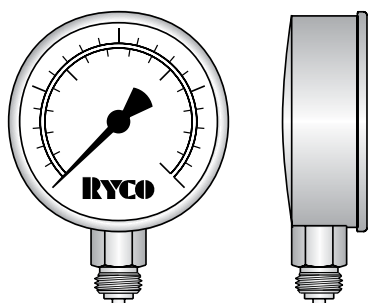
TECHNICAL

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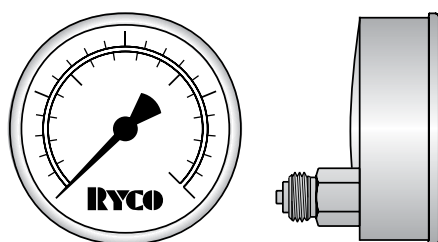
R1620 - RG01 PRESSURE GAUGE AND TEST KITS

RG01 PRESSURE GAUGE FOR R1620 EASY TEST

63 MM & 100 MM



RG01 & RG11 BOTTOM ENTRY



RG02 & RG12 REAR ENTRY

TECHNICAL DATA

CASE:

Stainless Steel.
O Ring seal between case and entry stem.
Pressure relief in case top.

RG01 & RG02: 63 mm

RG11 & RG12: 100 mm.

WINDOW:

Clear plastic.

SCALE MARKINGS:

Dual scale. Marked in bar (outer scale) and psi (inner scale).

CONNECTING THREAD:

RG01: Brass, bottom entry 1/4" BSPP.

RG02: Brass, rear entry 1/4" BSPP.

RG11: Brass, bottom entry 1/2" BSPP.

RG12: Brass, rear entry 1/2" BSPP.

DAMPING:

Glycerine filled.

ACCURACY CLASS:

RG01 & RG02: ±1.6% of full scale, per EN 837-1/6

RG11 & RG12: ±1.0% of full scale, per EN 837-1/6

Test Certificate available on request (charges apply).

OPERATING TEMPERATURE RANGE:

From -20°C to +60°C (-4°F to +140°F).

WORKING PRESSURE:

	63 MM GAUGES	100 MM GAUGES
Steady:	3/4 of full scale value	full scale value
Fluctuating:	2/3 of full scale value	90% of full scale value
Short time:	full scale value	130% of full scale value

NOTE: A Triangle symbol is marked on the face of the Pressure Gauge at the reading for steady operation. The Pressure Gauge must not be continually subjected to pressures above this reading in accordance with the guidelines above, or damage to the Bourdon Tube may occur.

PRESSURE RANGE	DASH SIZE	63 MM DIAMETER 1/4" BSPP		100 MM DIAMETER 1/2" BSPP	
		BOTTOM ENTRY	REAR ENTRY	BOTTOM ENTRY	REAR ENTRY
bar		PART NO	PART NO	PART NO	PART NO
-1 to 3	-003	RG01-003	RG02-003	RG11-003	RG12-003
0 to 10	-010	RG01-010	RG02-010	RG11-010	RG12-010
0 to 16	-016	RG01-016	RG02-016	RG11-016	RG12-016
0 to 25	-025	RG01-025	RG02-025	RG11-025	RG12-025
0 to 40	-040	RG01-040	RG02-040	RG11-040	RG12-040
0 to 60	-060	RG01-060	RG02-060	RG11-060	RG12-060
0 to 100	-100	RG01-100	RG02-100	RG11-100	RG12-100
0 to 160	-160	RG01-160	RG02-160	RG11-160	RG12-160
0 to 250	-250	RG01-250	RG02-250	RG11-250	RG12-250
0 to 400	-400	RG01-400	RG02-400	RG11-400	RG12-400
0 to 600	-600	RG01-600	RG02-600	RG11-600	RG12-600

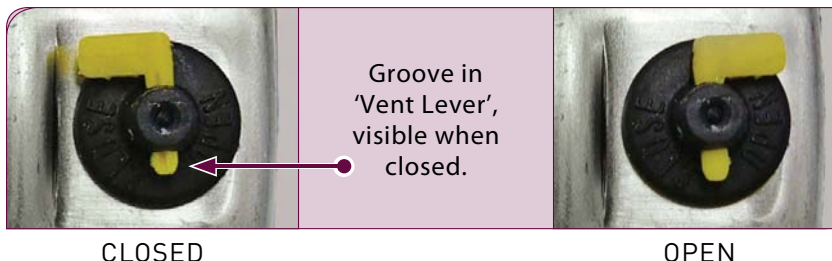
R1620 - RG01 PRESSURE GAUGE AND TEST KITS

CASE PRESSURE RELIEF INSTRUCTIONS

RYCO Pressure Gauges feature a Case Pressure Relief to allow the Bourdon Tube to expand and contract during operation.

During normal operation, the yellow 'Vent Lever' needs to be moved to the 'OPEN' position to allow the case to 'breathe', see picture on right.

NOTE: On initial supply the indicator may not be on 'zero', to correct this simply open the 'Vent Lever' to relieve the case pressure.



INTRODUCTION

HOSE

WALL AND PANEL MOUNT BRACKETS AND FLANGES



PART NUMBER	DESCRIPTION
RG01-WMOUNT	BRACKET WALL MOUNT 63MM GAUGE
RG02-FMOUNT	FLANGE 3H PANEL MOUNT 63MM REAR ENTRY
RG02-PMOUNT	BRACKET PANEL MOUNT 63MM REAR ENTRY
RG11-WMOUNT	BRACKET WALL MOUNT 100MM GAUGE
RG12-FMOUNT	FLANGE 3H PANEL MOUNT 100MM REAR ENTRY
RG12-PMOUNT	BRACKET PANEL MOUNT 100MM REAR ENTRY

COUPLINGS

ADAPTORS

RG01-COVER/RG11-COVER PRESSURE GAUGE COVERS

RECOMMENDED FOR:

Helps protect RYCO Pressure Gauges in situations where they may be subjected to knocks in harsh environments. The cover easily fits over the Pressure Gauge; installation can be prior to, or after connecting the Pressure Gauge.

RG01-COVER suits RG01 & RG02 Series 63 mm Gauges,
RG11-COVER suits RG11 & RG12 Series 100 mm Gauges.

CONSTRUCTION:

Blue, synthetic rubber.



ACCESSORIES

FILTERS

PRESSURE TEST KITS

R1620 EASY TEST Test Points, InLine Test Point Adaptors, Test Hoses, Adaptors and Pressure Gauges supplied in a Protective Case are available. Contact RYCO Customer Service Department for details.

TECHNICAL