

Section 6:

SCHROEDER CHECKS

Schroeder Check Test Point System

Introduction

Schroeder Check test points provide a fast easy and safe way to test pressures up to 10,000 psi (680 bar) in hydraulic systems under operation. They are available in both 1620 (M16x20) and 1215 (M12x1.5) reverse buttress connections threads with a variety of screw port threads. The standard poppet style features a primary and secondary seal, providing for absolute sealing of fluid. The design allows connection by hand at pressures up to 10,000 psi (680 bar) without any loss of fluid. Metal caps and Buna seals are standard and each hydraulic test point is individually checked for quality assurance.

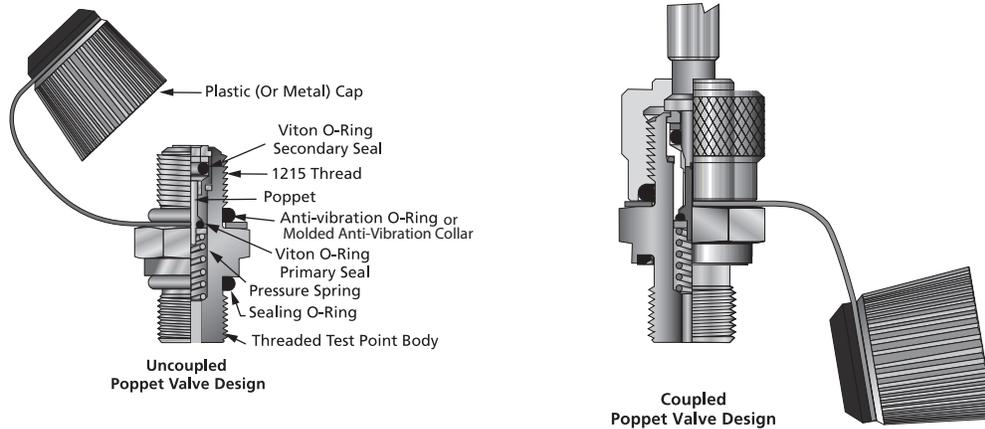
In addition to functioning as a secure access point for checking pressure, they can also be effectively used for collecting oil samples for subsequent testing or bleed air from a hydraulic system. Schroeder check test point can be used in conjunction with gauge adapters, pressure gauges, microflex hoses, and pressure gauge test kits.

Our hydraulic test point design allows easy, comfortable, and safe access to high pressure system enabling measuring, sampling, and filling without interfering with installation. Even connect and disconnect sensors at running installation for easy diagnosis and fluid condition monitoring.

Benefits

- No mess, no-leak design means sealing is complete before connection is made to hydraulic system.
- No tools - simply hand tighten gauge, transducer or hose adapter onto Schroeder Check test points under full pressure to 10,000 psi (680 bar)
- No contamination - proper use of test points eliminates the introduction of contaminants into a hydraulic system

Schroeder Check Test Point System



Test Points

Test Points

Adapters

Hose Joiners

Schroeder Check Test point provide an easy, efficient and Safe method for testing pressure up to 10,000 psi (680 bar) in a hydraulic system during operation. Available in 1620 threads as a standard and 1215 as an option, the test point are available in a variety threads for the circuit thread of the test point. Utilizing a dual seal poppet design, that incorporated a primary and secondary soft seal and a hard seal on the end of the piston Schroeder Check Test points are capable of sealing completely allowing no leakage in hydraulic applications. This design permits connection of Microflex hoses in tandem with the Schroeder Check test point during machine operation safely by hand up to 10,000 psi (680 bar) with no loss of fluid. All Schroeder Check Test Points are equipped with a standard Metal (or Plastic) cap.

In Addition to serving as a secure access point for checking pressure during trouble shooting, test points can also be used to obtain oil samples for testing or to bleed air from a hydraulic circuit. Schroeder Check test points can be used in conjunction with gauge adapters, pressure gauges, Microflex hoses and the pressure gauge kits.

Description

Microflex Hose

Pressure Limiters

Test Kits

- No Mess
No-leak design means sealing is complete before connection is made to hydraulic system.
- No Tools
Simply hand tighten gauge, transducer or hose adapter onto Schroeder Check test points under full pressure to 10,000 psi (680 bar).
- No Contamination
Proper use of test points eliminates the introduction of contaminants into a hydraulic system.

Features

Pressure Gauges

GS

- Fluid sampling
- Air bleeding
- Connection for diagnostic products

Applications

Reservoir Breather
Fluid Sampling Adapter

Maximum Working Pressure: 10,000 psi (680 bar)

Materials: Standard Body: S12L14 AS 1442 (AISI-SAE composition)

Metal Cap: S12L14 AS 1442 (AISI-SAE composition)

Poppet: S12L14 AS 1442 (AISI-SAE composition)

Secondary Seal: Viton

Ball: Hard Chrome

Seat: Stainless Steel 316

Operating Temperature Range: -22°F to +275°F (-30°C to +135°C)

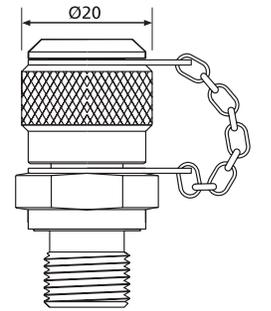
Optional materials include stainless steel body and stainless steel poppet.

Specifications

Probalizer

Schroeder Check Test Point System

G Thread	Sealing System	Part Number
1/8" NPT	Thread	SP1620NPT18VM
1/4" NPT	Thread	SP1215NPT14VSSM SP1620NPT14VM
5/16"-24 UNF	Viton O-Ring	SP1215UN716VM
7/16"-20 UNF	Viton O-Ring	SP1620UN716VM SP1215UN716VSSM
9/16"-18 UNF	Viton O-Ring	SP1620UN916VM
1/8" BSPP	WD Seal NBR	SP1620G18WDM
1/4" BSPP	WD Seal NBR	SP1620G14WDM

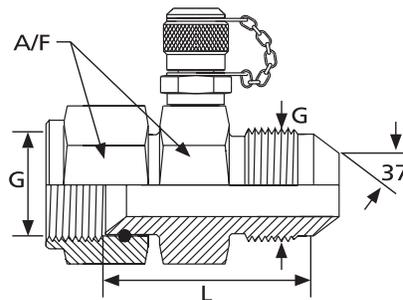


Test Point with metal cap

SP = Test point with poppet valve; SS = Stainless Steel; M = Metal Cap;
 FP = Female Poppet
 P = Plastic Cap
 All Test Points have Viton® seals.

Preferred order codes designate shorter lead times and faster delivery.

JIC Male/ Female In-Line Test Points

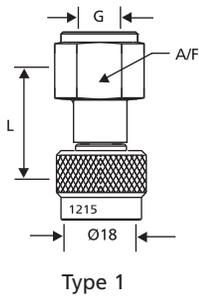


JIC according to SAE J514.
 Male/female threads of the same size.

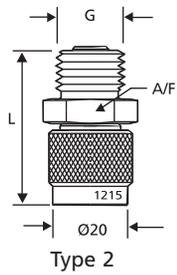
G Thread	Tube/Pipe dia	ΔP (max) psi (bar)	L in (mm)	A/F in (mm)	Part Number
7/16"-20 UNF	1/4"	4500 (315)	1.38 (35)	.51 (13)	SP1215L04JICP SP1620L04JICM
9/16"-18 UNF	3/8"	4500 (315)	1.38 (35)	.63 (16)	SP1215L06JICP SP1620L06JICM
3/4"-16 UNF	1/2"	4500 (315)	1.50 (38)	.83 (21)	SP1215L08JICVP SP1620L08JICM
1-1/16"-12 UNF	3/4"	4500 (315)	1.89 (48)	1.06 (27)	SP1215L12JICVP SP1620L12JICM
1-5/16"-12 UNF	1"	4500 (315)	1.97 (50)	1.38 (35)	SP1215L16JICP SP1620L16JICM

Preferred order codes designate shorter lead times and faster delivery.

Schroeder Check Test Point System



Type 1



Type 2

There is no internal check valve in these parts. They are used to connect gauges and pressure transducers directly onto test points without use of Schroeder Microflex hose.

G Thread	Type	ΔP (max) psi (bar)	L in (mm)	A/F in (mm)	Part Number
1/4" NPT	1	10,000 (680)	0.83 (21)	0.75 (19)	S1215DCNPT14
					S1215DCNPT14SS S1620DCNPT14
1/4" BSPP	1	10,000 (680)	0.83 (21)	0.75 (19)	S1215DCG14CU S1620DCG14CU
					S1215DCUN716 S1620DCUN716
7/16" UNF	1	10,000 (680)	0.83 (21)	0.75 (19)	S1215DCUN716 S1620DCUN716
1/4" NPT	2	10,000 (680)	0.83 (21)	0.75 (19)	S1215DCMNPT14

Preferred order codes designate shorter lead times and faster delivery.

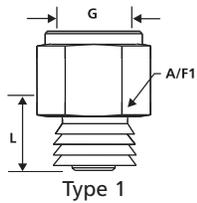
Direct Gauge Adapters

Test Points

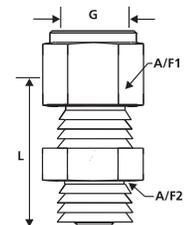
Adapters

Hose Joiners

Microflex Hose



Type 1



Type 2

There is no internal check valve in this arrangement. Type 1 is for direct connection of gauge to hose. Type 2 is for bulkhead connection of gauge to hose with bulkhead mounting.

G Thread	Type	Gauge Seal	L in (mm)	A/F1 in (mm)	A/F2 in (mm)	Part Number
1/4" NPT	1	Thread	1.34 (34)	0.75 (19)	—	S1215GANPT14
						S1620GANPT14

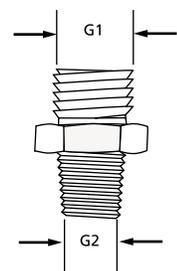
Preferred order codes designate shorter lead times and faster delivery.

Gauge to Hose Adapters

Pressure Limiters

Test Kits

Pressure Gauges



There is no internal check valve in this arrangement.

G1 Thread	G2 Thread	Part Number
M12 x 1.5	1/8" NPT Male	S1215NPT18P
M12 x 1.5	1/4" NPT Male	S1215NPT14
M12 x 1.5	1/4" NPT Male	S1215NPT14P

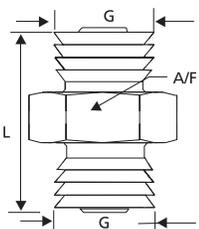
P = Plastic Cap

Preferred order codes designate shorter lead times and faster delivery.

Change-Over Adapters

GS

Reservoir Breather Fluid Sampling Adapter



G Thread	ΔP (max) psi (bar)	L in (mm)	A/F in (mm)	Part Number
System 1215	10,000 (680)	1.54 (39)	0.55 (14)	SJ1215
System 1620	10,000 (680)	1.54 (39)	0.55 (14)	SJ1620

Preferred order codes designate shorter lead times and faster delivery.

Hose Joiners

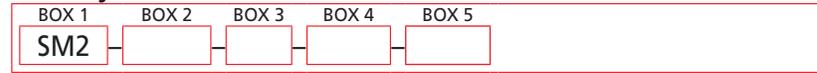
Probalizer

Schroeder Check Test Point System

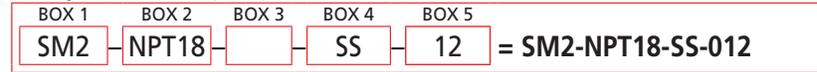
Microflex Hoses

Perforated polyamide / kevlar hose, 2 mm ID, 5 mm OD, plastic dust cap.
Rated Differential Pressure 10,000 psi/680 bar max

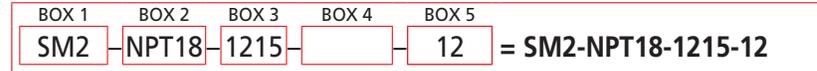
How to Build a Valid Model Number for a Schroeder Check Test Point System:



Example: NOTE: One option per box



Example: NOTE: One option per box



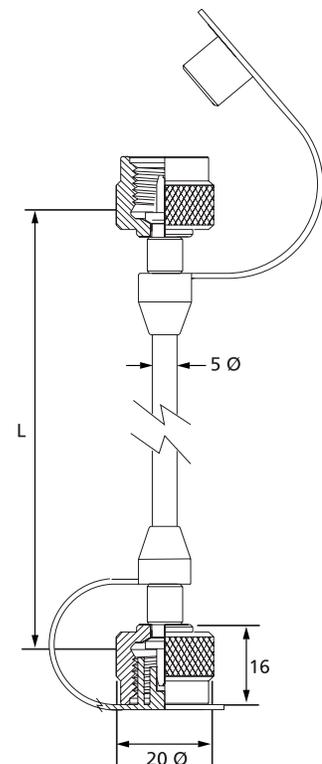
BOX 1	BOX 2	BOX 3
MicroHose Diameter	Hose End System (1st End)	Hose End System (2nd End)
SM2	1620	1620
SM4	1215	1215
	NPT18 = 1/8 NPT (Male) Hose End	NPT18 = 1/8 NPT (Male) Hose End
	NPT14 = 1/4 NPT (Male) Hose End	NPT14 = 1/4 NPT (Male) Hose End
	NPFS14 = 1/4 NPT (Female Swivel) Hose End	NPFS14 = 1/4 NPT (Female Swivel) Hose End
	J716 = 7/16 UNF (Male) Hose End	J716 = 7/16 UNF (Male) Hose End
	JFS716 = 7/16 UNF (Female Swivel) Hose End	JFS716 = 7/16 UNF (Female Swivel) Hose End
	J916 = 9/16 UNF (Male) Hose End	J916 = 9/16 UNF (Male) Hose End
		Omit = Same as 1st end

BOX 4	BOX 5
Hose End Material Option	Length (inches)
Omit = Carbon Steel	6
SS = Stainless Steel	12
	24
	36
	48
	72
	96

Preferred order codes designate shorter lead times and faster delivery.

4mm hoses are available for use with the TMU to allow adequate flow.

L in (mm)	ΔP (max) psi (bar)	Part Number
6 (200)	10,000 (680)	SM4-1620-06
12 (300)	10,000 (680)	SM4-1620-12
35 (890)	10,000 (680)	SM4-1620-35
71 (1800)	10,000 (680)	SM4-1620-71



Schroeder Check Test Point System



- Schroeder Pressure Test Kits are available in four configurations as shown below. Highest quality components were selected for versatility and long service life. Contents of each kit are listed below.
- The optional gauge range should be specified using the order code shown above.
For example: UB102-1-2 specifies one (1) 100 psi gauge and one (1) 200 psi

UB101-(*)	UB102-(*)-(*)	UB103-(*)-(*)-(*)	UB106-(*)-(*)-(*)-(*)-(*)-(*)
1 U401 Gauge (*)	2 U401 Gauges (*)-(*)	3 U401 Gauges (*)-(*)-(*)	6 U401 Gauges (*)-(*)-(*)-(*)-(*)-(*)
1 Microflex Hose 36"	2 Microflex Hoses 36"/72"	3 Microflex Hoses 12"/36"/72"	6 Microflex Hoses, 2x12"/2x36"/2x72"
1 Hose Joiner	1 Hose Joiner	1 Hose Joiner	3 Hose Joiners
1 (Hose) Gauge Adapter	1 (Hose) Gauge Adapter	1 (Hose) Gauge Adapter	3 (Hose) Gauge Adapters
1 Direct Gauge Adapter	1 Direct Gauge Adapter	1 Direct Gauge Adapter	3 Direct Gauge Adapters
3 Schroeder Check Test Points:	6 Schroeder Check Test Points:	6 Schroeder Check Test Points:	12 Schroeder Check Test Points:
1 ea. 1/4" NPT	2 ea. 1/4" NPT	2 ea. 1/4" NPT	4 ea. 1/4" NPT
1 ea. 7/16" UNF	2 ea. 7/16" UNF	2 ea. 7/16" UNF	4 ea. 7/16" UNF
1 ea. 9/16" UNF	2 ea. 9/16" UNF	2 ea. 9/16" UNF	4 ea. 9/16" UNF

Pressure test kits are also available with U400 all stainless steel gauges. Part numbers are U101-(*), U102-(*)-(*)...etc.



Custom Test Kits are designed for many special requirements. Utilizing components from Schroeder gauge and pressure test kits, these boxes are constructed for reliability and precision.

For additional information on custom test kits, please consult factory.



1/4" NPT Standard 2-1/2" Case

With the Schroeder Check System, one top quality gauge can do the work previously done by many. Compromising on low cost, short life gauges with questionable accuracy is no longer necessary. A series of precision instruments, Schroeder gauges are fluid filled with full scale accuracy of $\pm 1.5\%$ (or better). Dual scale dial has a non-reflective white background and a high contrast matte black pointer. Cases and connections are stainless steel, internals are brass. Ideal for most liquids and gases under pressure or vacuum where contact with the liquid filling would not be hazardous. For additional applications, information, and pressure ranges, please consult the factory.

Part Number	Pressure	Order Code (needed for test kits)
U401-30/100-01*	30 in Hg VAC to 100 psi (6.9 bar)	0
U401-100-01	0 to 100 psi (6.9 bar)	1
U401-200-01	0 to 200 psi (13.8 bar)	2
U401-600-01	0 to 600 psi (41.2 bar)	6
U401-1000-01	0 to 1000 psi (70.0 bar)	10
U401-1500-01	0 to 1500 psi (103.0 bar)	15
U401-3000-01*	0 to 3000 psi (207.0 bar)	30
U401-5000-01	0 to 5000 psi (345.0 bar)	50
U401-6000-01*	0 to 6000 psi (414.0 bar)	60
U401-10000-01	0 to 10000 psi (689.0 bar)	100

*Also available is U400-XXX-01 gauge, identical to U401 except with stainless steel internals.

Preferred order codes designate shorter lead times and faster delivery.

Schroeder Pressure Test Kits

Test Points

Adapters

Part Number

Hose Joiners

Microflex Hose

Pressure Limiters

Schroeder Custom Test Kits

Test Kits

Pressure Gauges

Pressure Gauges

GS

Part Number

Reservoir Breather Fluid Sampling Adapter

Probalizer

Multi-Gauge

GS Multi-Gauge



P/N GS-5



P/N GS-6U

Description

The Schroeder Multi-Gauge provides multiple pressure readings for hydraulic, transmission, and converter systems all in one compact enclosure. While one terminal connects all three gauges, the built-in gauge protector automatically protects the low and medium pressure gauges from high pressures. Each gauge is equipped with a high quality poppet valve. The Multi-Gauge is available with two types of connections: (1) the standard braided copper, flexible high pressure hose with male 1/8" pipe universal swivel fitting and (2) microbore flexhose and test point adapter (specified by U in the part number).

Features

- **Protects against overpressurization.** The 150 psi gauge can not be damaged when a 2500 psi system is being checked. This design feature eliminates the need to know the pressure before testing.
- **Simple yet rugged construction.** The dust and moisture proof steel case is provided with a rubber bumper for shock protection. A hanger is also provided on the case back for the user's convenience.
- **Compact and portable.** The GS-5 and GS-6 models are 6-1/2" and 8-1/2" in diameter. The GS-5 fits easily into the average tool box for instant availability.
- **Saves time.** The three pressure ranges and one vacuum range provided in one case meet most routine hydraulic maintenance requirements.

Specifications

	GS-5 & GS-5U	GS-6 & GS-6U
Case Diameter:	6.31 in (160 mm) O.D.	8.50 in (216 mm) O.D.
Gauge Diameter:	1.50 in (38 mm) O.D.	1.50 in (38 mm) O.D.
Approximate Weight:	3.25 lbs (1.47 kg)	4.5 lbs (2.0 kg)
Range:	Vacuum (30" Hg) to 5000 psi (345 bar)	Vacuum (30" Hg) to 6000 psi (3413 bar)
Case:	Steel with rubber bumper strip	Steel with rubber bumper strip
Vacuum Gauge:	30 in Hg	30 in Hg
Pressure Gauges:	0 to 150 psi (10 bar) 0 to 600 psi (41 bar) 0 to 5000 psi (345 bar)	0 to 300 psi (21 bar) 0 to 1000 psi (69 bar) 0 to 6000 psi (414 bar)

Model Number Selection

How to Build a Valid Model Number for a Schroeder GS:

BOX 1	BOX 2
GS	

Example: ???

BOX 1	BOX 2
GS	5U

BOX 1	BOX 2
Model	Options
GS	5 Standard Multi-Gauge 5U Multi-Gauge with Microbore Flexhose and Test Point Adapter 6 Multi-Gauge with 2-1/2" Liquid Filled Gauges 6U Multi-Gauge with 2-1/2" Liquid Filled Gauges, Microbore Flexhose and Test Point Adapter

Probalizer Sampling Test Point



The Probalizer Sampling Test Point provides a point of access for obtaining representative fluid samples from an operational hydraulic system. The downstream channel is specially sized to accept the sampling probe from a customized cap/probe assembly screwed onto a sample bottle. (See photo). Use of this system minimizes leakage and helps to maintain the integrity of the sample.

Bottle and cap sold separately under P/N LF-7374.

Part Number: LF-7611

Flow Rate: 400 mL/min @ 35 psi; 1000 mL/min @ 100 psi

Burst Pressure: 4500 psi (310 bar) min

Sampling Pressure Range: 1 to 100 psi (0.07 to 6.89 bar)

Mounting Thread: 1/4" NPT

Part Number Selection

Part Number	Description
LF-7611	Probalizer Sampling Test Point
LF-7374	Bottle and cap (pictured above)

Adjustable Pressure Limiters

The Schroeder Pressure Limiters are engineered to pressure gauges, pressure switches, transducers, and any pressure sensitive component from system shocks and spikes utilizing a high speed valve ideal for protecting downstream components. Preset at the factory, the Schroeder Pressure Limiter is supplied in any of six standard ranges.

Standard seals are Viton® with other sealing materials available on request.

Housing is aluminum, other parts are zinc-plated steel.

Gauge Connector is 1/4" NPT Female.

Part Number	Adjustable Range
U1200-01-01	75 to 150 psi (5.2 to 10.4 bar)
U1200-01-02	150 to 350 psi (10.4 to 24.1 bar)
U1200-01-03	350 to 1000 psi (24.1 to 69.0 bar)
U1200-01-04	1000 to 1500 psi (69.0 to 103.0 bar)
U1200-01-05	1500 to 3600 psi (103.0 to 248.0 bar)
U1200-01-06	3600 to 6000 psi (248.0 to 414.0 bar)

Note: All units shipped will be preset at the minimum pressure of its range, unless otherwise specified at time of purchase.