

# *Quick Coupling Diagnostic Products*

## Introduction

### Diagnostic Products



Increasing productivity and profitability are the key elements for a company to successfully compete in the world market today.

Reduced machine downtime during initial set-up, trouble shooting and maintenance procedures means increased productivity for you. That's why Parker provides the most complete line of hydraulic and pneumatic diagnostic equipment available today.

With Parker diagnostic equipment you can take critical measurements from your system with just a push of a button. Parker diagnostic instruments are designed to identify hard-to detect variations and peaks in pressures, temperatures and flow.

Parker diagnostic quick couplings and nipples allow quick

and easy access into hydraulic or pneumatic systems at remote test points without the use of tools.

Diagnostic nipples can be permanently installed in threaded test ports in hydraulic components such as valves, cylinders, accumulators, filters or pumps.

Diagnostic tube ends, used in conjunction with a 37° flare, bite type, or O-ring face seal tube fitting, will allow you to take pressure readings in your systems tubing and hose lines where threaded test ports may not currently be available.

From diagnostic nipples to digital readout and printing equipment, Parker can provide you, from over 600 stocking distributors, the tools necessary to increase your productivity through reduced machine downtime.

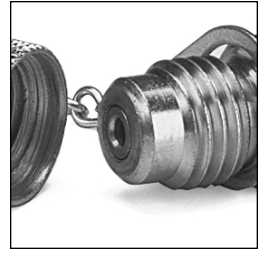
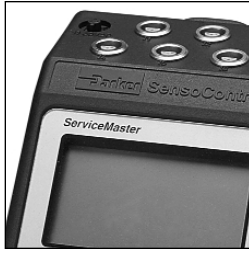
Function	Serviceman™ I	Serviceman™ II	ServiceMaster™ 350	ServiceMaster™ 450
Pressure Sensing	•	•	•	•
Flow Sensing	•1	•1	•1	•1
Temperature Sensing	•1	•1	•2	•2
Rotational Speed Sensing	•1	•1	•	•
Auxiliary Sensing	•	•	•	•
Pressure Differential	•	•	•	•
Automatic Sensor Recognition	•	•	•	•
Auto Power Off	•	•	•	•
Battery Monitoring	•	•	•	•
Rechargeable Ni-Cad Battery	•	•	•	•
9-Volt Alkaline Battery	•	•	•	•
PC Compatible (Windows)	•	•1	•1	•1
Minimum/Maximum Memory	•	•	•	•
Self Contained Memory	•	•	•	•
On-Line Data Transfer	•	•	•	•
Text Display (Lines)	1	1	8	8
Inputs	2	2	3	6
Data Points (Maximum in Memory)			125,000	250,000
Graphic LCD Display			•	•
Hydraulic Power Calculations			•	•
Volume Calculations			•	•

Notes: (1) Additional accessories are required to perform this function.

(2) Transducers provide an ambient temperature signal, but additional temperature probes are required for more accurate temperature measurements.

## Table of Contents

### Diagnostic Products



<b>Introduction</b> .....	<b>F-2</b>	<b>Test Port Couplings</b>	
<b>SensoControl® Serviceman™</b>		PD Series.....	F-18 – F-20
General.....	F-4	Couplers.....	F-19
Schematic.....	F-5	Nipples.....	F-19 – F-20
Technical Data.....	F-6	Tube End Nipples.....	F-20
Output Formats.....	F-7	PDFS Series - Fluid Sampling.....	F-21
Test Meter Kits.....	F-8, F-9	Couplers.....	F-21
<b>SensoControl® ServiceMaster™</b>		Nipples.....	F-21
General.....	F-10	PDP Series.....	F-22–F-23
Schematic.....	F-11	Couplers.....	F-22
Technical Data.....	F-12	Nipples.....	F-23
SensoControl® Transducer.....	F-13	Transducer Adapters.....	F-24
Output Formats.....	F-14	EMA3 Series.....	F-25
Test Meter Kits and Printer Kits.....	F-15, F-16	Nipples.....	F-25
<b>PDF Series Flow Sensors</b> .....	<b>F-17</b>	Gauge Adapter & Union.....	F-26
		Flexible Hose.....	F-26
		Ordering Information.....	F-27
		<b>Selection Guide</b> .....	<b>F-27</b>

## Diagnostic Products

**SensoControl® Serviceman™**  
General

Hand-held diagnostic meter to measure pressure, temperature, flow and rotational speed for hydraulic and pneumatic systems

- Easy operation
- Rugged design
- Compact dimensions
- Large display
- Auto sensor recognition
- MIN/MAX Memory
- Hold function
- Pressure differential
- Low power consumption
- Data output for PC\*
- External power supply\*

\*SCM-150-1-02 Only



The Serviceman™ SCM-150 from Parker is a modern portable diagnostic measuring system and an excellent alternative to conventional mechanical pressure gages.

The SCM-150 is a very rugged and durable test meter that can withstand even the most demanding environmental conditions. It comes with a protective rubber cover and integrated stand making it easy to operate as a hand-held unit or as a desktop display.

Operating the SCM-150 is very simple. Everything is controlled by eight easy to read push buttons. The two sensor inputs allow you to read pressure, temperature, flow and RPM. The automatic sensor recognition circuit properly displays the sensor connected to each of the inputs, eliminating complicated adjustments and calibrations on the meter. The unit also features a memory function that allows you to

store both minimum and maximum recorded values. Another very beneficial feature is the "pressure differential" function. This allows you to display the actual pressure drop between two different test points in the hydraulic or pneumatic system.

The Serviceman™ I is powered by a standard 9-volt alkaline battery and the Serviceman™ II by a rechargeable nicad battery system. The Serviceman™ II unit can also be connected to a 120 volt external power supply for continuous operation. The low power consumption allows these units to be used for extended periods of time independent of an external power supply.

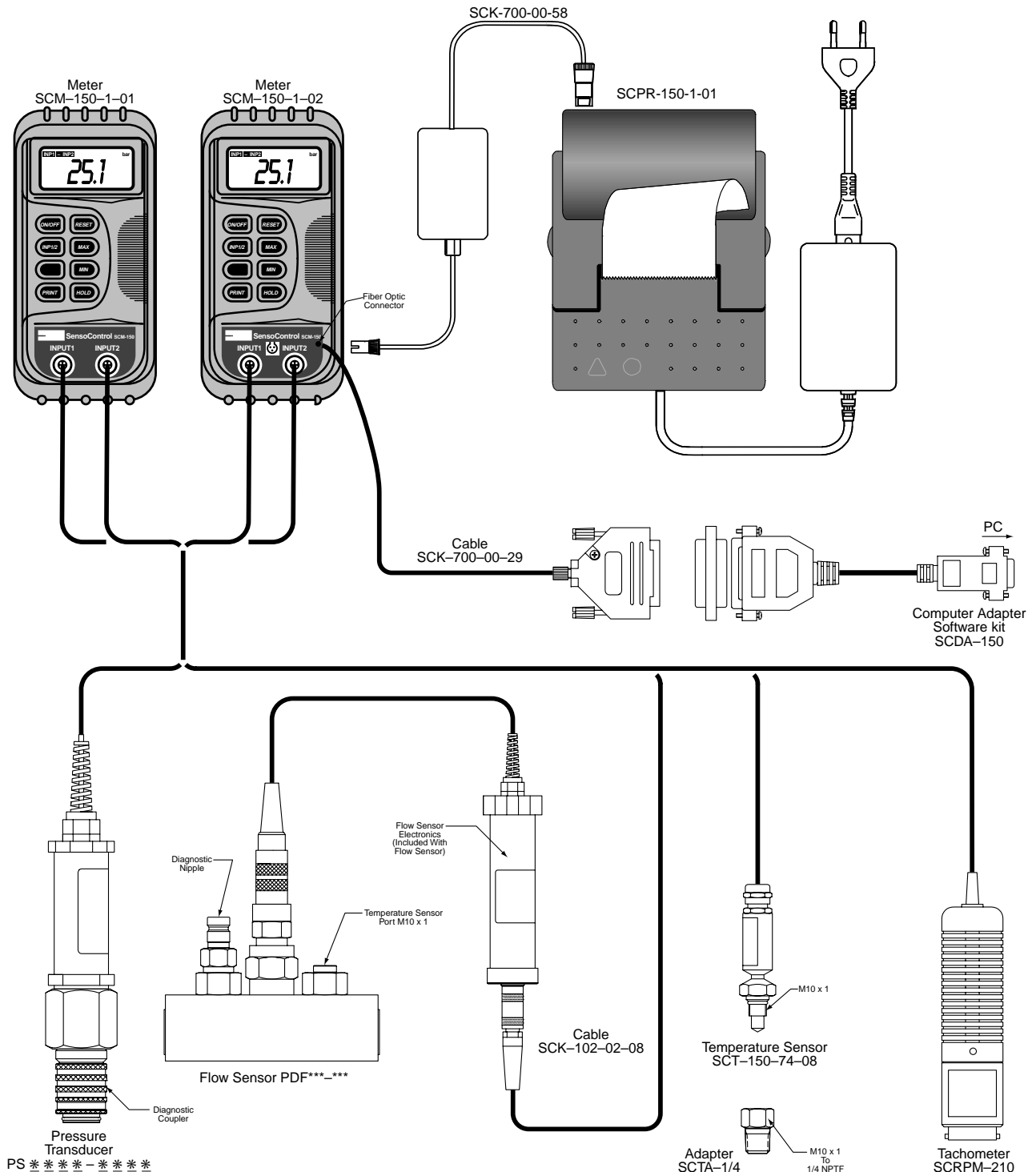
The Serviceman™ II can also be directly interfaced to an Excel spreadsheet via the auxiliary computer adapter and Serviceman™ software. The Parker Serviceman™ software is

compatible with all Windows 3.1 and Windows 95 operating systems.

These Serviceman™ kits are the ideal diagnostic tools for maintenance and service personnel in the industrial, mobile and agricultural markets. Increasing productivity and profitability are key elements to a company's success. These units will help reduce downtime by providing the best preventative maintenance and diagnostic data available.

Parker Hannifin provides the most complete line of hydraulic and pneumatic diagnostic equipment available today. For more information or to receive a full demonstration, contact the Quick Coupling Division or your local distributor.

**SensoControl® Serviceman™**  
 Measure and Document Flow, Pressure,  
 Temperature and Rotation Speed



F Diagnostic

**Diagnostic Products**

**Technical Data**

**Meter**

- 4 Digit LCD Text Display
- 13 mm Character Height
- Display of Pressure, Temperature, Flow and Rotational Speed
  - Pressure in PSI and Bar
  - Temperature in °F and °C
  - Flow in GPM and l/min.
  - Rotational Speed in RPM
- Automatic Sensor Recognition
- 2 ms Scanning Rate

**Housing**

- ABS Plastic Housing
- Protective Rubber Cover
- Carrying Strap
- Integral Stand

**Inputs**

- Two 4-pin Round plugs
- 0-3 Volts (R=470 kΩ)
- 12 Bit A/D Converter

**Ambient Conditions**

- Operating Temperatures  
32°F to 122°F (0°C to 50°C)
- Storage Temperatures  
-4°F to 140°F (-20°C to 60°C)

**Output** (SCM-150-1-02 Level II meter only)

- SC Infrared Interface (RS232C) to transfer measured values to a PC. The SCDA-150 software and adapter kit is required for data transfer to a PC.

**Power Requirements**

- SCM-150-1-01 (Level I)
  - 9 Volt Alkaline Battery Only
  - 20 ma Current Consumption
- SCM-150-1-02 (Level II)
  - 9 Volt Rechargeable Ni-Cad Battery
  - Recharge circuit for use with external power supply.
  - Use part number SCSN-450 for operating the meter.

**Pressure Transducers**

**Pressure Ranges**

- **PS \*\*\* TA-015**  
-14.5 to 220 PSI (-1 to 15 Bar)
- **PS \*\*\* TA-100**  
0 to 1450 PSI (0 to 150 Bar)
- **PS \*\*\* TA-1000**  
0 to 14,500 PSI (0 to 1000 Bar)

**Note:** Transducer coupler must be specified when being ordered. Maximum pressure rating is based on diagnostic coupling selected.

**Construction**

- Piezo-Resistive Circuitry
- Stainless Steel Housing
- Stainless Steel Diaphragm
- Fluorocarbon Seals
- Integrated Cable Assembly

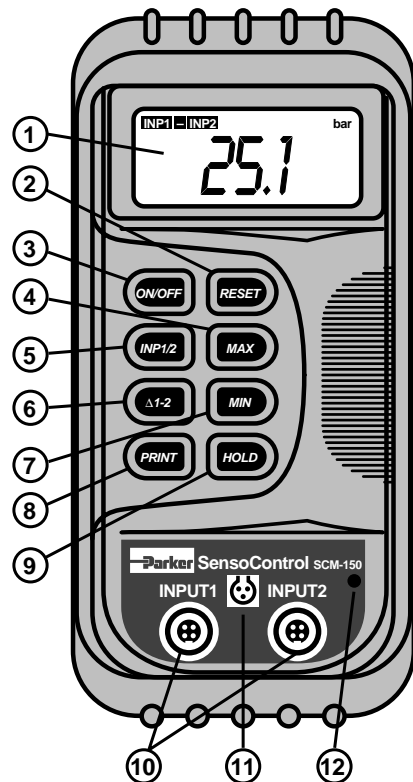
**Power Requirement**

- 7-12 Volt DC Excitation Voltage
- < 5 ma Current Requirement

**Output**

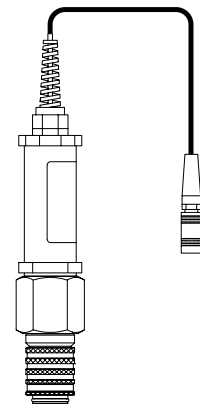
- 0-3 Volts DC
- < 1 ms Response Time
- 5 FS/a Long Term Stability
- < ± .03 FS Temperature Error
- < ± .08 FS Reproducibility
- 1% Accuracy Full Scale

**Functional Description SCM-150**



- 1 Measurement Display** (4-digit)
- 2 RESET** resets minimum and maximum values to zero
- 3 ON/OFF Switch**
- 4 MAX** displays maximum value since meter was last reset or turned on
- 5 INP1/2** selects whether meter will display measurement from Input 1 or Input 2
- 6 Δ1-2** displays the differential value of Input 1 minus Input 2
- 7 MIN** displays minimum value since meter was last reset or turned on
- 8 PRINT\*** sends displayed measurements to PC or printer
- 9 HOLD** freezes displayed measurement
- 10 Analog Inputs** (4 pin)
- 11 External Power Supply Socket\***
- 12 Data Output\*** infrared interface to transmit measured values to PC

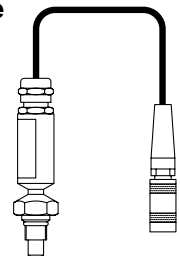
\* SCM-150-1-02 only



Transducer shown with PD Style Coupler option.

**Temperature Probe**

- **SCT-150-74-08**  
-80°F to 260°F  
(25°C to 125°C)



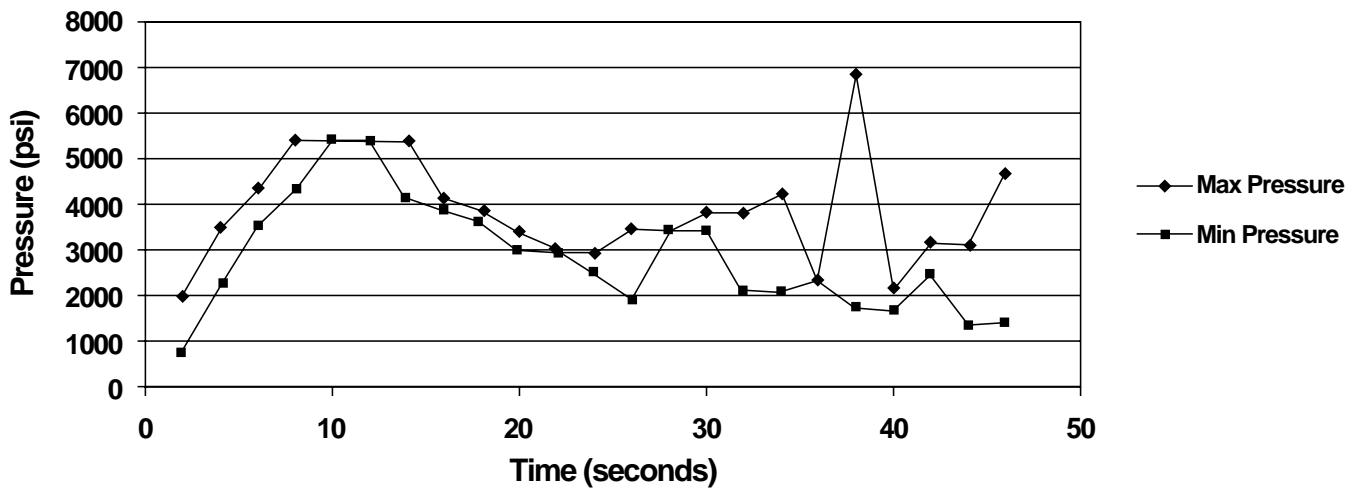
F Diagnostic

SCM-150 Data Recorder (SCDA-150)



Sample graph using Serviceman™ (SCDA-150) Data Recorder with Microsoft Excel™

### System Test #1



F Diagnostic



**SensoControl® Serviceman™**  
 Test Meter Kits

**Diagnostic Products**

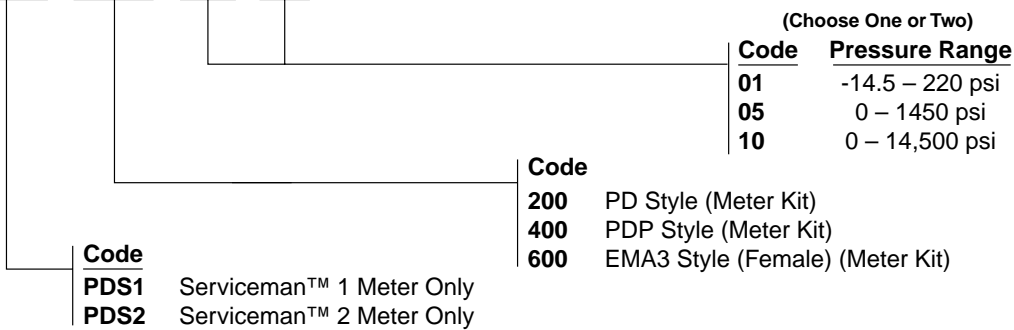
**Test Meter Kits**



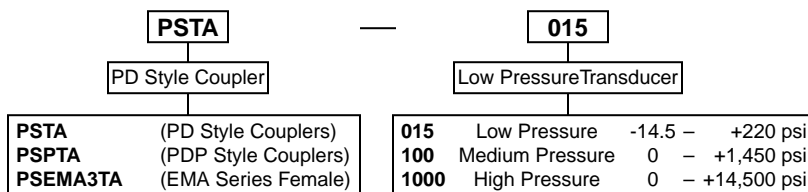
Part No. (Kit with one transducer)	PDS1- * * * - * *	PDS2- * * * - * *
Part No. (Kit with two transducers)	PDS1- * * * - * * - * *	PDS2- * * * - * * - * *
<b>Kit Contents</b>	<b>Serviceman™ Level 1 Meter Kit</b>	<b>Serviceman™ Level 2 Meter Kit</b>
Case	SC-500	SC-500
Serviceman™ Meter	SCM-150-1-01	SCM-150-1-02
Transducers (See Below/Qty. 2)	PS * * * - * * * *	PS * * * - * * * *
Power Supply - Meter		SCSN-450
Serviceman™ Instruction Manual	SCM150-TM	SCM150-TM

**Serviceman™ Kit Ordering Code**

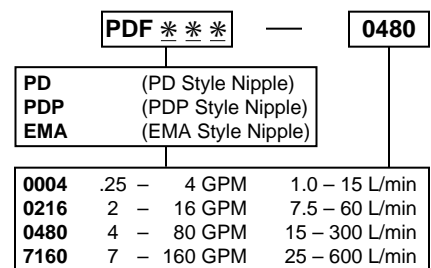
PD \* \* \* - \* \* \* - \* \* - \* \*



**Transducer Assembly Ordering Code**



**Flow Sensor Ordering Code (Generation II)**



F Diagnostic



**Diagnostic Products**

**Order Code**

Order No.	Description
SCM-150-1-01	Serviceman™ Level I hand-held meter
SCM-150-1-02	Serviceman™ Level II hand-held meter
SC-500	Small case for Serviceman™ Level I or Level II
SCSN-450	120 Volt AC power supply/recharger for Serviceman™ and ServiceMaster™ meters
SCK-102-02-08	Connecting cable (4-pin to 5-pin) required to connect flow sensors and PDT transducers to the Serviceman™ meters (2 meter)
SCK-108-03-18	Extension cable to be used in series with the 4-pin PST transducer assemblies (3 meter)
SCG-022	Replacement paper for thermal printer SCPR-100-1-01
SCK-700-00-29	Fiber optic cable to transfer data from Serviceman™ Level II meter to a PC or a thermal printer. (1 meter)
SCDA-150	Computer adapter and software to transfer data from Serviceman™ Level II to a PC (Required in addition to SCK-700-00-29)
SCRPM-210	Tachometer to be used to measure rotational speed (20 to 10,000 RPM)
SCRPMA-001	Contact adapter for SCRPM-210 tachometer
SCRPMA-002	Focus adapter for SCRPM-210 tachometer
SCT-150-74-08	Temperature sensor to be used with the PDF*** flow sensors or with the SCTA-1/4 port adapter -80°F to 260°F (-25°C to 125°C)
SCTA-1/4	Port adapter to convert M10 X 1 to 1/4" NPT for use with the SCTA-150-74-08
PD288	PD transducer adapter for Serviceman™ style transducers
PDP288	PDP transducer adapter for Serviceman™ style transducers
SCA-1/2-EMA-3	EMA3 female transducer adapter for PST style transducers
PDH-19	Diagnostic test hose assembly (19" extension hose assembly to be used with PD transducers and diagnostic nipples)
SCM150-TM	Serviceman™ training manual
SCPR-KIT-150	Serviceman™ printer kit – includes SCK-700-00-58 interface cable, power supply & SCPR-150-1-01 printer

## Diagnostic Products

## SensoControl® ServiceMaster™ General

Hand-held diagnostic meter to measure pressure, temperature, flow and rotational speed for hydraulic and pneumatic systems

- Easy operation
- Rugged design
- Large display
- Auto sensor recognition
- MIN/MAX Memory
- On-line operation
- Multiple sensor inputs
- Battery monitoring
- Analog output



The new ServiceMaster™ meter is a state-of-the-art instrument designed to provide the latest in diagnostic evaluation in hydraulic and pneumatic systems. These units are available in either three or six channel models. The new ergonomically designed case and large automatic scaling LCD display make it easy to use in even the most demanding environments.

These hand held meters provide measurement and display of pressure, temperature, flow, differential pressures, as well as rotational speed. They are the perfect tool to capture diagnostic measurements at remote locations. Also new to these meters are the functions for calculating power and

flow run-out.

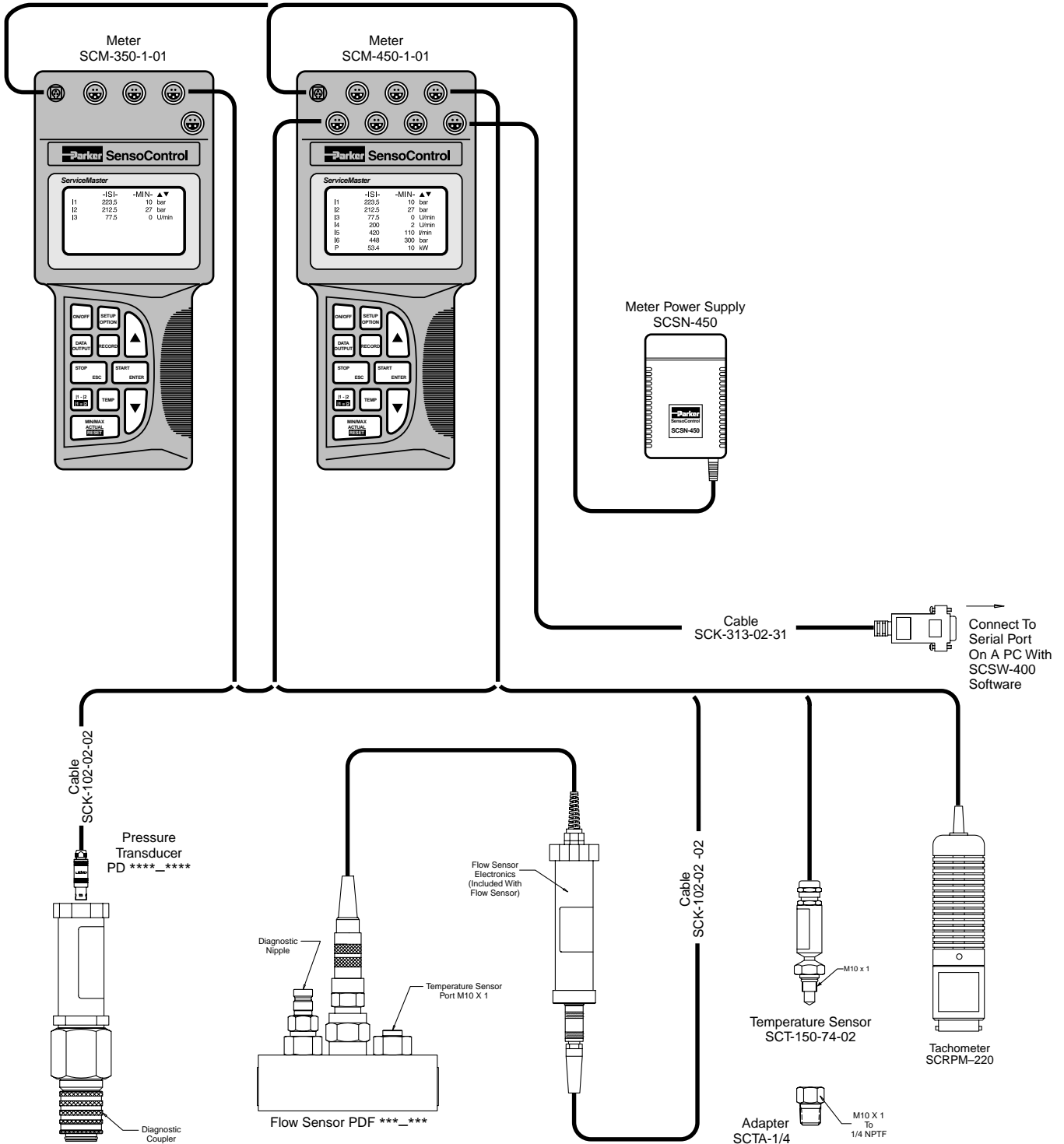
The newly designed meters offer a dramatic increase in data storage capability. The SCM-350 offers 125,000 data points and the top-of-the-line SCM-450 now offers 250,000 data points of storage. These measurements can be transferred to a PC via an RS232 interface and the new SensoWin™ 4.0 software. This software is compatible with all Windows95, Windows98, and WindowsNT operating systems.

As with all SensoControl® equipment, the ServiceMaster offers the latest in sensor recognition technology, eliminating the time consuming task of programming each individual sensor.

This technology allows you to just plug in the sensor, and you are ready to take measurements. The ServiceMaster™ meter also allows you to program the individual inputs to accept other data collection formats, such as 4-20 ma, 0-10 Volt, or frequency.

Parker Hannifin provides the most complete line of hydraulic and pneumatic diagnostic equipment available today. For more information or to receive a full demonstration, contact the Quick Coupling Division or your local distributor.

**SensoControl® ServiceMaster™**  
 Measure and Document Flow, Pressure, Voltage, Current  
 Temperature and Rotation Speed



F Diagnostic

## Diagnostic Products

## SensoControl® ServiceMaster™ Technical Data

### Meter

- Digital LCD Text Display  
-128x64 pixels
- Automatic Character Height Scaling
- Display of Pressure, Temperature, Flow and Rotational Speed
  - Pressure in PSI and Bar
  - Temperature in °F and °C
  - Flow in GPM and l/min.
  - Rotational Speed in RPM

### Inputs

- 3 or 6 5-pin Lemos connectors
- Automatic Sensor Recognition
- 0-3 Volts (R=470 kΩ)
- 12 Bit A/D Converter
- 1 ms Scanning Rate (1-3 inputs)
- 2 ms Scanning Rate (4-6 inputs)
- Frequency input via Input socket I3  
- frequency range 0.5 Hz to 30 kHz

### Functions

- Differential Value Measurement
- MIN/MAX Memory
- Online data transfer
- Battery level indicator
- Power calculation (display only)
- Flow run-out (display only)
- Auto power off

### Output

- RS232 4-pin interface (push/pull)
- Adjustable baud rate  
-1200 to 38400 BPS
- 8 data bits, 1 stop bit

### Power Requirements

- Internal 7.2-volt rechargeable Ni-Cad battery
- Recharge circuit for use with external power supply.
- Operating time (Aprox. 5 hours)
- Excitation voltage (12-30 VDC)

### Memory Functions

- Memory capacity  
-125,000 data points (SCM-350)  
-250,000 data points (SCM-450)
- Memory used in 25,000 data point intervals
- Variable storage rate
- Variable measuring period  
-2 seconds to 100 hours
- Manual and automatic triggering

### Ambient Conditions

- Operating Temperatures  
32°F to 122°F (0°C to 50°C)
- Storage Temperatures  
-4°F to 140°F (-20°C to 60°C)
- Relative Humidity (< 80 %)
- Protection class (DIN 40050:IP 54)

### Housing

- Reinforced polyamide glass material
- 11-Key tactile touch membrane
- EMC Protection
  - Electromagnetic interference (DIN/EN 50081, Part 1)
  - Immunity to emitted interference (DIN/EN 50082, Part 2)

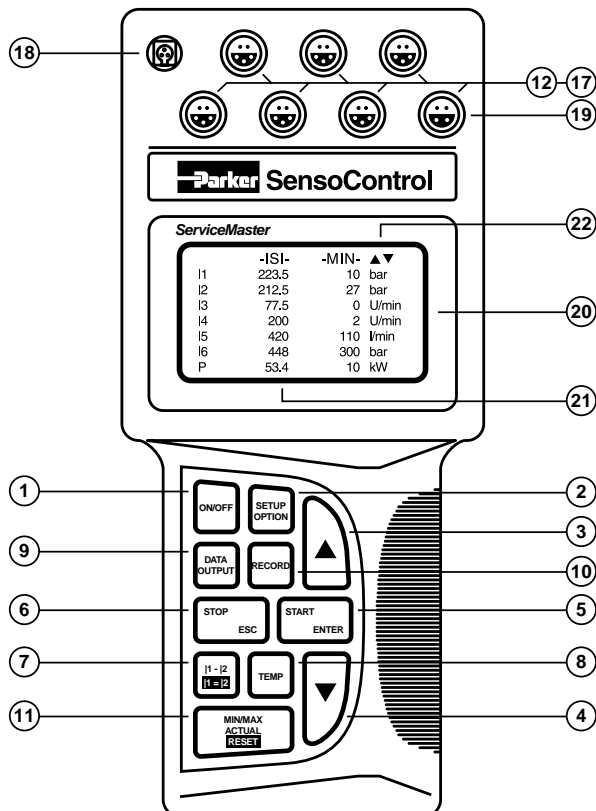
### General Information

#### Dimensions

- Length/Height/Width  
- 9 1/4 x 4 3/16 x 2 3/32  
(235 x 106 x 53 mm)

#### Weight

- 1.2 lbs (700 grams)



### Functions

- 1 ON/OFF** Turns meter on or off
- 2 SETUP/OPTION** Change system settings
- 3/4 ARROWS** Select line and function values
- 5 START/ENTER** Change function values and start measurements
- 6 STOP/ESC** Stop or terminate functions
- 7 I1-I2** Differential value between input 1 and input 2.
- 8 TEMP** Displays the measured temperature values for all channels
- 9 DATA-OUTPUT** Displays output to PC, printer or graphic display
- 10 RECORD** To record and store measurements
- 11 MIN/MAX/ACTUAL** Displays the minimum, maximum and actual values. Reset deletes values
- 12-17 INPUTS** Inputs for up to (6) sensors
- 18 11-30 VDC** Input for external power supply and charging of internal battery
- 19 DATA OUTPUT** RS232 port for connecting to the PC, printer, or external trigger module
- 20 GRAPHIC LCD** Displays measured values, adjustment menus and graphics.
- 21 ADDITIONAL LINE** Displays the power or flow runout values.
- 22 STATUS LINE** Shows the designation of the measured value or the menu name.

**SensoControl® ServiceMaster™**  
 Transducer

**Diagnostic Products**

**Features**

- Five measurement ranges (Vacuum to 8700 PSI)
- Color coded for easy identification
- Corrosion proof stainless steel housing
- Accuracy of .75% Full Scale



**Transducer Technical Data**

	PD ** -0100	PD ** -0600	PD ** -1500	PD ** -4000	PD ** -6000
Measuring Range (Pressure)	-14.5 to 145	0 to 870	0 to 2175	0 to 5800	0 to 8700 <sup>(1)</sup>
Color Code	Blue	Green	Yellow	Orange	Red
Measuring Range (Temp.)	-13° to 221°	-13° to 221°	-13° to 221°	-13° to 221°	-13° to 221°
Max. Overload Pressure	290	1450	3625	14500	14500
Burst Pressure	650	7250	7250	26100	26100
Output Signal (Volts)	-0.2 to 2	0 to 3	0 to 3	0 to 3	0 to 3
Hysteresis (% FS Typical)	0.1	0.05	0.1	0.08	0.05
Repeatability ((%FS Typical)	0.08	0.13	0.13	0.1	0.1
Non-conformity ((%FS)	0.25	0.2	0.2	0.28	0.25
Response Time	< 1 ms	< 1 ms	< 1 ms	< 1 ms	< 1 ms
Excitation Voltage	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC

(1) Maximum Rated Pressure for PD Series Couplers is 6000 psi.

**Materials of Construction**

- Transducer.....Stainless steel
- Diaphragm.....Stainless steel
- Coupler.....Carbon steel
- Seal.....Flourocarbon

**Output**

- Accuracy.....0.075% FS
- Load.....<2m ohms
- Response time.....<1 ms
- Output signal to noise.....<0.1%FS
- Resonant frequency.....100 Hz

**Temperature Range**

- Working.....-4° to 185°
- Fluid.....-13° to 221°
- Storage.....-40° to 257°

**Voltage Requirement**

- 7 to 12 VDC excitation voltage
- Permissible ripple.....±2% ss
- Current requirement.....<5 mA

**Cable End (Pin Out)**

Pin	Mark	Wire Colors
1	P	yellow
2	T	white
3	+	brown
4	-	green
5	SK	grey

Shielding on plug housing

**SCRPM Tachometer**



SCRPM-210



SCRPM-220

Part Number	Connector	Compatibility
SCRPM-210	4-pin DIN	ServiceMaster™
SCRPM-220	5-pin Lemos	SCM-300, 350, 450

**Accessories**

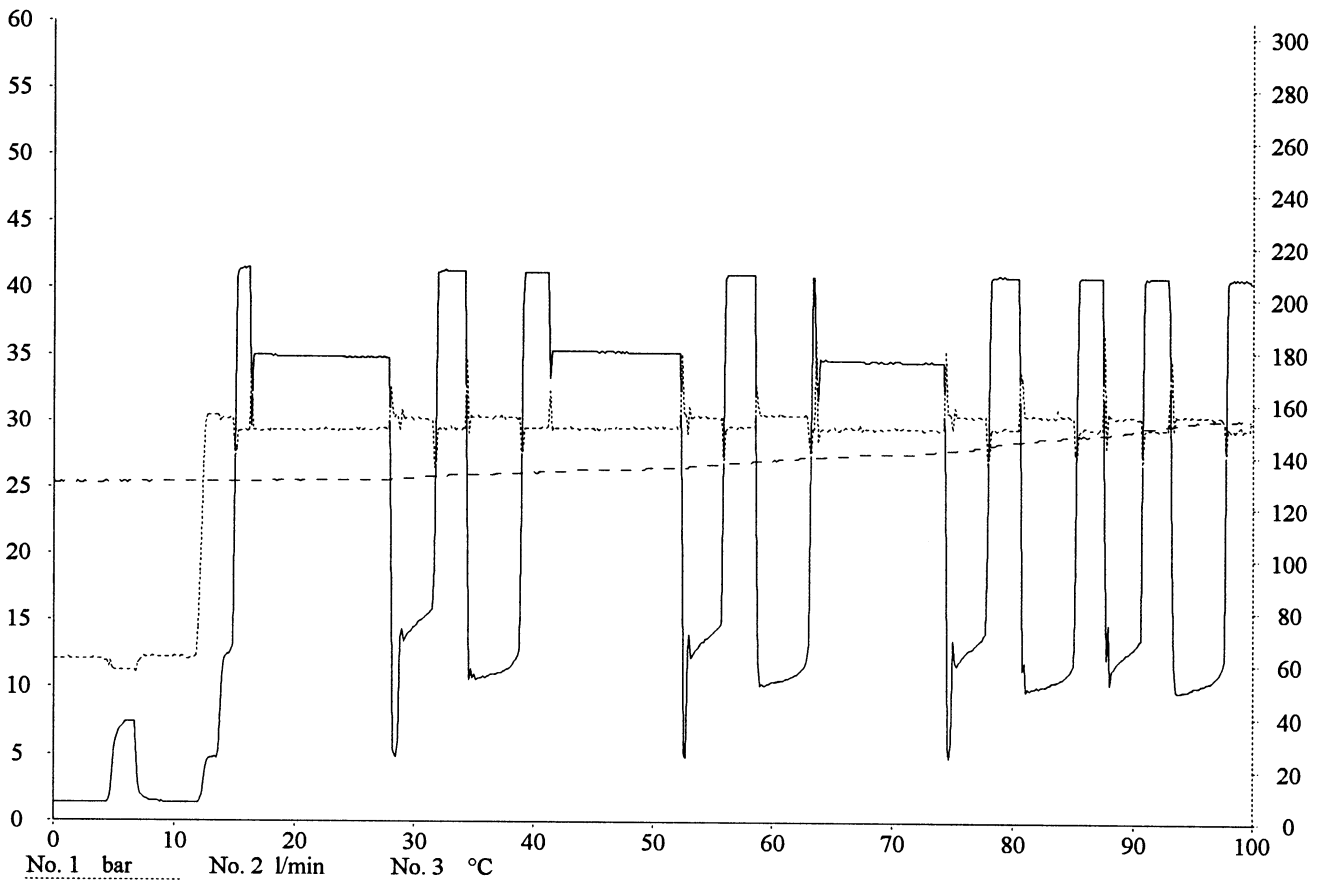
Part Number	Description
SCRPMA-001	Contact adapter for belt drive/wheel
SCRPMA-002	Focus adapter for confined areas

The SCRPM tachometer provides precision measurement of rotational speed. This sensor emits a light beam through an LED source. This light source is reflected and picked up as a pulse. It is then converted to an analog signal and displayed on the hand held meter.

**Technical Data**

Measuring Range	20 – 10,000 RPM
Measuring Distance	0.1 – 19.5 inches
Accuracy	<.05%
Excitation Voltage	7 – 9 VDC
Output Signal	0 – 3 VDC
Resolution	±5 RPM

**Diagnostic Products**



File name: C:\SENSOWIN\MEASURE\DEMO3.SCM  
Data : 26.9.94 Time : 13:55 MemRange : 100% PreTrigger : 10%  
Triggermode : Man Triggerlevel : 25% Triggertype : High Measuring time : 100 s  
Curve Info No 1 : Test data for pressure, 0-300 bar.  
Unit : bar  
Curve Info No 2 : Test data for flow, 0-60 l/min.  
Unit : l/min.  
Curve Info No 2 : Test data for temperature, 0-60 degrees.  
Unit : °C

F Diagnostic



**Diagnostic Products**

**Test Meter Kits**

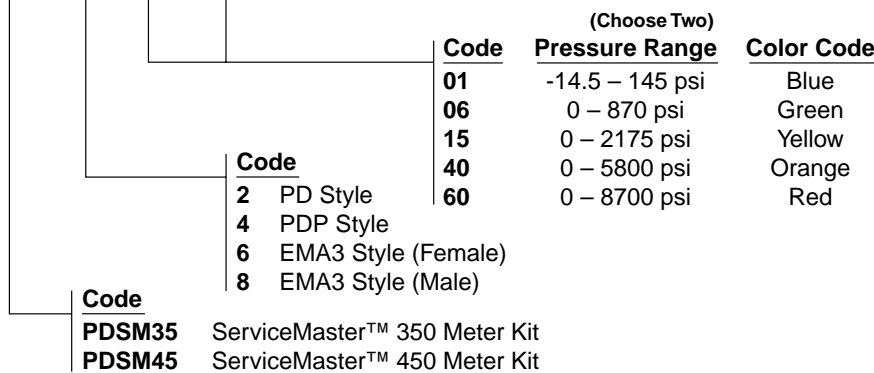


Part No.	PDSM35- * - * * - * *	PDSM45- * - * * - * *
<b>Kit Contents</b>	<b>ServiceMaster™ 350 Meter Kit</b>	<b>ServiceMaster™ 450 Meter Kit</b>
Case	SC-690	SC-690
ServiceMaster™ Meter	SCM-350-1-01	SCM-450-1-01
Transducers (See Below/Qty. 2)	PD * * * - * * * *	PD * * * - * * * *
Transducer cable, 6.5' (Qty. 2)	SCK-102-02-02	SCK-102-02-02
Power Supply - Meter*	SCSN-450	SCSN-450
SensoWin™ Software 4.0	SCSW-400	SCSW-400
Computer Interface Cable	SCK-313-02-31	SCK-313-02-31
Operating Manual*		

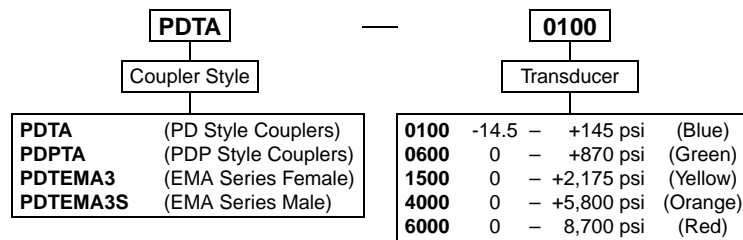
\* Included with ServiceMaster Meter

**ServiceMaster™ Kit Ordering Code**

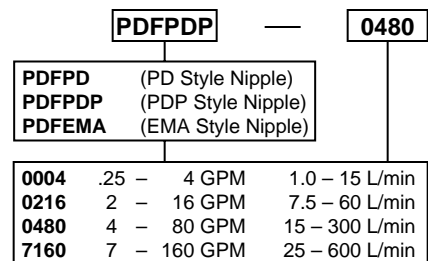
PDSM \* \* \* - \* - \* \* - \* \*



**Transducer Assembly Ordering Code**



**Flow Sensor Ordering Code (Generation II)**





## Diagnostic Products

## SensoControl® ServiceMaster™ Test Meter kits

### Order Code

Order No.	Description
SCM-350-1-01	ServiceMaster™ hand-held meter, 3 Inputs, 125,000 data points
SCM-450-1-01	ServiceMaster™ hand-held meter, 6 Inputs, 250,000 data points
SC-690	Case for ServiceMaster™ 350/450 meter and meter/printer kits
SCSN-450	120 Volt AC power supply/recharger for ServiceMaster™ 350/450 meters
SCK-102-02-02	Connection cable between the meter and the sensors (2 meter)
SCK-102-05-02	Extended version of cable between the meter and the sensors (5 meter)
SCK-102-03-12	Extension cable to be used in series with standard cables (10 meter)
SCG-022	Replacement paper for thermal printer SCPR-100-1-01
SCSW-400	SensoWin™ 4.0 software for data transfer to the PC (Window 95/98 and NT)
SCK-313-02-31	Data cable between the RS232 meter port and a PC
SCRPM-220	Tachometer to be used to measure rotational speed (0 to 10,000 RPM)
SCRPMA-001	Contact adapter for SCRPM-210 tachometer
SCRPMA-002	Focus adapter for SCRPM-210 tachometer
PDH-19	Diagnostic test hose assembly (19" extension hose assembly to be used with PD transducers and diagnostic nipples)
SCDA-410	Adapter kit for desk top printers. Compatible with Cannon BJC 8S or HP HP340 or equivalent

### Temperature Probes and Accessories

SCTA-150-74-02	Temperature sensor to be used with the PDF * * * flow sensors or with the SCTA-1/4 port adapter (-80° to 260°F...-25° to 125°C)
SCTA-1/4	Port adapter to convert M10 X 1 to NPT for use with the SCTA-150-74-02 Transducer Adapters

F Diagnostic

## Diagnostic Products

## SensoControl® Flow Sensors

### Description

The SensoControl® Generation II flow sensors are a compact light-weight aluminum diagnostic tool capable of measuring pressure, temperature and flow from a single test point in a hydraulic system.

The Generation II flow sensors are designed to be used with a wide variety of hydraulic fluids. This design also minimizes the effect of viscosity changes. These units are manufactured from solid aluminum bar stock and are rated to 5800 PSI\* and temperatures of 0°F +350°F. They are available in four sizes with flow measuring ranges from .25 – 160 GPM.

Generation II flow sensors are provided with a choice of PD, PDP or EMA style diagnostic ports and are designed to be used with all SensoControl® and Serviceman™ equipment.

### Technical Data

Pressure Rating .....	5800 PSI
	<i>* PDF***- 7160 is rated to 5000 psi</i>
Fluid Temperature Range .....	0°F to +350°F
Ambient Temperature Range .....	0°F to +120°F
Media/Compatibility .....	Petroleum Based Fluids (Contact factory for use with water based hydraulic fluids)
Flow Measurement Accuracy .....	±2.0% Full Scale
Voltage Input .....	+7 to 12 VDC (Supplied by SensoControl meter)
Current Requirement .....	.6mA

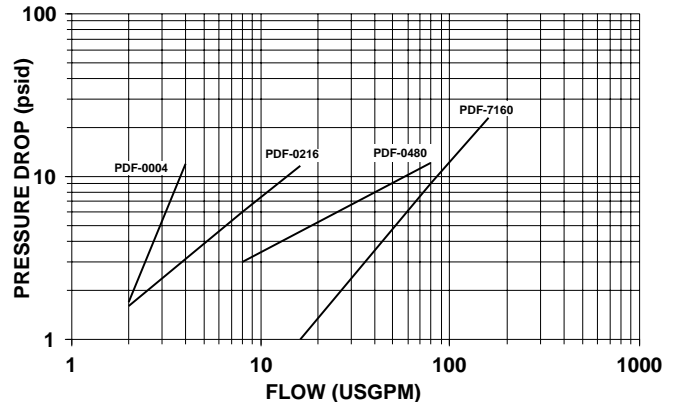
### Material Specifications

Flow Block .....	2024-T351 Anodized Aluminum
Turbine .....	416 Stainless Steel
Bearings .....	Stainless Steel
Seal Material .....	Nitrile
Electrical Connection .....	.5 Pin Lemosa



### Performance

FLOW vs. PRESSURE DROP



Measuring Range	Flow Sensor with PD Nipple	Flow Sensor with PDP Nipple	Flow Sensor with EMA Nipple	Inlet/Outlet Port Configuration	Length inches	Height inches	Width inches
.25 GPM to 4 GPM (1.0 to 15 l/min)	PDFPD-0004	PDFPDP-0004	PDFEMA-0004	3/4-16 ORB	4.72	3.72	1.23
2 GPM to 16 GPM (7.5 to 60 l/min)	PDFPD-0216	PDFPDP-0216	PDFEMA-0216	1 1/16-12 ORB	5.08	4.05	1.48
4 GPM to 80 GPM (15.0 to 300 l/min)	PDFPD-0480	PDFPDP-0480	PDFEMA-0480	1 5/16-12 ORB	5.87	4.46	1.98
7 GPM to 160 GPM (25.0 to 600 l/min)	PDFPD-7160	PDFPDP-7160	PDFEMA-7160	1 5/8-12 ORB	6.81	4.75	2.46

### Accessories



Temperature Sensor  
(Serviceman™)  
SCT-150-74-08



5 Pin – 4 Pin  
Flow Sensor to  
Serviceman™ Cable  
SCK-102-02-08



5 Pin – 5 Pin  
Flow Sensor to  
ServiceMaster™ Cable  
SCK-102-02-02



Temperature Sensor  
(ServiceMaster™)  
SCT-150-74-02

## Diagnostic Products

## Test Port Couplings

PD Series



### Features

- Flush-face poppet valves minimize air inclusion and spillage, provide easy-to-clean surfaces, and help to prevent contamination.
- Grip-tight knurled sleeves help to make connecting and disconnecting easy, even while wearing gloves.
- Nipples are machined from high tensile steel for strength to withstand 6000 PSI continuous operating pressure. BPD nipples offer features similar to the standard steel PD nipples with the added feature of a brass body. PD nipples are designed to meet or exceed SAE J1502 design and performance specifications.
- End connections include pipe, O-ring, metric thread, bulkhead, 37° Flare, ORFS and Bito-type
- PD367A nipple meets the ISO15171-1 standard

### Specifications

Specifications	1/8 Body Size						
	PD Coupler	PD Nipple	BPD Nipple	Assembly	PDP Coupler	PDP Nipple	Assembly
Description	PD Coupler	PD Nipple	BPD Nipple	Assembly	PDP Coupler	PDP Nipple	Assembly
Part Number	PD242	PD361	BPD343Y	—	PDP242	PDP343	—
Body Material (Steel)	Carbon Steel	High Tensile Steel	Brass	—	Carbon Steel	High Tensile Steel	—
Rated Pressure (PSI)	6000	6000	300	6000	—	6000	6000
Temperature Range (STD Seals) Nitrile	-40°F to +250°F		-15°F to +400°F (Fluorocarbon)	-40°F to +250°F			
Rated Flow (GPM)	—	—	—	0.8	—	—	—
Max. Recommended Flow (GPM)	—	—	—	4.0	—	—	—
Burst Pressure (PSI/Min)	20,000	40,000	—	17,000	—	50,000	40,000
Vacuum Data (Inches Hg)	27.5	27.5	27.5	27.5	—	—	—
Pressure Drop at Rated Flow (PSI) with 200 SUS Fluid	—	—	—	56	—	—	—
Spillage at 15 PSI (ml)-Assembly	0.1 per disconnect				—	—	—
Air Inclusion (ml)-Assembly	0.02 per disconnect				—	—	—
Connect Force-Assembly	41 Lbs. (100 PSI)				6 Lbs (0 PSI - 6000 PSI)		
Disconnect Force-Assembly	20 Lbs. (100 PSI)				7 Lbs (0 PSI - 6000 PSI)		

### Applications

PD or PDP Series couplings provide easy connection for mechanical gauges or specialized diagnostic equipment like SensoControl®.

Typically, PD, PDP or BPD nipples are permanently mounted in the system at threaded test ports, in rigid tubing or in hose assemblies. PD or PDP couplers are attached to test instruments.

Locking balls align the couplers to the mating nipples without threading, so gauges, transducers and other test equipment can be snapped into place without difficulty.

Parker's PDP Series couplings offer the advantages of PD couplings, but are designed to connect easily and quickly under full system pressure up to 6,000 PSI (operating).

PDP couplers and nipples push-to-connect with a constant force of only six pounds. Then the coupler base is turned to open the valve and complete the connection. In the connected position, the coupler base blocks the retracting sleeve to prevent accidental disconnects.

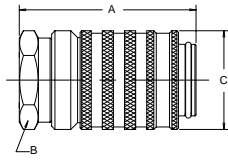
**Note:** Protective dust plugs and caps play a crucial role in the life of a quick coupling and no purchase of a hydraulic quick coupling is complete without the selection of an appropriate dust plug and cap. See pages noted in Table of Contents for dust plugs and caps for the Parker full line of hydraulic couplings.

## Diagnostic Products

## Test Port Couplings PD Series

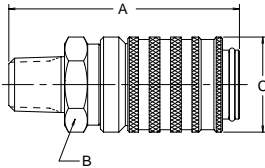
### Couplers

#### Female Thread



Body Size (in.)	Part No.	Female Thread NPTF	Female Thread ORB	Dimensions (in.)			Wt. (LB.) P/Piece
				Overall Length	Wrench Flats	Largest Diameter	
				A	B	C	
1/8	PD222	1/8-27	—	1.67	0.81	0.96	0.20
1/8	PD240	—	7/16-20	2.12	0.81	0.96	0.26
1/8	PD242	1/4-18	—	2.12	0.81	0.96	0.25
1/8	SSPD242Y***	1/4-18	—	2.12	0.81	0.96	0.25
1/8	PD260	—	9/16-18	2.12	0.81	0.96	0.24

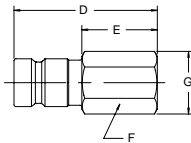
#### Male Thread



Body Size (in.)	Part No.	Male Thread ORB	Male Thread NPTF	Dimensions (in.)			Wt. (LB.) P/Piece
				Overall Length	Wrench Flats	Largest Diameter	
				A	B	C	
1/8	PD243	—	1/4-18	2.26	0.81	0.96	0.23

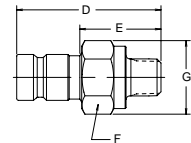
### Nipples\*

#### Female Pipe Thread



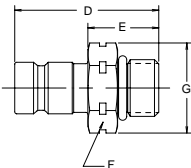
Body Size (in.)	Part No.	Thread Size NPTF	Overall Length	Exposed Length	Dimensions (in.)			Wt. (LB.) P/Piece
					Hex Size	Largest Diameter		
				D	E	F	G	
1/8	PD322	1/8-27	1.48	0.78	0.56	0.65	0.06	
1/8	PD342	1/4-18	1.63	0.93	0.75	0.87	0.12	

#### Male Pipe Thread



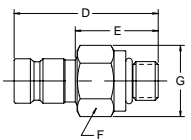
Body Size (in.)	Part No.	Thread Size NPTF	Overall Length	Exposed Length	Dimensions (in.)			Wt. (LB.) P/Piece
					Hex Size	Largest Diameter		
				D	E	F	G	
1/8	PD323	1/8-27	1.55	0.85	0.69	0.79	0.17	
1/8	BPD323Y**	1/8-27	1.44	0.74	0.63	0.72	0.17	
1/8	BPD343Y**	1/4-18	1.48	0.78	0.69	0.79	0.06	
1/8	PD343	1/4-18	1.48	0.78	0.69	0.79	0.06	
1/8	SSPD343Y***	1/4-18	1.48	0.78	0.69	0.79	0.06	
1/8	PD363	3/8-18	1.50	1.13	0.81	0.96	0.09	

#### Metric Thread



Body Size (in.s)	Part No.	Thread Size Metric	Overall Length	Exposed Length	Dimensions (in.)			Wt. (LB.) P/Piece
					Hex Size	Largest Diameter		
				D	E	F	G	
1/8	PD357	M10 x 1.0	1.80	1.10	0.69	0.79	0.17	
1/8	PD367A	M14 x 1.5	1.38	0.68	0.75	0.87	0.07	
1/8	PD3107	M16 x 1.5	1.54	0.84	0.88	1.01	0.08	
1/8	PD3127	M18 x 1.5	1.60	0.90	0.94	1.08	0.09	
1/8	PD3147	M20 x 1.5	1.50	0.80	0.75	0.87	0.07	

#### Male Straight Thread



Body Size (in.)	Part No.	Thread Size ORB	Overall Length	Exposed Length	Dimensions (in.)			Wt. (LB.) P/Piece
					Hex Size	Largest Diameter		
				D	E	F	G	
1/8	PD331	3/8-24	1.80	1.10	0.69	0.79	0.17	
1/8	PD341	7/16-20	1.60	0.90	0.69	0.79	0.08	
1/8	PD351	1/2-20	1.32	0.62	0.63	0.72	0.05	
1/8	PD361	9/16-18	1.32	0.62	0.69	0.79	0.06	

\*Add -6 to part number to include dust cap.

\*\*BPD designates brass body, Fluorocarbon seal standard

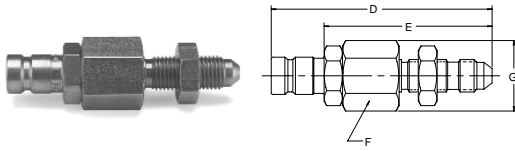
\*\*\*SSPD designates 316SS body, Fluorocarbon seal standard

## Diagnostic Products

## Test Port Couplings PD Series

### Nipples\*

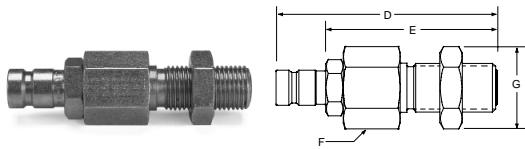
#### Bulkhead Triple-Lok



Body Size (in.)	Part No. Steel	Thread Size	Tube Size	Overall Length	Dimensions (in.)				
					Exposed Length	Hex Size	Largest Diameter	Wt. (LB.) P/Piece	
				D	E	F	G		
1/8	PD345	7/16-20	1/4	2.92	2.22	0.81	0.94	0.19	
1/8	PD355	1/2-20	5/16	2.92	2.22	0.81	0.94	0.19	
1/8	PD365	9/16-18	3/8	3.00	2.30	0.81	0.94	0.20	

\*Add -6 to part number to include dust cap. (Contact factory for seal options)

#### Bulkhead Seal-Lok

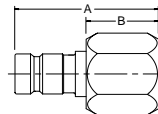
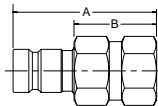


Body Size (in.)	Part No. Steel	Thread Size	Tube Size	Overall Length	Dimensions (in.)				
					Exposed Length	Hex Size	Largest Diameter	Wt. (LB.) P/Piece	
				D	E	F	G		
1/8	PD346	9/16-18	1/4	2.98	2.27	0.81	0.94	-	
1/8	PD366	11/16-16	3/8	3.08	2.37	1.00	1.16	-	
1/8	PD386	13/16-16	1/2	3.18	2.47	1.12	1.30	-	

\*Add -6 to part number to include dust cap. (Contact factory for seal options)

### Tube End Nipples\*\*\*

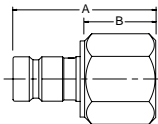
#### Triple-Lok PD — — BTX



Body Size (in.)	Part No. Steel	Tube Size	Dimensions (in.)		Wt. (LB.) P/Piece
			Overall Length	Exposed Length	
		A	B		
1/8	PD34BTX	1/4	1.64	0.94	0.10
1/8	PD36BTX	3/8	1.66	0.96	0.09
		A	B		
1/8	PD38BTX	1/2	1.17	0.47	0.12
1/8	PD312BTX	3/4	1.39	0.69	0.27

\*\*\* Tube end nipples are designed to meet the performance standards of the tube or hose fitting connection, which may or may not meet SAE J1502 Standards.

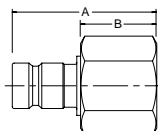
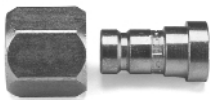
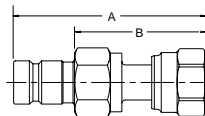
#### Ferulok PD — — BTU



Body Size (in.)	Part No. Steel	Tube Size	Dimensions (in.)		Wt. (LB.) P/Piece
			Overall Length	Exposed Length	
		A	B		
1/8	PD38BTU	1/2	1.40	0.70	-

\*\*\* Tube end nipples are designed to meet the performance standards of the tube or hose fitting connection, which may or may not meet SAE J1502 Standards.

#### Seal-Lok PD — — BTL



Body Size (in.)	Part No. Steel	Tube Size	Dimensions (in.)		Wt. (LB.) P/Piece
			Overall Length	Exposed Length	
		A	B		
1/8	PD34BTL	1/4	2.18	1.48	0.12
1/8	PD36BTL	3/8	2.30	1.60	0.14
		A	B		
1/8	PD38BTL	1/2	1.12	0.42	0.13
1/8	PD310BTL	5/8	1.16	0.46	0.19

\*\*\* Tube end nipples are designed to meet the performance standards of the tube or hose fitting connection, which may or may not meet SAE J1502 Standards.



## Diagnostic Products

## Test Port Couplings Fluid Sampling



### Features

These diagnostic fluid sampling products are designed to provide an easy access point for obtaining fluid samples. A permanently mounted test point eliminates the need to shut down or break lines when taking samples and reduces the chances of contamination. Fluid analysis is crucial in both engines and hydraulic systems as it can reveal problems with filtration and other internal components. Early detection can prevent costly repairs, unscheduled maintenance and production downtime. These fluid sampling nipples should be installed in either low pressure or return lines. For the most accurate monitoring, fluid samples should be constantly taken from the same location.

**Note:** When you purchase either of the sampling kits, you receive the PAR-Test™-complete laboratory analysis included in the initial cost. This includes particle count, viscosity, water content and spectra chemical analysis of over 20 wear metals and additives.

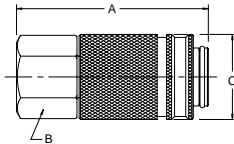
### Specifications

Body Size (in.)	1/8
Rated Pressure (psi)	500
Temperature Range (std seals)	-40° to +250°F
Seal material	Flourocarbon



### Couplers

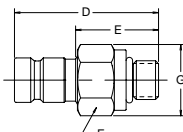
#### Female Thread



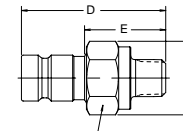
Body Size (in.)	Part No.	Female Thread NPTF	Female Thread ORB	Dimensions (in.)			Largest Diameter P/Piece
				Overall Length	Wrench Flats	Wt. (LB.)	
				A	B	C	
1/8	PDFS242	1/4-18	-	2.15	0.81	0.96	0.25

### Nipples

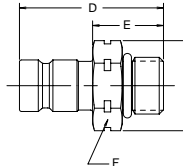
#### Male Straight Thread



#### Male Pipe Thread



#### Metric Thread



Body Size (in.)	Part No.	Thread Size ORB	Dimensions (in.)				Largest Diameter P/Piece
			Overall Length	Exposed Length	Hex Size	Wt. (LB.)	
			D	E	F	G	
1/8	PDFS341	7/16-20	1.60	0.90	0.69	0.79	0.08
1/8	PDFS343	1/4-18	1.48	0.78	0.69	0.79	0.06
1/8	PDFS357	M10 x 1.0	1.80	1.10	0.69	0.79	0.17
1/8	PDFS-PROBE*	NA	-	-	-	-	-
1/8	PROBE HOLDER						

Flourocarbon seal is standard.

**Dust Cap PD6-285 is recommended.**

\* Reuseable PROBE HOLDER must be used with PDFS-PROBE

### Sampling Kits

Body Size (in.)	Part No.	Description
1/8	PDFS-TEST	Sampling Kit
1/8	PDFS-TEST-P*	Sampling Kit W/Probe

## Diagnostic Products

## Test Port Couplings

PDP Series



### Features

- Made to connect under pressure up to 6000 psi
- Grip-tight knurled sleeves help to make connecting and disconnecting easy, even while wearing gloves.
- Nipples are machined from high tensile steel for strength to withstand 6000 PSI continuous operating pressure.
- End connections include pipe, O-ring, 37° Flare and ORFS
- Durable Ball Valve Nipple.
- Coupler is unvalved to allow gauges and transducers to return to zero when disconnected.

### Applications

The PDP Series couplings provide easy connection for mechanical gauges or specialized diagnostic equipment like SensoControl.

Typically, PDP nipples are permanently mounted in the system at threaded test ports, in rigid tubing or in hose assemblies. PDP couplers are attached to test instruments.

Locking balls align the couplers to the mating nipples without threading, so gauges, transducers and other test equipment can be snapped into place without difficulty.

Parker's PDP Series couplings offer the advantages of PD couplings, but are designed to connect easily and quickly under full system pressure up to 6000 PSI (operating).

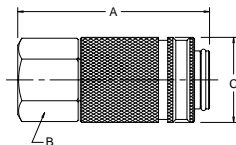
PDP couplers and nipples push to connect with a constant force of only six pounds. Then the coupler base is turned to open the valve and complete the connection. In the connected position, the coupler base blocks the retracting sleeve to prevent accidental disconnects.

### Specifications

Body Size (in.)	1/8
Rated Pressure	6000 psi
Temperature Range (std seals)	-40° to +250°

### Couplers (connect-under-pressure)

#### Female Thread



Body Size (in.)	Part No. Steel	Thread Size NPTF	Dimensions (in.)			Wt. (LB.) P/Piece
			Overall Length	Wrench Flats	Largest Diameter	
			A	B	C	
1/8	PDP242	1/4-18	2.15	0.81	0.96	—

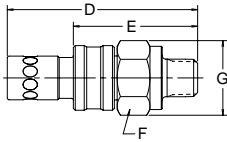


**Test Port Couplings**  
 PDP Series

**Diagnostic Products**

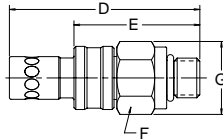
**Nipples\*  
 (connect-under-pressure)**

**Male Pipe**



Body Size (in.)	Part No. Steel	Thread Size NPTF	Overall Length	Dimensions (in.)			Largest Diameter	Wt. (LB.) P/Piece
				Exposed Length	Hex Size	F		
			D	E	F	G		
1/8	PDP323	1/8-27	2.02	1.46	0.69	0.79	0.26	
1/8	PDP343	1/4-18	1.48	0.93	0.69	0.79	0.12	

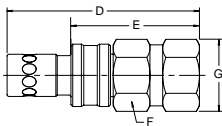
**Straight Thread**



Body Size (in.)	Part No. Steel	Thread Size ORB	Overall Length	Dimensions (in.)			Largest Diameter	Wt. (LB.) P/Piece
				Exposed Length	Hex Size	F		
			D	E	F	G		
1/8	PDP341	7/16-20	2.06	1.50	0.69	0.79	0.12	
1/8	PDP361	9/16-18	1.48	0.93	0.69	0.79	0.07	

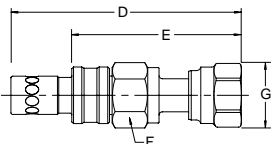
\*Add -6 to part number to include dust cap.

**Triple-Lok**



Body Size (in.)	Part No. Steel	Tube Size	Overall Length	Dimensions (in.)			Largest Diameter	Wt. (LB.) P/Piece
				Exposed Length	Hex Size	F		
			D	E	F	G		
1/8	PDP34BTX	1/4	2.11	1.55	0.69	.80	-	
1/8	PDP36BTX	3/8	2.13	1.57	0.69	.80	-	

**Seal-Lok**



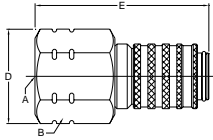
Body Size (in.)	Part No. Steel	Tube Size	Overall Length	Dimensions (in.)			Largest Diameter	Wt. (LB.) P/Piece
				Exposed Length	Hex Size	F		
			D	E	F	G		
1/8	PDP34BTL	1/4	2.65	2.09	.69	.80	-	
1/8	PDP36BTL	3/8	2.77	2.21	.81	.94	-	

F Diagnostic

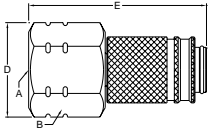
**Test Port Couplings**  
 Transducer Adapters

**Diagnostic Products**

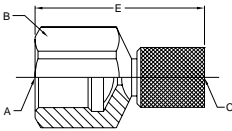
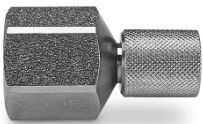
**Transducer Adapters 1/2-14BSPP Thread**



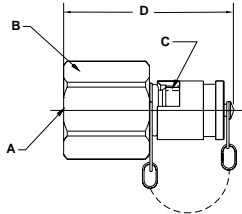
Part No.	Port Thread Size	Hex Size	Interface Thread Size	Largest Diameter	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	E	
PD288	1/2-14BSPP	1.19	-	1.38	2.52	0.35



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Largest Diameter	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	E	
PDP288	1/2-14BSPP	1.19	-	1.38	2.58	0.35

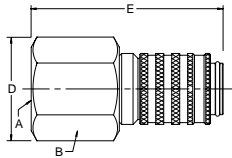


Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
SCA-1/2-EMA-3	1/2-14BSPP	1.06	M16X2.0	2.07	0.30

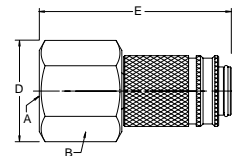
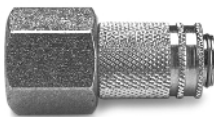


Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
SCA-1/2-EMA-3-S	1/2-14BSPP	1.06	M16X2.0	2.07	0.30

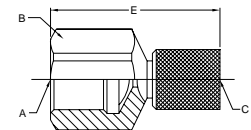
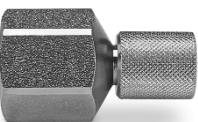
**Transducer Adapters M22X1.5 Thread**



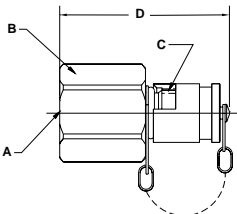
Part No.	Port Thread Size	Hex Size	Interface Thread Size	Largest Diameter	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	E	
PD296	M22X1.5	1.20	-	1.38	2.52	0.35



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Largest Diameter	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	E	
PDP296	M22X1.5	1.20	-	1.38	2.58	0.35



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
SCA-EMA-3	M22X1.5	1.18	M16X2.0	2.19	0.32



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
SCA-EMA-3S	M22X1.5	1.18	M16X2.0	2.32	0.32

Please note thread on transducer when ordering

F Diagnostic

## Diagnostic Products

## Test Port Couplings

EMA3 Series



### Features

- Knurled sleeve allows simple twist-to-connect operation without the use of tools
- Rugged design allows connect-under-pressure operation up to 5800 psi
- Maximum rated working pressure of 9000 psi exceeds the requirements of most applications
- Integral threaded dust cap protects the test point from damage and contamination
- EMA fittings are machined from solid barstock and protected with zinc plating and a dichromate finish for reliability and long life.
- Stainless steel springs for corrosion resistance
- Elastomeric interface and valve seals provide leak free operation
- Compact design and optional high pressure hose assemblies provide flexibility for tight space requirements
- EMA3/14X1.SED nipple meets the ISO15171-2 standard

### Applications

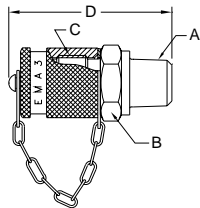
EMA couplings provide easy diagnostic connections for Parker SensoControl® equipment or mechanical gages. EMA test points are typically permanently plumbed into a fluid system at locations where pressure measurements are required for maintenance or testing. Integral pressure cap protects the test point from damage and prevents contamination of the fluid system. Proven twist-to-connect design allows the test points to be connected even when the system is in operation and the test points are pressurized. EMA's compact design and optional high pressure hose assemblies allow extra flexibility for the location of system test points.

Although designed primarily for diagnostic applications, EMA fittings and hose assemblies are ideal for a wide range of applications that require compact high pressure connections and limited flow rates.

### Specifications

<b>Body Size</b>	<b>1/8</b>
<b>Rated Pressure (PSI)</b>	9000 psi
<b>Max Connect-Under-Pressure (PSI)</b>	5800
<b>Rated Flow (GPM)</b>	0.8
<b>Body Material</b>	Carbon Steel
<b>Seal Material (std.)</b>	Nitrile
<b>Temperature Range (std. seals)</b>	-40° to +250° F

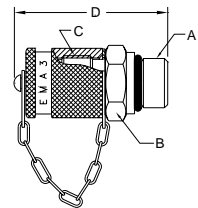
### Male Pipe Thread



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
EMA3/1/8NPT	1/8-27NPT	0.67	M16X2.0	1.81	0.15
EMA3/1/4NPT	1/4-18NPT	0.67	M16X2.0	1.98	0.16
EMA3/1/4NPT71	1/4-18NPT	0.67	M16X2.0	1.95	0.16

Stainless Steel

### SAE Straight Thread



Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
EMA3/7/16-20UNF-2A*	7/16-20UNF-2A	0.67	M16X2.0	1.88	0.15
EMA3/9/16-18UNF-2A*	9/16-18UNF-2A	0.75	M16X2.0	1.88	0.17

\* O-Ring seal on port

### Metric Straight Thread

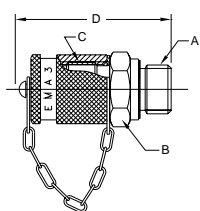


Part No.	Replaces Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
		A	B	C	D	
EMA3/M8X1OR*	NEW	M8X1	0.67	M16X2.0	1.81	0.15
EMA3/10X1ED**	NEW	M10X1	0.67	M16X2.0	1.85	0.15
EMA3/12X1.5ED**	EMA3/12X1.5	M12X1.5	0.67	M16X2.0	1.94	0.16
EMA3/14X1.5ED**	NEW	M14X1.5	0.75	M16X2.0	1.94	0.16

\* O-Ring seal on port

\*\* Molded seal on port

### British Parallel Pipe



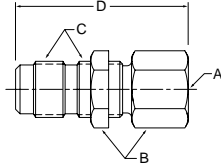
Part No.	Replaces Part No.	Port Thread Size	Hex Size	Interface Thread Size	Overall Length	Wt. (LB.) P/Piece
		A	B	C	D	
EMA3/1/8ED**	EMA3/R1/8	1/8 BSPP	0.75	M16X2.0	1.77	0.15
EMA3/1/4ED**	EMA3/R1/4	1/4 BSPP	0.75	M16X2.0	1.94	0.16
EMA3/3/8ED**	NEW	3/8 BSPP	0.87	M16X2.0	1.94	0.16

\*\* Molded seal on port

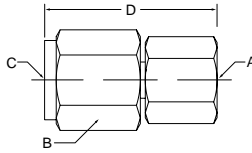
**Test Port Couplings**  
 EMA3 Series

**Diagnostic Products**

**EMA Gauge Adapter**

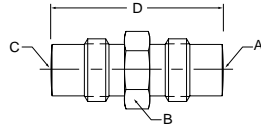


Part No.	Port Thread Size	Hex Size	Port Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
MAV1/4NPT-MA3	1/4-18NPT	0.75	M16X2.0	2.22	0.16
MAV1/4NPT-MA3-KM Includes Dust Cap	1/4-18NPT	0.75	M16X2.0	2.22	0.23



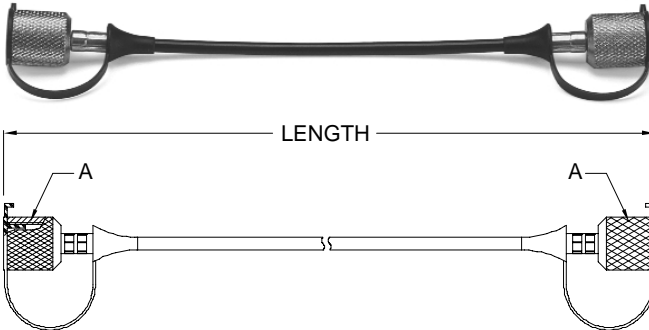
Part No.	Port Thread Size	Hex Size	Port Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
MAVMD1/4NPT-MA3	1/4-18NPT	0.75	M16X2.0	2.22	0.18

**Union**



Part No.	Port Thread Size	Hex Size	Port Thread Size	Overall Length	Wt. (LB.) P/Piece
	A	B	C	D	
EMA3VS	M16X2.0	0.67	M16X2.0	1.65	0.11

**Flexible Hose**



Part No.	Length (in.)	Length (mm)	Thread Size A
SMA3-200	7.90	200	M16x2.0
SMA3-400	15.75	400	M16x2.0
SMA3-800	31.50	800	M16x2.0
SMA3-2000	78.75	2000	M16x2.0
SMA3-4000	157.50	4000	M16x2.0

**Note:** Other lengths available upon request.  
 Maximum pressure rating for test hose is 9000 psi.

F Diagnostic

## Ordering Information

### Diagnostic Products

When ordering Parker coupler bodies and nipples, please state the part number of each type of coupler body and each type of nipple desired. List coupler bodies and nipples as separate items rather than in combinations. Be sure to double check thread or hose sizes of items required.

Many of Parker's coupling products are available with unique non-standard options well suited to very specific applications. Examples of unusual end use applications might include: high temperatures (above 250° F), extremely caustic/corrosive solutions passing through the coupling, external/environmental corrosion situations, or other high wear and tear situations such as dragging the product along the ground. Please see the Fluid Compatibility Chart at the end of the catalog for a guide in selecting material for various media. It is always recommended that the Quick Coupling Division be contacted with any questions concerning specific product application needs.

Typically, a prefix or suffix is added to the base part number to specify a non-standard O-ring seal, or special option. The Optional Seals Suffix chart illustrates the designations.

Please Note: Certain couplings series have additional "Special Order Information" which should be referred to in ordering those products. If applicable to the product, "Special Order Information" is found next to the Features and Specifications charts.

Coupler/Nipple Material
<ul style="list-style-type: none"> <li>• Prefix "B" for Brass body</li> <li>• Prefix "SS" for Stainless Steel body</li> <li>• Standard body material is Steel</li> </ul>

Optional Seals Suffix*				
No suffix is required when ordering products with the standard Buna-N (Nitrile) seals. When specifying an optional seal, refer to the following chart to determine the appropriate suffix.**				
Coupling Series	Ethylene Propylene	Flouro-carbon	Neoprene	Perfluoro-elastomer
PD Series	W	Y	Z	
PDP Series	W	Y	Z	
EMA3 Series	W	Y	Z	

\*To select proper seal materials, see Fluid Compatibility Chart in Appendices section, or contact your Parker Quick Coupling Distributor.

\*\*N/A = Not Available; STD = Standard (No Suffix Needed)

### Diagnostic Products

### Test Port Coupling-Selection Guide

	Valving	Body Size	Material* Br SS S P	Locking Mechanism	Std. Seal Material	Temp Range**	Rated Pressure
<b>Test Port</b>							
PD Series	Flush Face	1/8"	● ● ●	Ball	Buna-N (Nitrile)	-40° to +250° F	6000 PSI
PDP Series	Poppet	1/8"	●	Ball	Buna-N (Nitrile)	-40° to +250° F	6000 PSI
EMA3 Series	Poppet	1/8"	●	Threads	Buna-N (Nitrile)	-40° to +250° F	9000 PSI

\* See Fluid Compatibility chart and/or consult factory for questions regarding proper material for specific applications.

CODE: Br = Brass; SS = Stainless Steel; S = Steel; P = Plastic

\*\*Temperature Range for standard seal material.

**Note:** See the Specifications Table for PD and PDP Series for more information.

**Buy Parker test fittings and more at:**  
<http://www.mrostop.com/products/parker-fittings/ diagnostic-products/ diagnostic-fittings.html>