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climate control  
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hydraulics  
pneumatics  
process control  
sealing & shielding



**SensoControl®**

## SensoControl Diagnostic Products

Diagnostic Meters, Kits, and Accessories  
Catalog 3854 USA | August 2012



ENGINEERING YOUR SUCCESS.

## Quick Coupling Division Locations



Minneapolis, MN



Grantsburg, WI



Chetek, WI



### **WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

- This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.
- The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.
- To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

### **Offer of Sale**

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale."

# Diagnostic Products



## Diagnostics – A Wise Investment

**When time is money...** In today's "Lean" environment there is more emphasis put on increased production and reduced downtime than ever before. You can't afford to have your equipment sitting idle. Momentary pressure spikes and flow surges that are not recognized by other conventional mechanical measuring devices can unexpectedly destroy both components and systems.

**An ounce of prevention...** Diagnosing a problem before it occurs should be your primary objective. Whether it is a piece of mobile construction equipment, or an automated industrial assembly machine, lost production is lost profits. The basic prescription for system maintenance is prevention.

**Hydraulic and pneumatic...** Parker's SensoControl product line is a valuable tool for diagnosing problems both before and after they occur. Today's hydraulic and pneumatic systems are continuously becoming more sophisticated. Being able to identify critical information for optimizing machine efficiencies is a necessity.







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## Meter Selection Guide

Function	The Parker Service Junior	The Parker Serviceman	The Parker Service Master Easy	The Parker Service Master Plus
Pressure Sensing	■	■	■	■
Flow Sensing		■*	■*	■
Temperature Sensing		■*	■	■
Rotational Speed Sensing		■*	■*	■
Auxiliary Sensing			■*	■
Pressure Differential		■	■	■
Automatic Sensor Recognition		■	■	■
Auto Power Off	■	■	■	■
Battery Monitoring	■	■	■	■
Battery Type	AA (2 req'd)	Rechargeable Ni-MH	Rechargeable Ni-MH	Rechargeable LI Ion
PC Compatible (Windows 7)		■*	■*	■
Minimum/Maximum Memory	■	■	■	■
Self Contained Memory			■	■
On-Line Data Transfer		■	■	■
Text Display (Lines)	2	2	8	48
Inputs	1	2	4	26
Data Points (Maximum in Memory)			1,000,000	1,000,000,000
Numbered LCD Display	■	■	■	■
Basic Hydraulic Calculations			■	■
USB Interface			■	■
CAN Sensors				■
Graphic Color Display				■
Additional Storage Media				■

\* Additional accessories are required to perform this function

## Test Port Coupling Selection Guide

Test Port	Valving Style	Body Size	Material*			Locking Mechanism	Standard Seal Material	Rated Pressure	Temp Range**
			Br	SS	S				
PD Series	Flush Face	1/8"	■	■	■	Ball	Nitrile	6000 psi	-40° to +250° F
EMA3 Series	Poppet	1/8"	■	■	■	Threads	Nitrile/Fluorocarbon	9000 psi	-15° to +250° F

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

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

\*\* Temperature Range for standard seal material



The Parker ServiceJunior is an integrated digital pressure gauge with minimum/maximum memory capability.

#### Capabilities:

- Hand held digital pressure gauge
- Measure and Display  
-Pressure

#### Features:

- Easy operation
- Backlit display
- User-adjustable pressure units
- Min/Max memory
- Battery life indicator applications
- Ranges for hydraulics and pneumatics
- Scanning rate of 10ms
- Fluid temperature: -4° to 176° F

### Part Numbers and Specifications

ServiceJunior with PD Coupler	ServiceJunior with EMA3 Coupler	ServiceJunior with 1/4" NPT Port	Measuring Range	Overload Pressure (psi)	Resolution (psi)
SCJR-0250-PD	SCJR-0250-EMA	SCJR-0250-4MP	-14.5 to 250 PSI (-1 to 16 bar)	580	0.1
SCJR-1500-PD	SCJR-1500-EMA	SCJR-1500-4MP	0 to 1500 PSI (0 to 100 bar)	2,900	1
SCJR-5800-PD	SCJR-5800-EMA	SCJR-5800-4MP	0 to 1500 PSI (0 to 400 bar)	11,600	1
SCJR-8700-PD*	SCJR-8700-EMA**	SCJR-8700-4MP	0 to 8700 PSI (0 to 600 bar)	17,400	1

\* PD Couplers rated to 6,000 PSI max

\*\* EMA3 Couplers rated to 9,000 PSI max

### Accessories

Part Number	Description
PD240	PD Series Diagnostic Coupler
SCA-7/16-EMA-3	7/16 -18UNF-2B female to M16X2.0 EMA3 female swivel
SCJA-1/4	7/16 -18UNF-2B female to 1/4" NPT male adapter
PDH-19	19" PD Hose extension to be used with PD nipple
PDH-32	32" PD Hose extension to be used with PD nipple
SMA3-400	16" (400 mm) Hose assembly for EMA M16X2.0 interface
SCC-110	Storage case for one gauge and diagnostic adapters
SCC-300	Storage case for three gauges and diagnostic adapters



## PD Style Kits

SCJR1-KIT-PD	
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	PD style JIC Tee Fittings 1/4 through 1 inch sizes
6	PD style ORFS Tee Fittings 1/4 through 1 inch sizes
1	PD style Whip Hose 32 inch (800 mm) length
1	Case - includes 3 plastic storage compartments

SCJR2-KIT-PD	
1	ServiceJunior Gauge: Range: 0 to 1500 psi (0 to 100 bar)
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	PD style JIC Tee Fittings 1/4 through 1 inch sizes
6	PD style ORFS Tee Fittings 1/4 through 1 inch sizes
2	PD style Whip Hoses 32 inch (800 mm) length
1	Case - includes 3 plastic storage compartments

SCJR3-KIT-PD	
1	ServiceJunior Gauge: Range: -14.5 to 250 psi (-1 to 16 bar)
1	ServiceJunior Gauge: Range: 0 to 1500 psi (0 to 100 bar)
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	PD style JIC Tee Fittings 1/4 through 1 inch sizes
6	PD style ORFS Tee Fittings 1/4 through 1 inch sizes
3	PD style Whip Hoses 32 inch (800 mm) length
1	Case - includes 3 plastic storage compartments

## EMA Style Kits

SCJR1-KIT-EMA	
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	EMA style JIC Tee Fittings 1/4 through 1 inch sizes
6	EMA style ORFS Tee Fittings 1/4 through 1 inch sizes
1	EMA style Whip Hose 32 inch (800 mm) length
1	EMA style Union female to male adapter
1	Case - includes 3 plastic storage compartments

SCJR2-KIT-EMA	
1	ServiceJunior Gauge: Range: 0 to 1500 psi (0 to 100 bar)
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	EMA style JIC Tee Fittings 1/4 through 1 inch sizes
6	EMA style ORFS Tee Fittings 1/4 through 1 inch sizes
2	EMA style Whip Hoses 32 inch (800 mm) length
2	EMA style Unions female to male adapter
1	Case - includes 3 plastic storage compartments

SCJR3-KIT-EMA	
1	ServiceJunior Gauge: Range: -14.5 to 250 psi (-1 to 16 bar)
1	ServiceJunior Gauge: Range: 0 to 1500 psi (0 to 100 bar)
1	ServiceJunior Gauge: Range: 0 to 5800 psi (0 to 400 bar)
6	EMA style JIC Tee Fittings 1/4 through 1 inch sizes
6	EMA style ORFS Tee Fittings 1/4 through 1 inch sizes
3	EMA style Whip Hoses 32 inch (800 mm) length
3	EMA style Unions female to male adapter
1	Case - includes 3 plastic storage compartments



The Serviceman is a portable diagnostic measuring tool – an excellent alternative to conventional mechanical pressure gages – a very rugged, durable test meter that can withstand even the most demanding environmental conditions.

The Serviceman meter uses sensor recognition technology which eliminates the need for meter adjustment. It's powered by a rechargeable Ni-MH battery system or a 120 volt external power supply for continuous operation

**Capabilities:**

- Hand held diagnostic meter
- Measure and Display
  - Pressure
  - Flow
  - Rotational Speed
  - Temperature

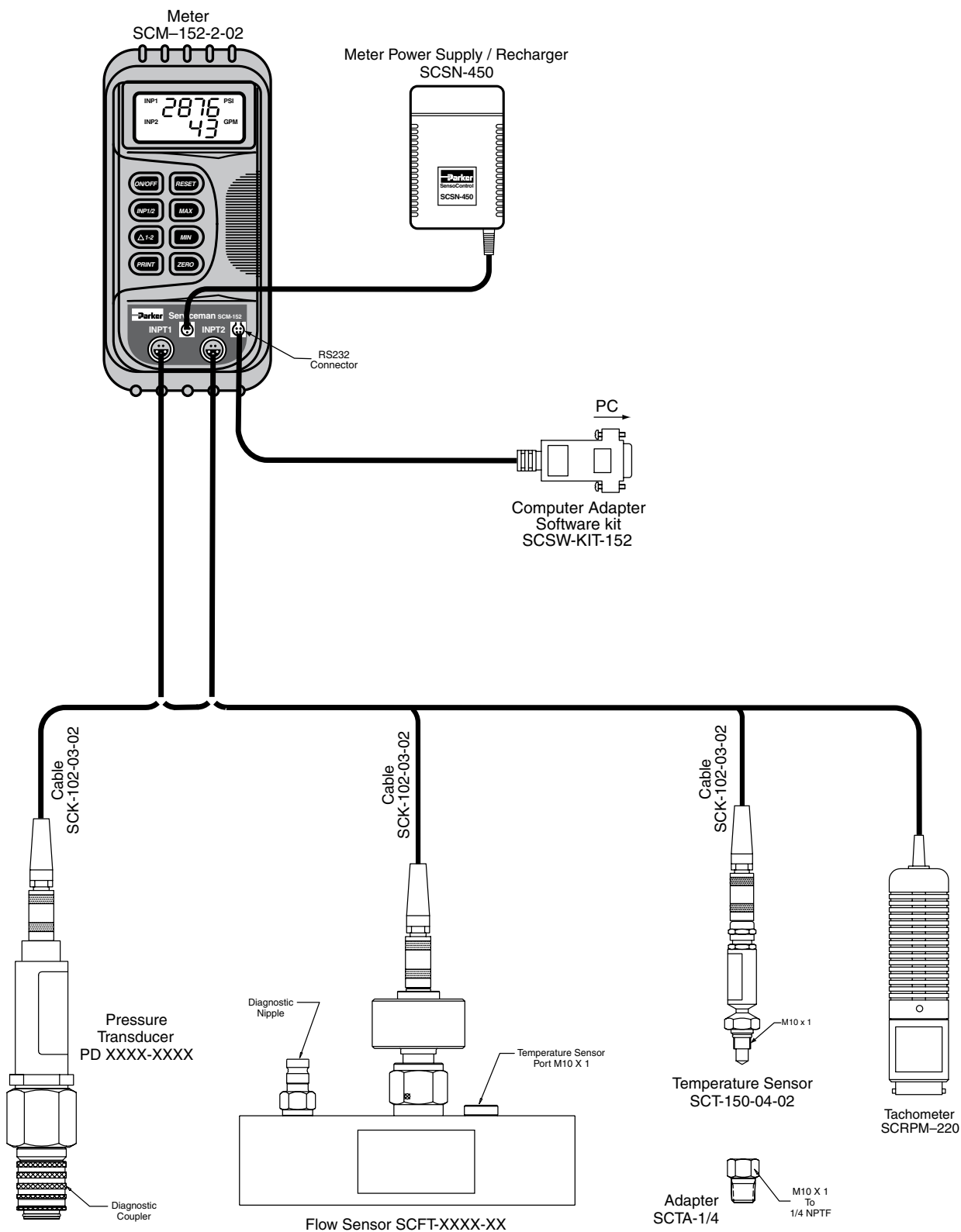
**Features:**

- Two sensor inputs
- Intuitive operation
- Rugged design
- Auto sensor recognition
- Two-line numerical display
- Fast scan rate of 2ms
- Store data on PC

**Serviceman SCM-152-2-02 Technical Data**

Meter	Power Requirements
2 Line Display Shows Both Inputs	9 Volt Rechargeable Ni-MH Battery
4 Digital LCD Text Display	Recharge circuit for use with external power supply
Display of Pressure, Temp, Flow and Rotational Speed	5 Hour Battery Life
Housing	Inputs
ABS Plastic Housing	Two 5-pin push-pull Inputs
Protective Rubber Cover	0-3 Volts
Carrying Strap	12 Bit A/D Converter (4096 steps)
Integral Stand	Automatic Sensor Recognition
Output	2 ms Scanning Rate
RS232 Interface to transfer measured values to a PC (The SCSW-KIT-152 software and adaptor kit is required for data transfer to PC)	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)







#### Kit Contents:

Case	SCC-150
Serviceman Meter	SCM-152-2-02
Transducers (Quantity 1 or 2)	(See Below)
Cable (Quantity 1 or 2) 3m	SCK-102-03-02
Power Supply – Meter*	SCSN-450
Instruction Manual*	SCM-152-TM

\* Included with Serviceman meter

#### Code for Ordering Serviceman Kits:

**PDS3 - X - XX - XX**

Transducer Pressure Range  
(Choose one or two)

Coupling Style

Code	Description
<b>2</b>	PD Style
<b>4</b>	PDP Style
<b>6</b>	EMA 3 Style (Female)

Code	Pressure (psi)	Color
<b>01</b>	-14.5 – +235	Blue
<b>06</b>	0 – 870	Green
<b>15</b>	0 – 2175	Yellow
<b>40</b>	0 – 5800	Orange
<b>60</b>	0 – 8700	Red

#### Additional Transducers - Code for Ordering Separately:

**PD XXXXX- XXXX**

Pressure Range

Coupling Style

Code	Description
<b>TA</b>	PD Style
<b>PTA</b>	PDP Style
<b>TEMA3</b>	EMA 3 Style (Female)

Code	Pressure (psi)	Color
<b>0100</b>	-14.5 – +235	Blue
<b>0600</b>	0 – 870	Green
<b>1500</b>	0 – 2175	Yellow
<b>4000</b>	0 – 5800	Orange
<b>6000</b>	0 – 8700	Red

#### Flow Sensors - Code for Ordering Separately:

**SCFT- XXXX - XXX**

Coupling Style

Flow Range

Code	Flow Rate (gpm)
<b>0004</b>	0.2 – 4 (1 – 15 l/min)
<b>0116</b>	1 – 16 (4 – 60 l/min)
<b>0380</b>	3 – 80 (10 – 300 l/min)
<b>5160</b>	5 – 160 (20 – 600 l/min)

Code	Description
<b>PD</b>	PD Style
<b>PDP</b>	PDP Style
<b>EMA</b>	EMA 3 Style



The Parker Service Master Easy gives you the ability to measure and store operational parameter data simultaneously, or switch between them with ease.

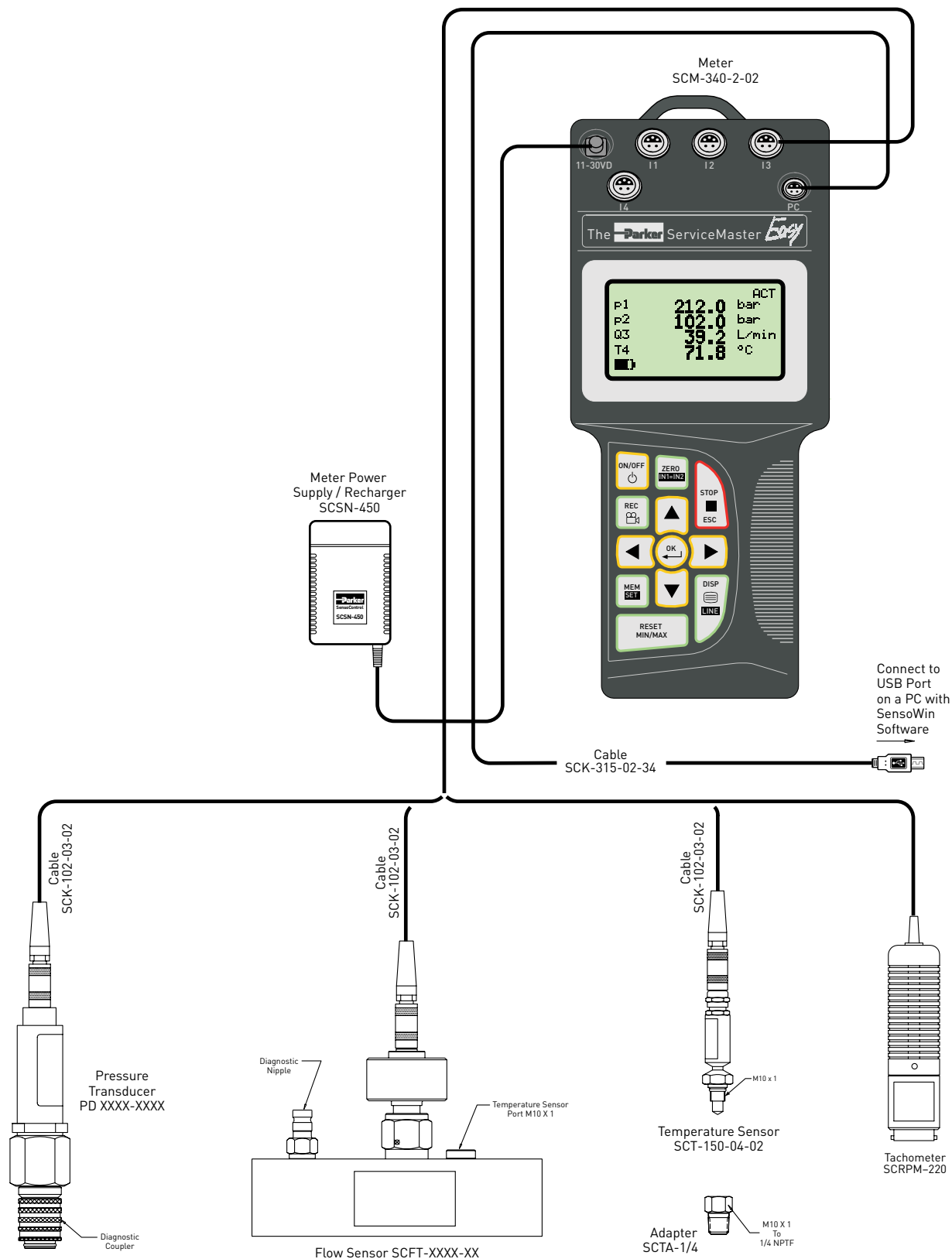
**Capabilities:**

- Hand held diagnostic meter
- Measure and Display
  - Pressure
  - Flow
  - Rotational Speed
  - Temperature

**Features:**

- Four sensor inputs
- Intuitive operation
- Rugged design
- Auto sensor recognition
- Four line numerical display
- Calculated channels
- Store data on device
- SensoWin software utility
- Scan rate of 1ms

Service Master Easy SCM-340-2-02 Technical Data		
Functions	Ambient Conditions	Meter
Differential Value Measurement	Operating Temperatures	Digital LCD Text Display
MIN/MAX Memory	32°F to 122°F (0°C to 50°C)	- 128x64 pixels
On line data transfer	Storage Temperatures	- 72x40 mm screen
Battery level indicator	-4°F to 140°F (-20°C to 60°C)	Character Height 6 mm
Power calculation (display only)	Protection class IP54	Display of Pressure, Temperature, Flow and Rotational Speed
Flow run-out (display only)	Housing	- Pressure in PSI and Bar - Temperature in °F and °C - Flow in GPM and l/min. - Rotational Speed in RPM
Auto power off	Glass reinforced polyamide	
Output	12-Key tactile touch membrane	
USB 2.0 interface	EMC Protection	- Flow in GPM and l/min.
Power Requirements	- Electromagnetic interference	- Rotational Speed in RPM
Internal rechargeable Ni-MH battery	(DIN/EN 50081, Part 1)	Inputs
Recharge circuit for use with external power supply.	- Immunity to emitted interference	Four 5-pin push-pull style connectors
Operating time - 8 hours	(DIN/EN 50082, Part 2)	Automatic Sensor Recognition for pressure, temperature or rotational speed sensors
Charge time - 3 hours	Dimensions	12 Bit A/D Converter (4096 steps)
Excitation voltage (12-30 VDC)	Length/Height/Width	Selectable scanning rate in 1 ms intervals
Memory Functions	- 9.25 x 4.19 x 2.09	Burst Mode 0.25 ms (input 1 only)
Memory capacity	- (235 x 106 x 52 mm)	
- 1,000,000 data points max	Weight	
- 250,000 points per curve max	1.2 lbs (700 grams)	
Variable measuring period up to 100 hours		
Manual and automatic triggering		







Kit Contents:	
Case	SC-690
The Parker Service Master Easy Meter	SCM-340-2-02
2 Transducers (see ordering Information below)	(See Below)
2 Transducer Cables (3m)	SCK-102-03-02
Power Supply	SCSN-450
SensoWin Software 6.0	SC-CD 4082
USB Computer Cable	SCK-315-02-34
Operating Manual (incl. with the Parker Service Master Easy Meter)	

### Code for Ordering Service Master Easy Kits:

**PDSME XX- X - XX - XX**

Transducer Pressure Range  
(Choose one or two)

Coupling Style

Meter

Code	Description
2	PD Style
4	PDP Style
6	EMA 3 Style (Female)

Code	Pressure (psi)	Color
01	-14.5 – +235	Blue
06	0 – 870	Green
15	0 – 2175	Yellow
40	0 – 5800	Orange
60	0 – 8700	Red

Code	Description
34	The Parker Service Master Easy 340 Meter

### Additional Transducers- Code for Ordering Separately:

**PD XXXXX - XXXX**

Pressure Range

Coupling Style

Code	Description
TA	PD Style
PTA	PDP Style
TEMA3	EMA 3 Style (Female)

Code	Pressure (psi)	Color
0100	-14.5 – +235	Blue
0600	0 – 870	Green
1500	0 – 2175	Yellow
4000	0 – 5800	Orange
6000	0 – 8700	Red

### Flow Sensors - Code for Ordering Separately:

**SCFT- XXXX - XXX**

Coupling Style

Flow Range

Code	Flow Rate (gpm)
0004	0.2 – 4 (1 – 15 l/min)
0116	1 – 16 (4 – 60 l/min)
0380	3 – 80 (10 – 300 l/min)
5160	5 – 160 (20 – 600 l/min)

Code	Description
PD	PD Style
PDP	PDP Style
EMA	EMA 3 Style (Female)



The Service Master Plus combines innovative technology with increased overall capabilities to bring you a premier diagnostic instrument. This tool is more than just a meter; it incorporates data measurement, display, and on-screen analysis to provide increased functionality that extends far beyond standard meters currently on the market.

**Capabilities:**

- Hand held diagnostic meter
- Measure and Display
  - Pressure
  - Flow
  - Rotational Speed
  - Temperature
  - Auxiliary inputs

**Features:**

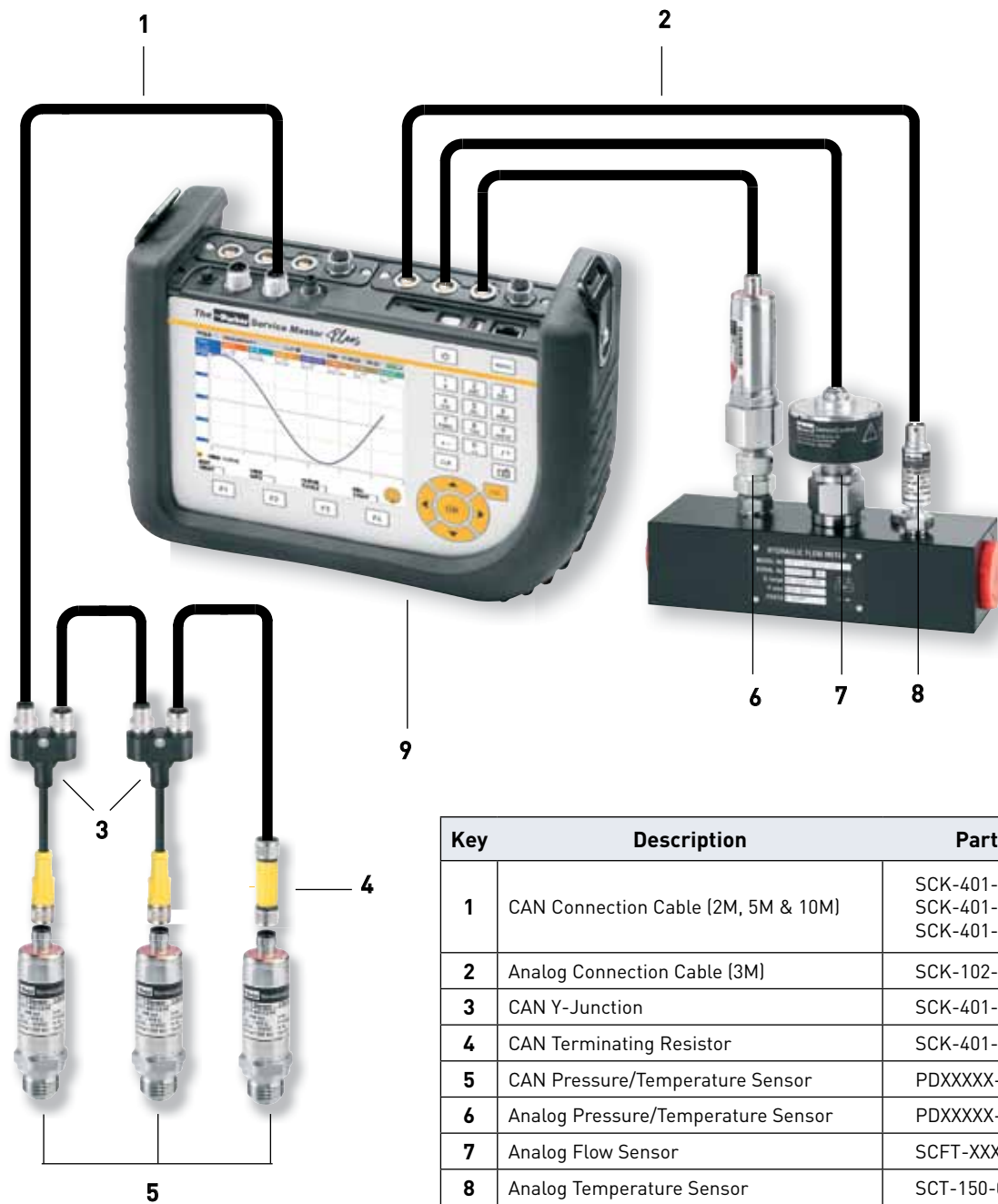
- 26 sensor inputs
- Rugged design
- Auto sensor recognition
- CAN open sensors
- Full color data display options
- Fast scan rate
- Store data to device, micro SD or USB
- SensoWin software utility
- Scan rate of 1ms

**Service Master Plus K-SCM-500-01-01-ENG includes:**

The Parker Service Master Plus Instrument
Quick Start Manual
Power Supply
USB Connection Cable
SensoWin Software
Category 5 LAN Cable

**Service Master Plus K-SCM-500-01-01-ENG Technical Data**

Functions	CANbus Inputs	Ambient Operating Conditions
Measurement Accuracy: $\pm 0.25\%$ FS	2 CANbus networks with 8 inputs each (16 total)	Ambient temperature: 32 to 112 F°
Temp Error: 0.02% FS per °C		Storage temperature: -10 to 140 F°
<b>Display</b>	Scanning Rate: 1 ms	Relative humidity: < 80 %
Visible Area: 115 x 86 mm	Input Impedance: 1 kΩ	Environmental test: IEC60068-2-32 (1 m, free fall)
Resolution 640 x 480 pixels	M12x1, 5 pin push-in connector	
<b>Interfaces</b>	<b>Analog Inputs</b>	<b>Type of Protection</b>
USB device type B (mass storage)	6 Senso Control sensor inputs	IP64 (to EN60529) (Un-connected)
USB host type A (PC Connection)	Parker Automatic Sensor Recognition	IP54 in connected state
10/100 base T Ethernet RJ45	Scanning Rate: 1 ms	<b>Power Supply</b>
<b>Functions</b>	Input Impedance: 1 kΩ	Internal Lithium Ion pack, +7.4 VDC/4500 mAh
Measuring mode: Start/stop, points, trigger	5 pin push-pull connection	External 110/240 VAC - 24 VDC/2500 mA
Measurement: ACT, MIN and MAX	<b>Digital Input /Output</b>	Charge Time: 3h
Measurement display: Numerical, bar graph, pointer, curve graph	Active High 7 to 24 VDC	Run time with fully charged battery: 8h
Trigger: Slope, manual, level, window, time, logic, Pre-Trigger	Active Low <1 VDC	<b>Housing/protective sleeve</b>
	Input Impedance: 1 kΩ	Housing material: ABS/PC (thermoplastic)
Remote operation via the Ethernet	Output Current - 20 mA	Housing protective sleeve material: TPE (thermoplastic elastomer)
Acoustic notification at any incident	<b>Analog Inputs for auxiliary sensors</b>	Dimensions (w x h x d): 257 mm x 75 mm x 181 mm
<b>Measure value storage</b>	2 analog inputs for measuring current and voltage	
6,000,000 points per measurement	Scanning Rate: 1ms	Weight: 3.4 lbs
1,000,000,000 points total storage	Voltage Measuring Range: -10 to +10VDC	
On board storage 64 MB	Current Measuring Range: 0/4 to 20 mA	
External: Micro SD memory card slot	Configurable as FAST-mode analog inputs, 0.1ms scanning rate	
External: USB mass storage device		



Key	Description	Part Number
1	CAN Connection Cable (2M, 5M & 10M)	SCK-401-02-4F-4M SCK-401-05-4F-4M SCK-401-10-4F-4M
2	Analog Connection Cable (3M)	SCK-102-03-02
3	CAN Y-Junction	SCK-401-0.3-Y
4	CAN Terminating Resistor	SCK-401-R
5	CAN Pressure/Temperature Sensor	PDXXXX-XXXX-CAN
6	Analog Pressure/Temperature Sensor	PDXXXX-XXXX
7	Analog Flow Sensor	SCFT-XXXX-XXX
8	Analog Temperature Sensor	SCT-150-04-02
9	Service Master Plus Instrument	K-SCM-500-01-01-ENG
-	CAN Flow Sensor	SCFT-XXXX-XXX-CAN



**Kit Contents:**

Case	SCC-500-ENG
The Parker Service Master Plus Instrument	K-SCM-500-01-01-ENG
2 Transducers	(CAN or Analog See Below)
2 Transducer Cables (5m CAN or Analog)	SCK-XXX-XX-X
Power Supply	SCSN-460
USB Connection Cable	SCK-318-02-35
SensoWin Software	
Quick Start Manual	
Category 5 LAN Cable	

Code for Ordering Service Master Plus Kits:

**PDSMP 50 - X - XX - XX - XXX**

Transducer Pressure Range (choose 2)	<b>Code</b>	<b>Description</b>
	<b>CAN</b>	CAN bus Technology
	<b>Blank</b>	Analog
Coupler Style	<b>Code</b>	<b>Description</b>
	<b>2</b>	PD Style
	<b>6</b>	EMA 3 Style (Female)
Meter	<b>Code</b>	<b>Description</b>
	<b>50</b>	The Parker Service Master Plus

Code	Pressure (psi)	Color
<b>01</b>	-14.5 – +235	Blue
<b>06</b>	0 – 870	Green
<b>15</b>	0 – 2175	Yellow
<b>40</b>	0 – 5800	Orange
<b>60</b>	0 – 8700	Red

**Additional Transducers -**  
Code for Ordering Separately:

**PD XXXXX - XXXX - XXX**

Pressure Range	<b>Code</b>	<b>Description</b>
	<b>CAN</b>	CAN bus Technology
	<b>Blank</b>	Analog
Coupler Style	<b>Code</b>	<b>Description</b>
	<b>TA</b>	PD Style
	<b>PTA</b>	PDP Style
	<b>TEMA3</b>	EMA 3 Style (Female)

Code	Pressure (psi)	Color
<b>0100</b>	-14.5 – +235	Blue
<b>0600</b>	0 – 870	Green
<b>1500</b>	0 – 2175	Yellow
<b>4000</b>	0 – 5800	Orange
<b>6000</b>	0 – 8700	Red

**Flow Sensors -**

Code for Ordering Separately:

**SCFT- XXXX - XXX - XXX**

Coupler Style	<b>Code</b>	<b>Description</b>
	<b>CAN</b>	CAN bus Technology
	<b>Blank</b>	Analog
Flow Range	<b>Code</b>	<b>Flow Rate (gpm)</b>
	<b>0004</b>	0.25 – 4 (1 – 15 l/min)
	<b>0116</b>	1 – 16 (4 – 60 l/min)
	<b>0380</b>	3 – 80 (10 – 300 l/min)
	<b>5160</b>	5 – 160 (20 – 600 l/min)

Code	Description
<b>PD</b>	PD Style
<b>EMA</b>	EMA 3 Style





## Diagnostic Meters and Accessories



Description	The Parker Serviceman	The Parker Service Master Easy	The Parker Service Master Plus	Part Number
<b>The Parker Serviceman</b> Hand-held meter, 2 inputs (Includes SCSN-450 Power Supply)	■			SCM-152-2-02
<b>The Parker Service Master Easy</b> Hand-held meter, 4 inputs, up to 1,000,000 data points (Includes SCSN-450 Power Supply)		■		SCM-340-2-02
<b>The Parker Service Master Plus</b> Hand-held meter, 26 inputs, up to 1,000,000,000 data points (Includes SCSN-460 Power Supply)			■	K-SCM-500-01-01-ENG
<b>Storage Case - Small</b>	■			SCC-150
<b>Storage Case - Medium</b>	■	■		SC-690
<b>Storage Case - Large Roller</b>	■	■	■	SCC-500-ENG
<b>Storage Insert - Holds Extra Sensors</b> Used with SCC-500-ENG Large Roller Case	■	■	■	SCC-500-INLET-ENG
<b>Power Supply</b> 120 Volt AC	■	■		SCSN-450
<b>Power Supply</b> 120 Volt AC			■	SCSN-460
<b>Connection Cable - Analog</b> Used between meter and sensors (3M length)	■	■	■	SCK-102-03-02
<b>Extension Cable - Analog</b> Used in series with connection cables (5M length)	■	■	■	SCK-102-05-12
<b>Connection Cable - CAN</b> Used between meter and sensors (2M, 5M, 10M lengths)			■	SCK-401-02-4F-4M SCK-401-05-4F-4M SCK-401-10-4F-4M
<b>Pressure Transducers - Analog</b> Five measurement ranges	■	■	■	See page F-17
<b>Pressure Transducers - CAN</b> Five measurement ranges			■	See page F-18
<b>Flow Sensors - Analog</b> Four measurement ranges	■	■	■	See page F-19
<b>Flow Sensors - CAN</b> Four measurement ranges			■	See page F-20
<b>Temperature Sensor</b> Used with Parker Flow Sensors or SCTA-1/4 Port Adapter (Requires standard connection cable)	■	■	■	SCT-150-04-02
<b>Port Adapter</b> Converts M10X1 to 1/4" male NPT thread	■	■	■	SCTA-1/4
<b>Tachometer</b> To measure rotational speed (0 to 10,000 RPM)	■	■	■	SCRPM-220
<b>Contact Adapter</b> For SCRPM-220 Tachometer	■	■	■	SCRPMA-001
<b>Focus Adapter</b> For SCRPM-220 Tachometer	■	■	■	SCRPMA-002
<b>Diagnostic Test Hose Assembly</b> (19" & 32" lengths) Used with PD style Parker Transducers and diagnostic nipples	■	■	■	PDH-19 PDH-32
<b>Voltage Adapter</b> Used with auxiliary sensors		■	■	SCMA-VADC-600



Diagnostic Meters and Accessories  
Software and Data Cables



Description	The Parker Serviceman	The Parker Service Master Easy	The Parker Service Master Plus	Part Number
<b>The Parker Serviceman</b> Hand-held meter, 2 inputs (Includes SCSN-450 Power Supply)	■			SCM-152-2-02
<b>The Parker Service Master Easy</b> Hand-held meter, 4 inputs, up to 1,000,000 data points (Includes SCSN-450 Power Supply)		■		SCM-340-2-02
<b>The Parker Service Master Plus</b> Hand-held meter, 26 inputs, up to 1,000,000,000 data points (Includes SCSN-460 Power Supply)			■	K-SCM-500-01-01-ENG
<b>Data Cable and Software</b> To connect the Serviceman meter to a PC	■			SCSW-KIT-152
<b>SensoWin Software</b> For data transfer from any Parker Service Master meter to a PC		■	■	Download from web
<b>Data Cable</b> Used between the Parker Service Master Easy meter and a PC		■		SCK-315-02-34
<b>Data Cable</b> Used between the Parker Service Master Plus meter and a PC			■	SCK-318-02-35





### Pressure Transducer - Analog

- Five measurement ranges: Vacuum to 8,750 PSI
- Color coded for easy identification
- Corrosion resistant stainless steel housing
- Accuracy of 0.50% Max Full Scale
- Available with PD, PDP or EMA style diagnostic couplings

### Analog Transducer Part Numbers and Technical Data

					
	PD ** -0100	PD ** -0600	PD ** -1500	PD ** -4000	PD ** -6000
<b>Color Code</b>	Blue	Green	Yellow	Orange	Red
<b>Measuring Range (Pressure)</b>	-14.5 to 235 psi	0 to 870 psi	0 to 2175 psi	0 to 5800 psi	0 to 8700 <sup>(1)</sup> psi
<b>Measuring Range (Temp)</b>	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F
<b>Max. Overload Pressure</b>	290 psi	1450 psi	3625 psi	14500 psi	14500 psi
<b>Output Signal (Volts)</b>	-0.2 to 2	0 to 3	0 to 3	0 to 3	0 to 3
<b>Response Time</b>	1 ms	1 ms	1 ms	1 ms	1 ms
<b>Excitation Voltage</b>	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC	7-12 VDC
<b>Accuracy (max)</b>	0.50% FS	0.50% FS	0.50% FS	0.50% FS	0.50% FS

1. Maximum Rated Pressure for PD Series Couplers is 6000 psi. Maximum Rated Pressure for EMA Series Couplers is 9000 psi.

2. Analog accessories such as pressure sensors, temperature sensors, flow meters, tachometers and cables are all compatible for use with Serviceman and the Parker Service Master meters.

#### “ \*\* ” in the Part Number Represents:

TA = PD Style  
PTA = PDP Style  
TEMA3 = EMA3 Style (Female)

#### Materials of Construction

Transducer.....Stainless steel  
Diaphragm.....Stainless steel  
Coupler.....Chromium-6 Free Plated steel  
Seal.....Fluorocarbon

#### Temperature Range

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

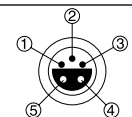
#### Output

Accuracy (max).....0.50% FS  
Load.....2m ohms  
Response time.....<1 ms  
Output signal to noise.....0.1%FS  
Resonant frequency.....100 KHz

#### 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	V <sub>s</sub> = 7-12 VDC	Brown
4	GND	Green
5	Sensor Recognition	Grey



Pressure Transducer - CAN

- Five measurement ranges: Vacuum to 8,750 PSI
- Compatible for use with the Parker Service Master Plus only
- Color coded for easy identification
- Corrosion resistant stainless steel housing
- Accuracy of 0.50% Max Full Scale
- Available with PD, PDP or EMA style diagnostic couplings

CAN Transducer Part Numbers and Technical Data

					
	PD ** -0100-CAN	PD ** -0600-CAN	PD ** -1500-CAN	PD ** -4000-CAN	PD ** -6000-CAN
Color Code	Blue	Green	Yellow	Orange	Red
Measuring Range (Pressure)	-14.5 to 235 psi	0 to 870 psi	0 to 2175 psi	0 to 5800 psi	0 to 8700 <sup>(1)</sup> psi
Measuring Range (Temp)	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F	-13°F to 221°F
Max. Overload Pressure	434 psi	1740 psi	4350 psi	11600 psi	17400 psi
Response Time	1 ms	1 ms	1 ms	1 ms	1 ms
Excitation Voltage	8-40 VDC	8-40 VDC	8-40 VDC	8-40 VDC	8-40 VDC
Accuracy (max)	0.50% FS	0.50% FS	0.50% FS	0.50% FS	0.50% FS

1. Maximum Rated Pressure for PD Series Couplers is 6000 psi. Maximum Rated Pressure for EMA Series Couplers is 9000 psi.  
2. CAN accessories such as pressure transducers, flow sensors, and cables are compatible for use with the Parker Service Master Plus only.

“ \*\* ” in the Part Number Represents:

TA = PD Style  
PTA = PDP Style  
TEMA3 = EMA3 Style (Female)

Excitation Voltage.....8-40 VDC  
Electrical Connection.....5 pin, M 12 x 1 connection  
Port Connection.....1/2 " BSPP  
Housing.....Stainless Steel 1.4301  
Seal Material.....FKM  
Ambient Temperature Range.....-13 to 185°F  
Max. Fluid Temperature.....221°F  
Shock Resistance.....IEC 68-2-29  
Vibration Resistance.....IEC 68-2-6

Cable End  
(Pin Out)



Pin	Item
1	Shield
2	V <sub>s</sub> = 8...40VDC
3	GND
4	CAN High
5	CAN Low





Parker Flow Sensors provide the ability to measure pressure, temperature and flow from a single test point in a hydraulic system. Constructed of light-weight aluminum, they are designed to be used with a wide variety of hydraulic fluids. This design also minimizes the effect of viscosity changes.

Flow sensors are provided with a choice of PD, PDP or EMA style diagnostic ports and are designed to be used with Serviceman™ and the Parker Service Master equipment.

- Four measurement ranges: 0.2 to 160 gpm
- Accuracy of 1% FS
- Measures pressure, temperature and flow
- Supplied with diagnostic coupling and temperature measurement port

#### Analog Flow Sensor Part Numbers

Measuring Range	Flow Sensor with PD Nipple	Flow Sensor with PDP Nipple	Flow Sensor with EMA Nipple	Inlet/Outlet Port Configuration	Length (in.)	Height (in.)	Width (in.)
0.2 – 4 gpm (1 – 15 l/min)	SCFT-0004-PD	SCFT-0004-PDP	SCFT-0004-EMA	3/4-16 ORB	5.35	4.61	1.46
1 – 16 gpm (4 – 60 l/min)	SCFT-0116-PD	SCFT-0116-PDP	SCFT-0116-EMA	1 1/16-12 ORB	7.48	5.12	2.44
3 – 80 gpm (10 – 300 l/min)	SCFT-0380-PD	SCFT-0380-PDP	SCFT-0380-EMA	1 5/16-12 ORB	7.48	5.28	2.44
5 – 160 gpm (20 – 600 l/min)	SCFT-5160-PD	SCFT-5160-PDP	SCFT-5160-EMA	1 5/8-12 ORB	8.35	5.91	2.44

#### Analog Flow Sensors Technical Data

<b>Pressure Rating</b>	6000 PSI
<b>Fluid Temperature Range</b>	-4°F to +194°F
<b>Ambient Temperature Range</b>	-4°F to +122°F
<b>Media/Compatibility</b>	Petroleum Based Fluids (Contact factory for use with water based hydraulic fluids)
<b>Flow Measurement Accuracy</b>	±1.0% Actual Reading
<b>Voltage Input</b>	+7 to 12 VDC (Supplied by SensoControl meter)
<b>Current Requirement</b>	6mA
<b>Response Time</b>	50 ms
<b>Viscosity Range</b>	10 to 100 cSt

#### Material Specifications

<b>Flow Block</b>	Anodized Aluminum
<b>Turbine</b>	Stainless Steel
<b>Bearings</b>	Stainless Steel
<b>Seal Material</b>	Nitrile
<b>Electrical Connection</b>	5 Pin Push-Pull Style



Parker Flow Sensors provide the ability to measure pressure, temperature and flow from a single test point in a hydraulic system. Constructed of light-weight aluminum, they are designed to be used with a wide variety of hydraulic fluids. This design also minimizes the effect of viscosity changes.

Flow sensors are provided with a choice of PD, PDP or EMA style diagnostic ports and are designed to be used with the Parker Service Master Plus only.

- Four measurement ranges: 0.2 to 160 gpm
- Accuracy of 1% FS or IR
- Measures pressure, temperature and flow
- Supplied with diagnostic coupling and temperature measurement port

**CAN Flow Sensor Part Numbers and Technical Data**

	SCFT-0004-**-CAN	SCFT-0116-**-CAN	SCFT-0380-**-CAN	SCFT-5160-**-CAN
Measuring Range	0.2 – 4 gpm (1 – 15 l/min)	1 – 16 gpm (4 – 60 l/min)	3 – 80 gpm (10 – 300 l/min)	5 – 160 gpm (20 – 600 l/min)
* Accuracy @ 21 cSt	1 % FS	1 % IR	1 % IR	1 % IR
Operating Pressure	6000 psi	6000 psi	6000 psi	6000 psi
Port Connection	1/2" BSPP	3/4" BSPP	1" BSPP	1 1/4" BSPP
Pressure Drop @ FS 21 cSt	21 psi	21 psi	58 psi	72 psi
Response Time	50 ms	50 ms	50 ms	50 ms
Length (in)	5.35	7.48	7.48	8.35
Width (in)	1.45	2.44	2.44	2.44
Height (in)	5.91	6.46	6.61	7.20

\* Full scale (FS) or indicated reading (IR)

**"\*\*" in the Part Number Represents:**

TA = PD Style

PTA = PDP Style

TEMA3 = EMA3 Style (Female)

**Excitation Voltage**.....8-40 VDC

**Max. Flow**.....1.1 x Flow Range

**Overload Pressure**.....1.2 x Operating Pressure

**Housing Material**.....Aluminum

**Seal Material**.....FKM

**Wetted Parts**.....Stainless Steel

**Max Fluid Temperature**.....194°F

**Ambient Temperature**.....14 to 122°F

**Filtration**.....25 um

**Viscosity Range**.....10 to 100 cSt

All Parker SensoControl hand-held diagnostic meters are equipped with the same 5-pin push-pull style connector ports. This allows analog accessories such as pressure sensors, temperature sensors, flow meters, tachometers and cables to be compatible with the Serviceman and the Parker Service Master meters.



**Temperature Sensor** for Serviceman and the Parker Service Master Easy. Can be used with Parker flow sensors or with an SCTA-1/4 port adapter.

<b>Part Number</b>	SCT-150-04-02
<b>Accuracy</b>	+1.5% Full scale
<b>Temperature range</b>	-13°F to 257°F (-25°C to 125°C)



**SCRPM Tachometer** for Serviceman and the Parker Service Master Easy Meters. Displays a precision measurement of rotational speed. 5-pin push-pull style connector.

<b>Part Number</b>	SCRPM-220
<b>Measuring Range</b>	20 – 10,000 RPM
<b>Measuring Distance</b>	0.1 – 19.5 in
<b>Accuracy</b>	0.5% FS
<b>Excitation Voltage</b>	7 – 9 VDC
<b>Output Signal</b>	0 – 3 VDC
<b>Resolution</b>	5 RPM

#### Tachometer Adapters

Contact Adapter for belt drive/wheel.	
<b>Part Number</b>	SCRPMA-001
Focus Adapter for confined areas.	
<b>Part Number</b>	SCRPMA-002



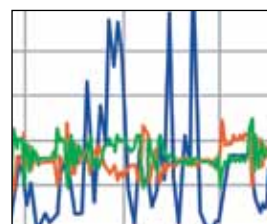
**Voltage Adapter** for use with Auxiliary Sensors to the Parker Service Master Easy.

<b>Part Number</b>	SCMA-VADC-600
<b>Input</b>	0 – 4 A, 0 – 48 VDC
<b>Accuracy</b>	0.25% FS



**5 pin to 5 pin Cables** Flow sensor, transducer and temperature probe cables for both Serviceman and the Parker Service Master Easy.

<b>Part Number</b>	SCK-102-03-02
<b>Length</b>	10 ft (3 m)
<b>Part Number</b>	SCK-102-05-12
<b>Extension Cable</b>	16.4 ft (5 m)



**SensoWIN™ Software** for data transfer from all Parker Service Master meters to a PC (Windows 98 and newer). SensoWin Software is included with Service Master meters. It is not sold separately, but is available for download from Parker.com



**Data Cable/Software** for use between the Serviceman Meter and a PC (Windows 98 and newer).

<b>Part Number</b>	SCSW-KIT-152
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### Ordering Information

#### Coupling / Nipple Material

- Prefix "B" for Brass Body with Fluorocarbon seal
- Prefix "SS" for Stainless Steel Body with Fluorocarbon seal
- Standard body material is Steel with Nitrile seal

### Optional Seals Suffix\*

No suffix is required when ordering products with the standard Nitrile seals. When specifying an optional seal, refer to the following chart to determine the appropriate suffix.

Coupling Series	Ethylene Propylene	Fluorocarbon	Neoprene
PD Series	W	Y	Z

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

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

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

Couplers align to the mating nipples without threading. This allows gauges, transducers and other test equipment to be snapped into place without difficulty.

Note: Protective dust caps play a crucial role in the life of a quick coupling and no purchase is complete without the selection of an appropriate dust cap.

### 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 and ISO 15171-1 design and performance specifications.
- End connections include pipe, O-ring, metric thread, bulkhead, 37° Flare, ORFS and bite-type.

### PD Series Dust Cap



Body Size	Dust Cap Part No.
1/8	PD6-285

### Specifications - Body Size 1/8"

Description	PD Coupler	PD Nipple	BPD Nipple	Assembly
Part Number	PD242	PD361	BDP343Y	—
Body Material (Steel)	Carbon Steel	High Tensile Steel	Brass	—
Rated Pressure (PSI)	6000	6000	300	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)	23,000	40,000	—	17,000
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 connect			
Connect Force-Assembly	41 Lbs. (100 PSI)			
Disconnect Force-Assembly	20 Lbs. (100 PSI)			



### Couplers- Female Thread



Body Size	Part Number	Thread Size	Overall Length	Wrench Flats	Largest Diameter	Weight
1/8	PD222	1/8-27 NPTF	1.67	0.81	0.96	0.20
1/8	PD240	7/16-20 UNF	2.12	0.81	0.96	0.26
1/8	PD242	1/4-18 NPTF	2.12	0.81	0.96	0.25
1/8	SSPD242Y**	1/4-18 NPTF	2.12	0.81	0.96	0.25
1/8	PD260	9/16-18 UNF	2.12	0.81	0.96	0.24

### Couplers- Male Pipe Thread



Body Size	Part Number	Thread Size	Overall Length	Wrench Flats	Largest Diameter	Weight
1/8	PD243	1/4-18 NPTF	2.26	0.81	0.96	0.23

### Nipples- Female Pipe Thread



Body Size	Part Number	Thread Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD322	1/8-27 NPTF	1.48	0.78	0.56	0.65	0.06
1/8	PD342	1/4-18 NPTF	1.63	0.93	0.75	0.87	0.12

### Nipples- Male Pipe Thread



Body Size	Part Number	Thread Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD323	1/8-27 NPTF	1.55	0.85	0.69	0.79	0.17
1/8	BPD323Y*	1/8-27 NPTF	1.44	0.74	0.63	0.72	0.17
1/8	BPD343Y*	1/4-18 NPTF	1.48	0.78	0.69	0.79	0.06
1/8	PD343	1/4-18 NPTF	1.48	0.78	0.69	0.79	0.06
1/8	SSPD343Y**	1/4-18 NPTF	1.48	0.78	0.69	0.79	0.06
1/8	PD363	3/8-18 NPTF	1.50	1.13	0.81	0.96	0.09

\* BPD designates brass body, Fluorocarbon seal standard

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



Note: Add -6 to Nipple part number to include dust cap, for example PD343-6

### Nipples- Male Metric Thread



Body Size	Part Number	Thread Size Metric	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD357	M10 x 1.0	1.80	1.10	0.69	0.79	0.17
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

### Nipples- Male Straight Thread



Body Size	Part Number	Thread Size ORB	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD331	3/8-24 UNF	1.80	1.10	0.69	0.79	0.17
1/8	PD341	7/16-20 UNF	1.60	0.90	0.69	0.79	0.08
1/8	PD351	1/2-20 UNF	1.32	0.62	0.63	0.72	0.05
1/8	PD361	9/16-18 UNF	1.32	0.62	0.69	0.79	0.06

### Nipples- Bulkhead Triple-Lok



Body Size	Part Number	Thread Size	Tube Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD345	7/16-20 UNF	1/4	2.92	2.22	0.81	0.94	0.19
1/8	PD355	1/2-20 UNF	5/16	2.92	2.22	0.81	0.94	0.19
1/8	PD365	9/16-18 UNF	3/8	3.00	2.30	0.81	0.94	0.20

### Nipples- Bulkhead Seal-Lok



Body Size	Part Number	Thread Size	Tube Size	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	PD346	9/16-18 UNF	1/4	2.98	2.27	0.81	0.94	–
1/8	PD366	11/16-16 UNF	3/8	3.08	2.37	1.00	1.16	–
1/8	PD386	13/16-16 UNF	1/2	3.18	2.47	1.12	1.30	–


\* Note: Add -6 to part number to include dust cap, for example PD343-6

\* BPD designates brass body, Fluorocarbon seal standard

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

### Tube End Nipples\*- Triple Lok




Body Size	Part Number Steel	Tube Size	Overall Length	Exposed Length	Weight
1/8	PD34BTX	1/4	1.64	0.94	0.10
1/8	PD36BTX	3/8	1.66	0.96	0.09
					
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

### Tube End Nipples\*- Seal Lok



Body Size	Part Number Steel	Tube Size	Overall Length	Exposed Length	Weight
1/8	PD34BTL	1/4	2.18	1.48	0.12
1/8	PD36BTL	3/8	2.30	1.60	0.14
					
1/8	PD38BTL	1/2	1.57	0.83	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



Note: Add -6 to Nipple part number to include dust cap, for example PD343-6



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.

## 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 Chromium-6 Free plating.
- 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

## Specifications

Body Size	1/8
Rated Pressure (psi)	9000 PSI
Max Connect-Under-Pressure (psi)	5800
Rated Flow (GPM)	0.8
Body Material	Chromium-6 Free Plated Steel
Standard Seal Material	Nitrile (internal) Fluorocarbon (external)
Temperature Range (std. seals)	-15° to +250° F

## Male Pipe Thread



Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/1/8NPT	1/8-27NPT	17	M16X2.0	1.81	0.15
EMA3/1/4NPT	1/4-18NPT	17	M16X2.0	1.98	0.16
EMA3/1/4NPT71 Stainless Steel	1/4-18NPT	17	M16X2.0	1.95	0.16

## SAE Straight Thread



Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/7/16-20UNF-2A*	7/16-20UNF-2A	17	M16X2.0	1.88	0.15
EMA3/9/16-18UNF-2A*	9/16-18UNF-2A	19	M16X2.0	1.88	0.17

\* O-Ring seal on port

### Metric Straight Thread



Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/M8X10R*	M8X1	17	M16X2.0	1.81	0.15
EMA3/10X1ED**	M10X1	17	M16X2.0	1.85	0.15
EMA3/12X1.5ED**	M12X1.5	17	M16X2.0	1.94	0.16
EMA3/14X1.5ED**	M14X1.5	19	M16X2.0	1.94	0.16

\* O-Ring seal on port \*\*Molded seal on port

### British Parallel Pipe



Part Number	Port Thread Size	Wrench Flats	Interface Thread Size	Overall Length	Weight
EMA3/1/8ED**	1/8 BSPP	19	M16X2.0	1.77	0.15
EMA3/1/4ED**	1/4 BSPP	19	M16X2.0	1.94	0.16
EMA3/3/8ED**	3/8 BSPP	21	M16X2.0	1.94	0.16

\*\*Molded seal on port

### EMA Gauge Adapter



Part Number	Port Thread Size	Wrench Flats	Port Thread Size	Overall Length	Weight
MAV1/4NPT-MA3	1/4-18NPT	19	M16X2.0	2.22	0.16
MAV1/4NPT-MA3-KM Includes Dust Cap	1/4-18NPT	19	M16X2.0	2.22	0.23

### EMA Gauge Adapter



Part Number	Port Thread Size	Wrench Flats	Port Thread Size	Overall Length	Weight
MAVMD1/4NPT-MA3	1/4-18NPT	19	M16X2.0	2.22	0.18

### Union



Part Number	Port Thread Size	Wrench Flats	Port Thread Size	Overall Length	Weight
EMA3VS	M16X2.0	17	M16X2.0	1.65	0.11



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



Part Number	Overall Length	Weight	Largest Diameter	Port Thread Size	Interface Thread Size	Weight
PD288	2.52	1.19	1.38	1/2-14BSPP	–	0.35

SCA-1/2-EMA-3	2.07	27mm	–	1/2-14BSPP	M16X2.0	0.30

\* Note: For old style M22X1.5 thread contact QCD

### Flexible Hose



Part Number	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.



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.

## Specifications

Body Size	1/8
Rated Pressure (PSI)	500 PSI
Seal Material	Fluorocarbon
Temperature Range (std. seals (Fluorocarbon))	-40° to +250° F

## Couplers- Female Thread



Body Size	Part Number	Female Thread NPTF	Female Thread ORB	Overall Length	Wrench Flats	Largest Diameter	Weight
1/8	PDFS242	1/4-18	-	2.15	0.81	0.96	0.25

## Nipples- Male Straight Thread



Body Size	Part Number	Thread Size ORB or NPTF	Thread Size Metric	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	BPDFS341	7/16-20 ORB		1.60	0.90	0.69	0.79	0.08
1/8	BPDFS343	1/4-18 NPTF		1.48	0.78	0.69	0.79	0.06
1/8	PDFS-PROBE*		NA	-	-	-	-	-

## Nipples- Male Pipe Thread



Body Size	Part Number	Thread Size ORB or NPTF	Thread Size Metric	Overall Length	Exposed Length	Wrench Flats	Largest Diameter	Weight
1/8	BPDFS341	7/16-20 ORB		1.60	0.90	0.69	0.79	0.08
1/8	BPDFS343	1/4-18 NPTF		1.48	0.78	0.69	0.79	0.06
1/8	PDFS-PROBE*		NA	-	-	-	-	-

Fluorocarbon seal is standard.  
Dust Cap PD6-285 is recommended.

## Codes

The following seal compound and body material compatibility chart is provided as an aid in selecting a specific synthetic rubber compound or body material for a particular application. Operating and environmental conditions must be considered when making the selection of a quick coupling.

Refer to the appropriate section of the catalog for Ordering Information for Seal Codes for specific products.

To indicate a special material just add the appropriate code letter as a suffix to the catalog number of the coupler.

It is not necessary to use the code "STD" as the standard Nitrile seal will be used when another code is not used.

For recommendations for media not listed below, please contact your Parker representative or the factory.

## Note

This chart is intended as a guide only and is not be considered as a recommendation to use Parker quick action couplings in a specific application or with a specific fluid, other factors that must be considered include but are not limited to: fluid and ambient temperature, system pressure, both operating and peak, frequency of connect and disconnect, and applicable standards or regulations.

**CODES: 1 = Satisfactory 2 = Fair 3 = Not Recommended 4 = Insufficient Data Available**

MEDIA	BODY MATERIAL				SEAL MATERIAL			
	Brass	Steel	316 S.S.	303 S.S.	Nitrile	E.P.	Fluorocarbon	Neoprene
3M FC-75	4	4	4	4	1	1	2	1
ACETAMIDE	4	4	1	2	1	1	3	1
ACETIC ACID (5%)	3	3	1	1	2	1	1	1
ACETONE	1	2	1	1	3	1	3	3
ACETOPHENONE	2	2	2	1	3	1	3	3
ACETYL ACETONE	2	2	2	2	3	1	3	3
ACETYL CHLORIDE	4	2	2	2	3	3	1	3
ACETYLENE	3	2	1	1	1	1	1	2
AIR (200 DEGREES F.)	1	2	1	1	1	1	1	1
AIR (300 DEGREES F.)	1	2	1	1	2	2	1	2
AIR (400 DEGREES F.)	1	2	1	1	3	3	1	3
ALUMINUM ACETATE	4	4	4	4	2	1	3	2
ALUMINUM BROMIDE	4	4	4	4	1	1	1	1
ALUMINUM CHLORIDE (10%)	3	3	3	3	1	1	1	1
ALUMINUM CHLORIDE (100%)	3	2	2	2	1	1	1	1
ALUMINUM FLOURIDE	3	3	3	3	1	1	1	1
ALUMINUM NITRATE	3	3	2	2	1	1	1	1
ALUMINUM SALTS	4	4	4	4	1	1	1	1
ALUMINUM SULPHATE	2	3	2	3	1	1	1	1
ALUMS (NH <sub>3</sub> ,Cr,K)	4	4	4	4	1	1	3	1
AMMONIA (ANHYDROUS)	3	2	1	1	2	1	3	1
AMMONIA (COLD, GAS)	3	2	4	1	1	1	3	1
AMMONIA (HOT, GAS)	3	2	4	1	3	2	3	2
AMMONIUM CARBONATE	3	2	3	3	3	1	1	1
AMMONIUM CHLORIDE	3	3	2	3	1	1	1	1
AMMONIUM HYDROXIDE	3	3	1	2	3	1	3	1
AMMONIUM NITRATE	3	3	1	1	1	1	4	1
AMMONIUM PERSULFATE SOLUTION	3	3	1	2	3	1	4	4
AMMONIUM PHOSPHATE (MONO-, DI-, TRI-BASIC)	3	3	3	2	1	1	4	1
AMMONIUM SALTS	4	4	4	4	1	1	3	1
AMMONIUM SULFATE	3	3	2	3	1	1	3	1
AMYL BORATE	4	4	4	4	1	3	1	1
AMYL CHLORIDE	4	2	1	1	4	3	1	3
AMYL CHLORONAPHTHALENE	4	4	4	4	3	3	1	3
AMYL NAPHTHALENE	4	4	4	4	3	3	1	3
ANIMAL OIL (LARD OIL)	2	2	2	2	1	2	1	2
AROCLOR 1248	2	3	3	3	3	2	1	3
AROCLOR 1254	2	3	3	3	3	2	1	3
AROCLOR 1260	2	3	3	3	1	4	1	1
AROMATIC FUEL (50%)	4	4	4	4	2	3	1	3
ARSENIC ACID	3	3	1	1	1	1	1	1
ASPHALT	3	3	1	1	2	3	1	2
ASTM OIL, NO. 1	1	1	1	1	1	3	1	1
ASTM OIL, NO. 2	1	1	1	1	1	3	1	2

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MEDIA	BODY MATERIAL				SEAL MATERIAL			
	Brass	Steel	316 S.S.	303 S.S.	Nitrile	E.P.	Fluorocarbon	Neoprene
ASTM OIL, NO. 3	1	1	1	1	1	3	1	3
ASTM OIL, NO. 4	1	1	1	1	2	3	1	3
ASTM REFERENCE FUEL A	3	2	1	1	1	3	1	2
ASTM REFERENCE FUEL B	3	2	1	1	1	3	1	3
ASTM REFERENCE FUEL C	3	2	1	1	2	3	1	3
AUTOMOTIVE BRAKE FLUID	4	4	4	4	3	1	3	2
BARIUM CHLORIDE	3	3	2	3	1	1	1	1
BARIUM HYDROXIDE	3	2	2	3	1	1	1	1
BARIUM SALTS	4	4	4	4	1	1	1	1
BARIUM SULFIDE	3	2	3	3	1	1	1	1
BEER	3	3	1	1	1	1	1	1
BEET SUGAR LIQUORS	3	3	1	1	1	1	1	2
BENZALDEHYDE	3	3	2	3	3	1	3	3
BENZENE	3	2	3	3	3	3	1	3
BENZENESULFONIC ACID (10%)	3	3	3	3	3	3	1	2
BENZINE	4	4	4	4	1	3	1	2
BENZOIC ACID	3	3	3	3	3	3	1	3
BENZYL ALCOHOL	4	3	1	2	3	2	1	2
BENZYL CHLORIDE	3	3	2	3	3	3	1	3
BLEACH LIQUOR	4	4	4	4	3	1	1	2
BORAX	3	2	3	3	2	1	1	3
BORDEAUX MIXTURE	4	4	4	4	2	1	1	2
BORIC ACID	3	3	2	3	1	1	1	1
BRAKE FLUID (NON-PETROLEUM)	4	4	4	4	3	1	3	2
BRINE (SODIUM CHLORIDE)	3	3	1	1	1	1	1	1
BROMINE	4	4	4	4	3	3	1	3
BROMINE WATER	4	4	4	4	3	2	1	3
BUNKER OIL	4	4	4	4	1	3	1	3
BUTADIENE (MONOMER)	3	2	1	2	3	3	1	3
BUTANE	3	1	1	1	1	3	1	1
BUTANE (2,2, & 2,3-DIMETHYL)	4	4	4	4	1	3	1	2
BUTANOL (BUTYL ALCOHOL)	2	1	1	1	1	2	1	1
BUTTER - ANIMAL FAT	2	3	1	2	1	1	1	2
BUTYL BUTYRATE	4	4	4	4	3	1	1	3
BUTYL STEARATE	4	4	4	4	2	3	1	3
CALCINE LIQUORS	4	4	4	4	1	1	1	4
CALCIUM ACETATE	4	4	4	4	2	1	3	2
CALCIUM BISULFITE	3	3	2	3	2	1	2	2
CALCIUM CARBONATE	3	2	3	2	1	1	1	1
CALCIUM CHLORIDE	3	3	2	3	1	1	1	1
CALCIUM HYDROXIDE	3	3	2	3	1	1	1	1
CALCIUM HYPOCHLORITE	3	3	2	3	2	1	1	2
CALCIUM SALTS	4	4	4	4	1	1	1	1
CALCIUM SULFIDE	3	3	2	2	1	1	1	1
CALICHE LIQUORS	4	4	4	4	1	1	1	1
CANE SUGAR LIQUORS	4	2	1	1	1	1	1	1
CARBON BISULPHIDE	4	4	4	4	3	3	1	3
CARBON DIOXIDE	1	2	1	1	1	1	1	1
CARBON DISULFIDE	2	2	2	2	3	3	1	3
CARBON MONOXIDE	1	1	1	1	1	1	1	2
CARBON TETRACHLORIDE	2	3	1	3	2	3	1	3
CARBONIC ACID	3	3	1	2	2	1	1	1
CASTOR OIL	1	1	1	1	1	2	1	1
CELLUGUARD	4	4	4	4	1	1	1	1
CELLULUBE (NOW FYRQUEL)	4	4	4	4	3	1	1	3
CHINA WOOD OIL (TUNG OIL)	2	2	1	1	1	3	1	2
CHLORINATED SALT BRINE	4	4	4	4	3	3	1	3
CHLORINATED SOLVENTS	4	4	4	4	3	3	1	3
CHLOROBENZENE	3	3	2	3	3	3	1	3
CHLOROBUTADIENE	4	4	4	4	3	3	1	3
CHLOROFORM	3	2	2	1	3	3	1	3
CHLORPHENOL	4	4	4	4	3	3	1	3
COCONUT OIL	4	4	4	4	1	3	1	3
COPPER CHLORIDE	4	4	4	4	1	1	1	2
COPPER SALTS	4	4	4	4	1	1	1	1
COPPER SULFATE	3	3	2	3	1	1	1	1

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MEDIA	BODY MATERIAL				SEAL MATERIAL			
	Brass	Steel	316 S.S.	303 S.S.	Nitrile	E.P.	Fluorocarbon	Neoprene
CORN OIL	2	1	1	1	1	3	1	3
COTTONSEED OIL	3	2	1	2	1	3	1	3
CREOSOLS	3	2	1	2	3	3	1	3
CREOSOTE	3	3	2	1	1	3	1	2
CRESYLIC ACID	4	2	1	2	3	3	1	3
CRUDE OIL	3	2	1	1	2	3	1	3
CUTTING OIL	4	1	1	1	1	3	1	2
DECANE	4	4	4	4	1	3	1	3
DENATURED ALCOHOL	4	4	4	4	1	1	1	1
DETERGENT, WATER SOLUTION	3	3	1	1	1	1	1	2
DIESEL FUEL	1	1	1	1	1	3	1	3
DIETHYLENE GLYCOL	3	1	1	1	1	1	1	1
DIMETHYL FORMAMIDE	4	4	1	1	2	1	3	3
DOW CHEMICAL HD50-4	4	4	4	4	4	1	3	2
DOW CORNING 200, 510, 550	4	4	4	4	2	1	1	1
DOWTHERM A,E	3	1	2	2	3	3	1	3
ETHANOL	1	3	3	3	3	1	3	1
ETHYL CHLORIDE	2	3	1	3	1	3	1	3
ETHYL HEXANOL	4	4	4	4	1	1	1	1
ETHYLENE DICHLORIDE	3	3	1	2	3	3	1	3
ETHYLENE GLYCOL	2	2	1	2	1	1	1	1
FATTY ACIDS	3	3	1	2	2	3	1	2
FREON 11	1	4	4	4	2	3	2	3
FREON 12	1	1	3	1	2	3	1	1
FREON 22	1	3	1	1	3	3	3	1
FREON 134a	1	1	1	1	2	1	4	1
FUEL OIL	3	1	1	1	1	3	1	2
GALLIC ACID	3	3	2	2	2	2	1	2
GAS, LIQUID, PROPANE (LPG)	1	3	1	1	1	3	1	2
GAS, NATURAL	2	3	1	1	1	3	1	1
GASOLINE	1	2	1	1	3	3	1	3
GELATIN	3	3	1	1	1	1	1	1
GLUCOSE	1	1	1	1	1	1	1	1
GLYCERINE (GLYCEROL)	2	1	1	1	1	1	1	1
GLYCOLS	3	2	2	2	1	1	3	1
GREEN SULFATE LIQUOR	3	3	3	3	2	1	1	2
GULF - FR FLUID (EMULSION)	4	4	4	4	1	3	1	2
GULF - FR FLUID G	4	4	4	4	1	1	1	1
GULF - FR FLUID P	4	4	4	4	3	2	2	3
HELIUM	1	1	1	1	1	1	1	1
HEPTANE	1	1	1	1	1	3	1	2
HYDRAULIC OIL (PETROLEUM BASE)	1	1	1	1	1	3	1	1
HYDRAULIC OIL (WATER BASE)	4	1	1	1	2	1	3	2
HYDRAZINE	4	3	1	1	2	1	3	2
HYDROGEN GAS	2	2	1	1	1	1	1	1
HYDROLUBE	4	4	4	4	1	1	1	2
ISO OCTANE	1	1	1	1	1	3	1	2
ISOBUTYL ALCOHOL	4	4	1	1	2	1	1	1
ISOPROPYL ALCOHOL	1	1	2	1	2	1	1	2
ISOPROPYL ETHER	1	1	1	1	2	3	3	3
JP3 AND JP4	1	1	1	1	1	3	1	3
KEROSENE	1	1	1	1	1	3	1	2
LARD, ANIMAL FAT	1	1	1	1	1	2	1	2
LINSEED OIL	3	1	1	1	1	3	1	3
LUBRICATING OIL SAE 10, 20, 30, 40, 50	1	1	1	1	1	3	1	2
MAGNESIUM SALTS	4	4	4	4	1	1	1	1
MAGNESIUM SULPHATE	3	3	2	2	1	1	1	1
MERCURY	3	3	1	1	1	1	1	1
METHANE	1	3	1	1	1	3	1	2
METHANOL	1	1	1	1	1	1	3	1
METHYL BROMIDE	4	1	1	1	2	3	1	3
METHYL CHLORIDE (DRY)	2	3	1	1	3	3	1	3
METHYL CHLORIDE (WET)	1	3	1	3	3	3	1	3
METHYL ETHER	4	4	4	4	1	3	1	3
METHYL ETHYL KETONE (MEK)	1	1	1	1	3	1	3	3
MIL-F-81912 (JP-9)	1	1	1	1	3	3	1	3



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MEDIA	BODY MATERIAL				SEAL MATERIAL			
	Brass	Steel	316 S.S.	303 S.S.	Nitrile	E.P.	Fluorocarbon	Neoprene
MIL-H-5606	1	1	1	1	1	3	1	2
MIL-H-6083	1	1	1	1	1	3	1	1
MIL-H-7083	1	1	1	1	1	1	2	2
MIL-H-8446 (MLO-8515)	2	1	1	1	2	3	1	1
MIL-L-2104 & 2104B	1	1	1	1	1	3	1	2
MIL-L-7808	3	2	1	1	2	3	1	3
MILK	2	1	1	1	1	1	1	1
MINERAL OILS	1	1	1	1	1	3	1	2
MLO-7277 AND MLO-7557	2	1	1	1	3	3	1	3
MOBILE HF	1	1	1	1	1	3	1	2
MONOMETHYL HYDRAZINE	4	4	4	4	2	1	4	2
NAPHTHA (COAL OR PETROLEUM)	2	1	2	2	2	3	1	3
NAPHTHALENE	2	1	2	2	3	3	1	3
NAPHTHENIC ACID	2	1	2	2	2	3	1	3
NEATSFOOT OIL	4	4	4	4	1	2	1	3
NICKEL, ACETATE	3	2	1	1	2	1	3	2
NICKEL CHLORIDE	3	3	2	2	1	1	1	2
NICKEL SALTS	4	4	4	4	1	1	1	2
NICKEL SULFATE	3	3	1	1	1	1	1	1
NITROGEN	1	1	1	1	1	1	1	1
NITROUS OXIDE	2	2	2	1	1	4	4	4
OCTYL ALCOHOL	1	1	1	1	2	3	1	2
OLIVE OIL	2	1	1	1	1	2	1	2
ORTHO-DICHLOROBENZENE	2	2	2	2	3	3	1	3
OXALIC ACID	3	3	2	1	2	1	1	2
OXYGEN (200-400 DEGREES F.)	1	1	1	1	3	3	2	3
OXYGEN, COLD	1	1	1	1	2	1	1	1
OZONE	3	3	1	1	3	1	1	3
PALMITIC ACID	1	2	1	1	1	2	1	2
PARA-DICHLOROBENZENE	2	1	1	2	3	3	1	3
PARKER O LUBE	1	1	1	1	1	3	1	1
PEANUT OIL	2	1	1	1	1	3	1	3
PENTANE (2-3-METHYL, & 2-4 DIMETHYL)	2	2	2	2	1	3	1	2
PERCHLORIC ACID -2N	3	3	2	2	3	2	1	2
PERCHLOROETHYLENE	3	2	2	2	2	3	1	3
PETROLATUM	1	1	1	1	1	3	1	2
PETROLEUM OIL, BELOW 250 DEGREES F.	1	1	1	1	1	3	1	2
PHENOL	1	1	1	1	3	3	1	3
PHOSPHORIC ACID (3 MOLAR)	3	3	2	2	1	1	1	2
PHOSPHORIC ACID (CONCENTRATED)	3	3	2	2	3	1	1	3
PHOSPHOROUS TRICHLORIDE	3	3	1	1	3	1	1	3
PICRIC ACID, MOLTEN	3	3	2	2	2	2	1	2
PICRIC ACID, WATER SOLUTION	3	3	2	2	1	1	1	1
PINE OIL	2	2	1	2	1	3	1	3
PLATING SOLUTIONS (CHROME)	1	3	1	1	4	1	1	3
PLATING SOLUTIONS (OTHER)	4	1	1	1	1	1	1	3
PNEUMATIC SERVICE	1	1	1	1	1	1	1	1
POTASSIUM ACETATE	2	1	2	2	2	1	3	2
POTASSIUM CHLORIDE	3	3	1	2	1	1	1	1
POTASSIUM CYANIDE	3	2	2	2	1	1	1	1
POTASSIUM DICHROMATE	3	1	2	2	1	1	1	1
POTASSIUM HYDROXIDE (50%)	3	2	1	2	2	1	3	2
POTASSIUM NITRATE	2	1	1	1	1	1	1	1
POTASSIUM SALTS	4	4	4	4	1	1	1	1
POTASSIUM SULFATE	3	2	1	1	1	1	1	1
PRL-HIGH TEMP. HYDR. OIL	4	4	4	4	2	3	1	2
PRODUCER GAS	2	1	1	1	1	3	1	2
PROPANE	1	3	1	1	1	3	1	2
PROPYL ACETATE	3	1	1	1	3	2	3	3
PROPYL ALCOHOL	1	1	1	1	1	1	1	1
PROPYLENE	1	1	1	1	3	3	1	3
PYDRAUL 10E	3	1	1	1	3	1	3	3
PYDRAUL A-200, C SERIES	3	1	1	1	3	3	1	3
PYDRAUL, 3 SERIES	3	1	1	1	3	1	1	3
PYROGARD 42, 43, 53, 55 (PHOSPHATE ESTER)	4	4	4	4	3	1	1	3

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MEDIA	BODY MATERIAL				SEAL MATERIAL			
	Brass	Steel	316 S.S.	303 S.S.	Nitrile	E.P.	Fluorocarbon	Neoprene
PYROGARD D	4	4	4	4	1	3	3	2
SEA WATER (SALT WATER)	2	3	1	1	1	1	1	2
SHELL IRUS 905	4	4	4	4	1	3	1	2
SILICONE GREASES	1	1	1	1	1	1	1	1
SILVER NITRATE	3	3	1	2	2	1	1	1
SKYDROL 500, TYPE 2	3	1	1	1	3	1	3	3
SKYDROL 7000, TYPE 2	3	1	1	1	3	1	2	3
SOAP SOLUTIONS	3	3	1	1	1	1	1	2
SODIUM ACETATE	1	1	1	1	2	1	3	2
SODIUM BICARBONATE (BAKING SODA)	2	2	1	1	1	1	1	1
SODIUM BISULPHATE OR BISULPHITE	3	3	2	1	1	1	1	1
SODIUM BORATE	3	2	2	2	1	1	1	1
SODIUM CARBONATE (SODA ASH)	4	1	1	1	1	1	1	1
SODIUM CHLORIDE	3	2	2	2	1	1	1	1
SODIUM CYANIDE	3	1	1	1	1	1	4	1
SODIUM HYDROXIDE (CAUSTIC SODA, LYE)	3	2	1	2	2	1	2	2
SODIUM HYDROXIDE, 50%	3	3	1	2	2	1	2	2
SODIUM METAPHOSPHATE	2	1	2	2	1	1	1	2
SODIUM NITRATE	3	2	1	1	2	1	4	2
SODIUM PERBORATE	3	3	1	1	2	1	1	2
SODIUM PEROXIDE	3	1	2	2	2	1	1	2
SODIUM PHOSPHATES	1	3	2	1	1	1	1	2
SODIUM SALTS	4	4	4	4	1	1	1	2
SODIUM SULFATE	3	2	1	1	1	1	1	1
SODIUM SULFIDE AND SULFITE	3	3	2	3	1	1	1	1
SODIUM THIOSULFATE	3	3	1	2	2	1	1	1
SOYBEAN OIL	2	1	1	1	1	3	1	3
STANNOUS CHLORIDE (15%)	3	3	2	3	1	1	1	1
STEAM, BELOW 400 DEGREES F.	1	3	1	1	3	1*	3	3
STODDARD SOLVENT	2	1	1	1	1	3	1	2
SUCROSE SOLUTIONS	1	1	1	1	1	1	1	2
SULFUR	2	1	1	1	3	1	1	1
SULFUR LIQUORS	1	1	1	1	2	2	1	2
SULFUR (MOLTEN)	3	3	1	1	3	3	1	3
SULFUR DIOXIDE (DRY)	3	1	1	3	3	1	3	3
SULFUR TRIOXIDE (DRY)	2	2	2	3	3	2	1	3
SUNSAFE	3	1	1	1	1	3	1	2
TANNIC ACID (10%)	1	3	2	3	1	1	1	2
TAR, BITUMINOUS	2	1	1	1	2	3	1	3
TARTARIC ACID	2	3	3	2	1	2	1	2
TERPINEOL	4	4	4	4	2	3	1	3
TERTIARY BUTYL ALCOHOL	1	1	1	1	2	2	1	2
TETRACHLOROETHANE	4	2	1	2	3	3	1	3
TETRACHLOROETHYLENE	3	2	2	4	3	3	1	3
TETRAETHYL LEAD	1	1	1	1	2	3	1	2
TETRAETHYL LEAD (BLEND)	1	1	1	1	2	3	1	3
TITANIUM TETRACHLORIDE	2	1	2	3	2	3	1	3
TOLUENE	1	1	1	1	3	3	1	3
TRANSFORMER OIL	1	1	1	1	1	3	1	2
TRANSMISSION FLUID (TYPE A)	1	1	1	1	1	3	1	2
TRICHLOROETHANE	4	2	1	4	3	3	1	3
TRICHLOROETHYLENE	3	2	2	2	3	3	1	3
TRICRESYL PHOSPHATE	4	1	2	2	3	1	2	3
TURBINE OIL #15 (MIL-L-7808A)	4	2	1	1	2	3	1	3
TURPENTINE	3	2	1	1	1	3	1	3
VARNISH	1	1	1	1	2	3	1	3
WATER	1	3	1	1	1	1	2	2
WHISKEY	1	3	1	1	1	1	1	1
WINE	1	3	1	1	1	1	1	1
WOOD OIL	4	2	1	1	1	3	1	2
XYLENE	1	2	1	1	3	3	1	3
ZINC SULFATE	3	3	2	2	1	1	1	1



WARNING

## SAFETY GUIDE FOR SELECTING AND USING QUICK ACTION COUPLINGS AND RELATED ACCESSORIES



WARNING

**DANGER:** Failure or improper selection or improper use of quick action couplings or related accessories can cause death, personal injury and property damage. Possible consequences of failure or improper selection or improper use of quick action couplings or related accessories include but are not limited to:

- Couplings or parts thrown off at high speed.
- High velocity fluid discharge.
- Explosion or burning of the conveyed fluid.
- Contact with suddenly moving or falling objects that are to be held in position or moved by the conveyed fluid.
- Dangerously whipping hose.
- Contact with conveyed fluids that may be hot, cold, toxic, or otherwise injurious.
- Sparking or explosion while paint or flammable liquid spraying.

Before selecting or using any Parker quick action couplings or related accessories, it is important that you read and follow the following instructions.

**1.1 Scope:** This safety guide provides instructions for selecting and using (including installing connecting, disconnecting, and maintaining) quick action couplings and related accessories (including caps, plugs, blow guns, and two way valves). This safety guide is a supplement to and is to be used with, the specific Parker publications for the specific quick action couplings and related accessories that are being considered for use.

**1.2 Fail-Safe:** Quick action couplings or the hose they are attached to can fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of the quick action coupling or hose will not endanger persons or property.

**1.3 Distribution:** Provide a copy of this safety guide to each person that is responsible for selecting or using quick action coupling products. Do not select or use quick action couplings without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.

**1.4 User Responsibility:** Due to the wide variety of operating conditions and uses for quick action couplings, Parker and its distributors do not represent or warrant that any particular quick action coupling is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:

- Making the final selection of the quick action couplings.
- Assuring that the user's requirements are met and that the use presents no health or safety hazards.
- Providing all appropriate health and safety warnings on the equipment on which the quick action couplings are used.

**1.5 Additional Questions:** Call the appropriate Parker customer service department if you have any questions or require any additional information. For the telephone numbers of the appropriate customer service department, see the Parker publication for the product being considered or used.

### 2.0 QUICK ACTION COUPLING SELECTION INSTRUCTIONS

**2.1 Pressure:** Quick action couplings selection must be made so that the published rated pressure of the coupling is equal to or greater than the maximum system pressure. Surge pressures in the system higher than the rated pressure of the coupling will shorten the quick action coupling's life. Do not confuse burst pressure or other pressure values with rated pressure and do not use burst pressure or other pressure values for this purpose.

**2.2 Fluid Compatibility:** Quick action couplings selection must assure compatibility of the body and seal materials with the fluid media used. See the fluid compatibility chart in the Parker publication for the product being considered or used.

**2.3 Temperature:** Be certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the quick action couplings. Use caution and hand protection when connecting or disconnecting quick action couplings that are heated or cooled by the media they are conducting or by their environment.

**2.4 Size:** Transmission of power by means of pressurized liquid varies with pressure and rate of flow. The size of the quick action couplings and other components of the system must be adequate to keep pressure losses to a minimum and avoid damage due to heat generation or excessive fluid velocity.

**2.5 Pressurized Connect or Disconnect:** If connecting or disconnecting under pressure is a requirement, use only quick action couplings designed for that purpose. The rated operating pressure of a quick action coupling may not be the pressure at which it may be safely connected or disconnected.

**2.6 Environment:** Care must be taken to ensure that quick action couplings are either compatible with or protected from the environment (that is, surrounding conditions) to which they are exposed. Environmental conditions including but not limited to ultraviolet radiation, ozone, moisture, water, salt water, chemicals, and air pollutants can cause degradation and premature failure.

**2.7 Locking Means:** Ball locking quick action couplings can unintentionally disconnect if they are dragged over obstructions on the end of a hose or if the sleeve is bumped or moved enough to cause disconnect. Sleeves designed with flanges to provide better gripping for oily or gloved hands are especially susceptible to accidental disconnect and should not be used where these conditions exist. Sleeve lock or union (threaded) sleeve designs should be considered where there is a potential for accidental uncoupling.

**2.8 Mechanical Loads:** External forces can significantly reduce quick action couplings' life or cause failure. Mechanical loads which must be considered include excessive tensile or side loads, and vibration. Unusual applications may require special testing prior to quick action couplings selection.

**2.9 Specifications and Standards:** When selecting quick action couplings, government, industry, and Parker specifications must be reviewed and followed as applicable.

**2.10 Vacuum:** Not all quick action couplings are suitable or recommended for vacuum service. Quick action couplings used for vacuum applications must be selected to ensure that the quick action couplings will withstand the vacuum and pressure of the system.

**2.11 Fire Resistant Fluids:** Some fire resistant fluids require seals other than the standard nitrile used in many quick action couplings.

**2.12 Radiant Heat:** Quick action couplings can be heated to destruction or loss of sealability without contact by such nearby items as hot manifolds or molten metal. The same heat source may then initiate a fire. This can occur despite the presence of cool air around the quick action couplings.

**2.13 Welding and Brazing:** Heating of plated parts, including quick action couplings and port adapters, above 450°F (232°C) such as during welding, brazing, or soldering may emit deadly gases and may cause coupling seal damage.

### 3.0 QUICK ACTION COUPLING INSTALLATION INSTRUCTIONS

**3.1 Pre-Installation Inspection:** Before installing a quick action coupling, visually inspect it and check for correct style, body material, seal material, and catalog number. Before final installation, coupling halves should be connected and disconnected with a sample of the mating half with which they will be used.

#### 3.2 Quick Action Coupling Halves From Other Manufacturers

If a quick action coupling assembly is made up of one Parker half and one half from another manufacturer, the lowest pressure rating of the two halves should not be exceeded.

**3.3 Fitting Installation:** Use a thread sealant, lubricant, or a combination of both when assembling pipe thread joints in quick action couplings. Be sure the sealant is compatible with the system fluid or gas. To avoid system contamination, use a liquid or paste type sealant rather than a tape style. Use the flats provided to hold the quick action coupling when installing fittings. Do not use pipe wrenches or a vice on other parts of the coupling to hold it when installing or removing fittings as damage or loosening of threaded joints in the coupling assembly could result. Do not apply excessive torque to taper pipe threads because cracking or splitting of the female component can result.

**3.4 Caps and Plugs:** Use dust caps and plugs when quick action couplings are not coupled to exclude dirt and contamination and to protect critical surfaces from damage.

**3.5 Coupling Location:** Locate quick action couplings where they can be reached for connect or disconnect without exposing the operator to slipping, falling, getting sprayed, or coming in contact with hot or moving parts.

**3.6 Hose Whips:** Use a hose whip (a short length of hose between the tool and the coupling half) instead of rigidly mounting a coupling half on hand tools or other devices. This reduces the potential for coupling damage if the tool is dropped and provides some isolation from mechanical vibration which could cause uncoupling.

### 4.0 QUICK ACTION COUPLING MAINTENANCE INSTRUCTIONS

**4.1** Even with proper selection and installation, quick action coupling life may be significantly reduced without a continuing maintenance program. Frequency should be determined by the severity of the application and risk potential. A maintenance program must be established and followed by the user and must include the following as a minimum:

**4.2 Visual Inspection of Quick Action Couplings:** Any of the following conditions require immediate shut down and replacement of the quick action coupling:

- Cracked, damaged, or corroded quick action coupling parts.
- Leaks at the fitting, valve or mating seal.
- Broken coupling mounting hardware, especially breakaway clamps.

**4.3 Visual Inspection All Other:** The following items must be tightened, repaired or replaced as required:

- Leaking seals or port connections.
- Remove excess dirt buildup on the coupling locking means or on the interface area of either coupling half.
- Clamps, guards, and shields.
- System fluid level, fluid type and any air entrapment.

**4.4 Functional Test:** Operate the system at maximum operating pressure and check for possible malfunctions and freedom from leaks. Personnel must avoid potential hazardous areas while testing and using the system.

**4.5 Replacement Intervals:** Specific replacement intervals must be considered based on previous service life, government or industry recommendations, or when failures could result in unacceptable downtime, damage or injury risk. See instruction 1.2 above.

Additional copies of the preceding safety information can be ordered by requesting "Safety Guide For Selecting and Using Quick Action Couplings and Related Accessories," Parker Publication No. 3800-B1.0

Contact The Quick Coupling Division, Minneapolis, MN.

# Appendix

**1. Terms and Conditions.** Seller's willingness to offer Products, or accept an order for Products, to or from Buyer is subject to these Terms and Conditions or any newer version of the terms and conditions found on-line at [www.parker.com/saleterms/](http://www.parker.com/saleterms/). Seller objects to any contrary or additional terms or conditions of Buyer's order or any other document issued by Buyer.

**2. Price Adjustments; Payments.** Prices stated on Seller's quote or other documentation offered by Seller are valid for 30 days, and do not include any sales, use, or other taxes unless specifically stated. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2010). Payment is subject to credit approval and is due 30 days from the date of invoice or such other term as required by Seller's Credit Department, after which Buyer shall pay interest on any unpaid invoices at the rate of 1.5% per month or the maximum allowable rate under applicable law.

**3. Delivery Dates; Title and Risk; Shipment.** All delivery dates are approximate and Seller shall not be responsible for any damages resulting from any delay. Regardless of the manner of shipment, title to any products and risk of loss or damage shall pass to Buyer upon placement of the products with the shipment carrier at Seller's facility. Unless otherwise stated, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyers' request beyond the respective dates indicated will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.

**4. Warranty.** Seller warrants that the Products sold hereunder shall be free from defects in material or workmanship for a period of twelve months from the date of delivery to Buyer or 2,000 hours of normal use, whichever occurs first. The prices charged for Seller's products are based upon the exclusive limited warranty stated above, and upon the following disclaimer: **DISCLAIMER OF WARRANTY: THIS WARRANTY COMPRISES THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS PROVIDED HEREUNDER. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

**5. Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon delivery. No claims for shortages will be allowed unless reported to the Seller within 10 days of delivery. No other claims against Seller will be allowed unless asserted in writing within 30 days after delivery. Buyer shall notify Seller of any alleged breach of warranty within 30 days after the date the defect is or should have been discovered by Buyer. Any action based upon breach of this agreement or upon any other claim arising out of this sale (other than an action by Seller for an amount due on any invoice) must be commenced within 12 months from the date of the breach without regard to the date breach is discovered.

**6. LIMITATION OF LIABILITY. UPON NOTIFICATION, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE A DEFECTIVE PRODUCT, OR REFUND THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS OR ANY PART THEREOF, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, EVEN IF SELLER HAS BEEN NEGLIGENT, WHETHER IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE OF THE PRODUCTS.**

**7. User Responsibility.** The user, through its own analysis and testing, is solely responsible for making the final selection of the system and Product and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application and follow applicable industry standards and Product information. If Seller provides Product or system options, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products or systems.

**8. Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, will be considered obsolete and may be destroyed by Seller after two consecutive years have elapsed without Buyer ordering the items manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

**9. Special Tooling.** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture Products. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the Products, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**10. Buyer's Obligation; Rights of Seller.** To secure payment of all sums due or otherwise, Seller shall retain a security interest in the goods delivered and this agreement shall be deemed a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.

**11. Improper use and Indemnity.** Buyer shall indemnify, defend, and hold Seller harmless from any claim, liability, damages, lawsuits, and costs (including attorney fees), whether for personal injury, property damage, patent, trademark or copyright infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, improper application or other misuse of Products purchased by Buyer from Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, plans, drawings, or specifications furnished by Buyer to manufacture Product; or (d) Buyer's failure to comply with these terms and conditions. Seller shall not indemnify Buyer under any circumstance except as otherwise provided.

# Offer of Sale

**12. Cancellations and Changes.** Orders shall not be subject to cancellation or change by Buyer for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller may change product features, specifications, designs and availability with or without notice to Buyer.

**13. Limitation on Assignment.** Buyer may not assign its rights or obligations under this agreement without the prior written consent of Seller.

**14. Force Majeure.** Seller does not assume the risk and shall not be liable for delay or failure to perform any of Seller's obligations by reason of circumstances beyond the reasonable control of Seller (hereinafter "Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

**15. Waiver and Severability.** Failure to enforce any provision of this agreement will not waive that provision nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of this agreement by legislation or other rule of law shall not invalidate any other provision herein. The remaining provisions of this agreement will remain in full force and effect.

**16. Termination.** Seller may terminate this agreement for any reason and at any time by giving Buyer thirty (30) days written notice of termination. Seller may immediately terminate this agreement, in writing, if Buyer: (a) commits a breach of any provision of this agreement (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or by a third party (d) makes an assignment for the benefit of creditors, or (e) dissolves or liquidates all or a majority of its assets.

**17. Governing Law.** This agreement and the sale and delivery of all Products hereunder shall be deemed to have taken place in and shall be governed and construed in accordance with the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to this agreement.

**18. Indemnity for Infringement of Intellectual Property Rights.** Seller shall have no liability for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights except as provided in this Section. Seller will defend and indemnify Buyer against allegations of infringement of U.S. patents, U.S. trademarks, copyrights, trade dress and trade secrets ("Intellectual Property Rights"). Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on an allegation that a Product sold pursuant to this Agreement infringes the Intellectual Property Rights of a third party. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of such allegations of infringement, and Seller having sole control over the defense of any allegations or actions including all negotiations for settlement or compromise. If a Product is subject to a claim that it infringes the Intellectual Property Rights of a third party, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Product, replace or modify the Product so as to make it noninfringing, or offer to accept return of the Product and return the purchase price less a reasonable allowance for depreciation. Notwithstanding the foregoing, Seller shall have no liability for claims of infringement based on information provided by Buyer, or directed to Products delivered hereunder for which the designs are specified in whole or part by Buyer, or infringements resulting from the modification, combination or use in a system of any Product sold hereunder. The foregoing provisions of this Section shall constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for infringement of Intellectual Property Rights.

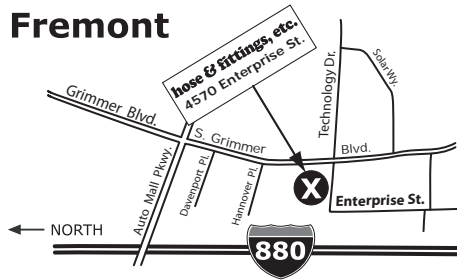
**19. Entire Agreement.** This agreement contains the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter are herein merged.

**20. Compliance with Law, U. K. Bribery Act and U.S. Foreign Corrupt Practices Act.** Buyer agrees to comply with all applicable laws and regulations, including both those of the United Kingdom and the United States of America, and of the country or countries of the Territory in which Buyer may operate, including without limitation the U. K. Bribery Act, the U.S. Foreign Corrupt Practices Act ("FCPA") and the U.S. Anti-Kickback Act (the "Anti-Kickback Act"), and agrees to indemnify and hold harmless Seller from the consequences of any violation of such provisions by Buyer, its employees or agents. Buyer acknowledges that they are familiar with the provisions of the U. K. Bribery Act, the FCPA and the Anti-Kickback Act, and certifies that Buyer will adhere to the requirements thereof. In particular, Buyer represents and agrees that Buyer shall not make any payment or give anything of value, directly or indirectly to any governmental official, any foreign political party or official thereof, any candidate for foreign political office, or any commercial entity or person, for the purpose of influencing such person to purchase products or otherwise benefit the business of Seller.



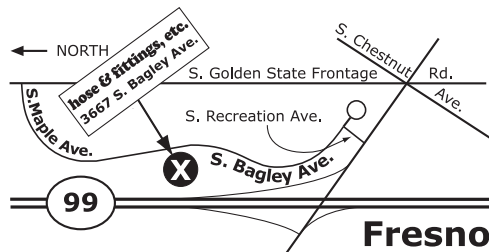
# Five convenient locations - same great service

## Fremont



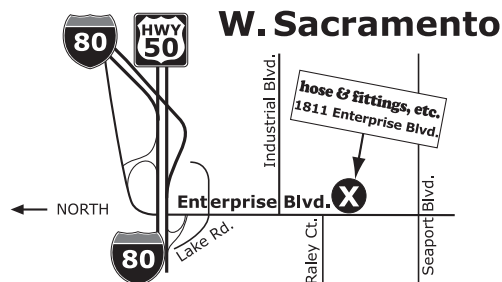
4570 Enterprise St.  
Fremont, CA 94538  
Phone: 510.661.0151  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code



3667 South Bagley Ave., #102  
Fresno, CA 93725  
Phone: 559.495.1220  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code

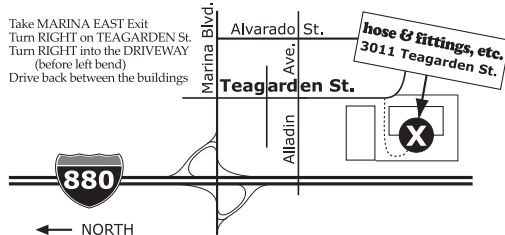


1811 Enterprise Blvd.  
West Sacramento, CA 95691  
Phone: 916.372.3888  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code

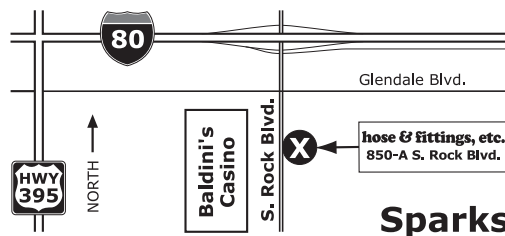


## San Leandro



3011 Teagarden St.  
San Leandro, CA 94577  
Phone: 510.352.1514  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code



850-A South Rock Blvd.  
Sparks, NV 89431  
Phone: 775.331.4673  
Hours: 7 a.m. - 5 p.m. (M-F)

### QR Code



Phone: 888.715.4673  
E-mail: hfe@hfeweb.com  
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