

**SMV 3000 Smart Multivariable Transmitter, Transmitter Models: SMA110, SMA125, SMG170**

**34-SM-99-01**  
03/04

**Addendum  
(to User's Manual  
34-SM-25-02)**

**Overview**

**Replacement Meterbody and Heads**

The SMV 3000 Multivariable Transmitter, all Models, is now being shipped with newly designed meter body and process heads. If a replacement meter body is needed, it should be ordered from the Model Number stated on the meter body nameplate. This number includes the letter "S" after the model number; for example, SMA110S-xxx.

This new transmitter is functionally identical to previous models in that the working ranges (Lower Range Limit to Upper Range Limit) and intended applications have not changed. However, the specifications for the maximum Pressure Rating and/or for the Overpressure Rating have been enhanced for some models. A summary of specifications is given in Table 6.

The new version, which will continue as SMV 3000, differs only in the physical size and form of the meter body, process head, and associated components.

With exceptions noted in this addendum, information given in 34-SM-25-02 SMV 3000 Multivariable Transmitter User's Manual applies also to this newer design.

Installation, operation, maintenance, calibration, and troubleshooting tasks remain virtually the same as for the previous version. Differences appear primarily in torque specifications when replacing meter bodies, and in part numbering and part recognition when replacing components or assemblies.

**Related Publications**

This addendum provides details for parts replacement for the new version of the SMV 3000 Smart Multivariable Flow Transmitter. For specific information regarding parts applicability, refer to the following publication.

34-SM-03-01

SMV 3000 Smart Multivariable Flow Transmitter  
Specification and Model Selection Guide

**Additions to the User Manual**

The additions and changes to User Manual 34-SM-25-02 that relate to the newly designed meter body and process heads are given in Table 1 of this addendum.

Use the information in Table 1 to reference and annotate your User Manual.

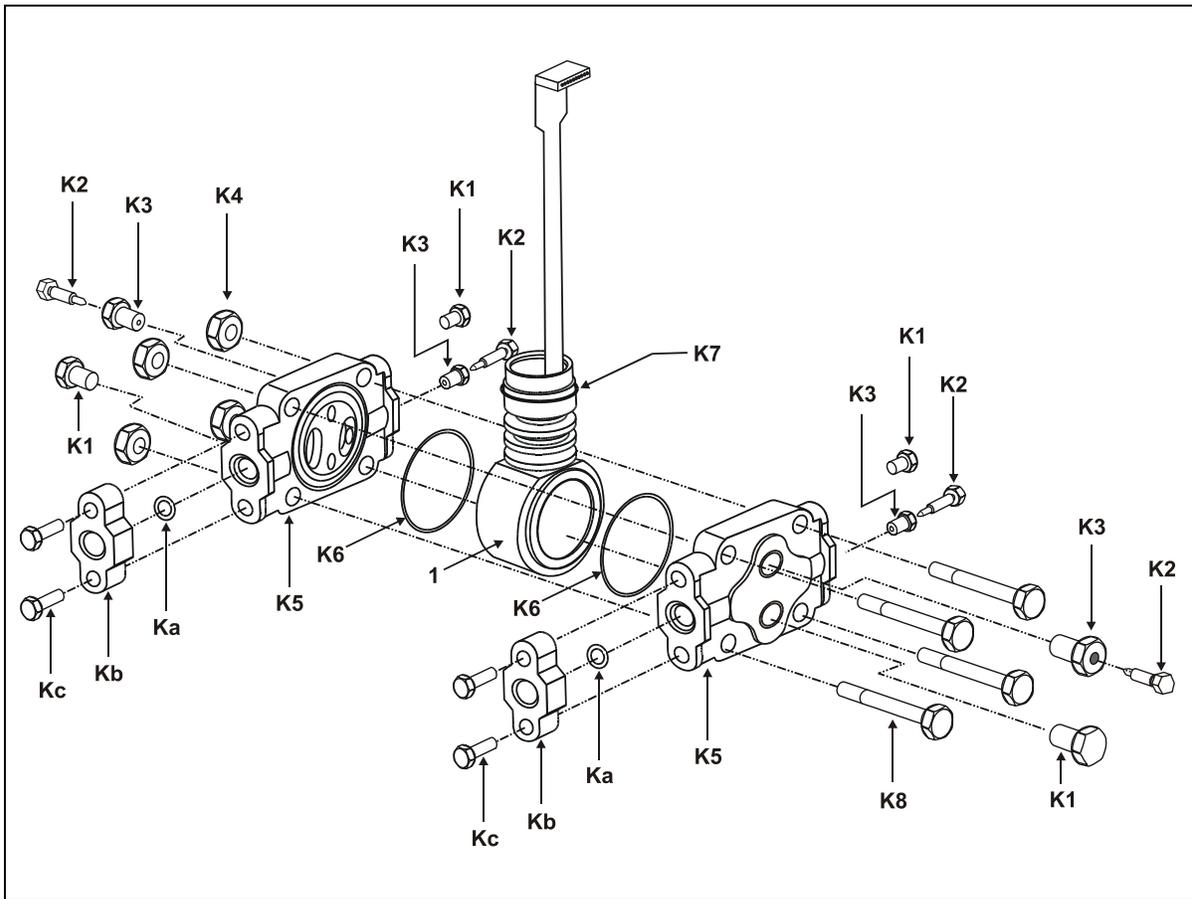
**Table 1 Additions/Changes to the User Manual**

Page # in User Manual	Sub-Section	Description of Change
15	3.2 Considerations for SMV 3000 Transmitter  Table 3 Transmitter Overpressure Ratings	The Maximum Working Pressure Rating and the Overpressure Rating has been enhanced for all models included in this addendum except for the draft range transmitter.  For more information, refer to Table 1 in this Addendum.
28	4.5 Piping SMV 3000 Transmitter  Table 6 Installing ½ inch NPT Flange Adapter	In Step 5 of Table 6, do not use the torque specification of 47.5 to 54 N•m(35 to 40 lb-ft).  Instead, torque Flange Adapter bolts evenly to 47,5 N•m +/- 2,4 N•m (35 Lb-Ft +/- 1.8 Lb-Ft).
102	9.3 Inspecting and Cleaning Barrier Diaphragms  Table 27 Inspecting and Cleaning Barrier Diaphragms	Do not use specifications for head bolt torque given In Step 8 of Table 27.  Instead, torque head bolts/nuts to the specifications given in Table 2 of this addendum.
110	9.5 Replacing Meter Body Center Section  Table 29 Replacing Meter Body Center Section	Do not use specifications for head bolt torque given In Step 9 of Table 29.  Instead, torque head bolts/nuts to the specifications given in Table 2 of this addendum.
143	Replacement Parts  Figure 32 SMV 3000 Meter Body  Table 38 Parts Identification for Callouts in Figure 32	Figure 32 illustrates and Table 38 lists the replacement part available for the previous design of the transmitter.  For the newer design, use Figure 1 of this addendum to locate parts, and use Table 3 of this addendum for part numbers and descriptions.  For applicability of parts, refer to  34-SM-03-01 SMV 3000 Smart Multivariable Flow Transmitter Specification and Model Selection Guide
147	Wiring Diagrams and Installation Drawings	The numbers of installation drawings for transmitter models of revision S and greater is given in Table 7 of this addendum.

**Table 2 Torque Table - Process Head Bolts/Nuts**

Meterbody Type	Bolt Type		
	51452557-001 (Carbon Steel - standard; no option specified)	5142557-002 and -003 (NACE ["CR" option] and Non-NACE ["SS" option] Stainless Steel)	51452557-004 (B7M Alloy Steel ["B7" option])
51451864XXXX except ...XXX5 (See Note 1.)	67,8 N•M +/- 3,4 N•M (50.0 Lb-Ft +/- 2.5 Lb-Ft)	56,9 N•M +/- 2,8 N•M (42.0 Lb-Ft +/- 2.1 Lb-Ft)	48,8 N•M +/- 2,4 N•M (36.0 Lb-Ft +/- 1.8 Lb-Ft)

Note 1 – Part number 51451864XXX5 applies to the Meterbody for the STD 3000 Transmitter, Model STD110 (draft range).



**Figure 1 SMV 3000 Multivariable Transmitter – Meter Body and Process Heads (Rev S or greater)**

**Table 3 Parts Identification for Callouts in Figure 1**

<b>Key No.</b>	<b>Part Number</b>	<b>Description</b>	<b>Qty/ Unit</b>
<b>1</b>	(Obtain the complete Model Number from the nameplate on the Meterbody)	Replacement Meterbody (without Heads)	1
<b>Kc</b> <b>K4</b> <b>K8</b>	51452866-001 51452866-002 51452866-003 51452866-004 ..... ..... .....	Bolts and Nuts Kit, Carbon Steel Bolts A286 SS (NACE) and Nuts, 304 SS (NACE) Kit Bolts, 316 SS (non-NACE) and Nuts, 316 SS (non-NACE) Kit Bolts B7M and Nuts 7M Kit Each Bolts and Nuts Kit includes: Bolt, Hex head, 7/16-20 UNF, 1.50 Inches long (Flange Adapter)..... Nut, Hex, 7/16 UNC (Process Head)..... Bolt, Hex Head, 7/16 UNC X 3.25 inches long (Process Head).....	4 4 4
<b>K1</b> <b>K2</b> <b>K3</b>	30753785-001 30753787-001 30753786-001 ..... ..... .....	Drain and Plug Kit, stainless steel Drain and Plug Kit, Monel Drain and Plug Kit, Hastelloy C Each Drain and Plug Kit includes: Pipe Plug ..... Vent Plug ..... Vent Bushing .....	4 2 2
<b>K6</b> <b>Ka</b> <b>K7</b>	51452865-001 51452865-002 ..... ..... .....	Meterbody Gasket Kit (PTFE Material); Kit includes: Meterbody Gasket Kit (Viton Material); Kit includes: Gasket, Process Head ..... Gasket, Flange Adapter ..... O-Ring, Meterbody to Electronics Housing .....	6 6 3
<b>K6</b> <b>K6</b>	51452868-001 51452868-002	Gasket only, Process Head (12 PTFE Gaskets/pack) Gasket only, Process Head (6 Viton Head O-Rings)	12 6
<b>Ka</b> <b>Ka</b>	51452868-004 51452868-005	Gasket only, Flange Adapter, 6 PTFE Adapter Gaskets Gasket only, Flange Adapter, 6 VITON Adapter O-Rings	6 6

**Table 4 Flange Adapter Kits**

Key No.	Part Number	Description	Quantity Per Unit
	51452867-110 51452867-210 51452867-310 51452867-410  51452867-150 51452867-350  51452867-130 51452867-330	Flange Adapter Kit, with: SS Flange Adapters and with carbon steel bolts SS Flange Adapters and with A286 SS (NACE) bolts SS Flange Adapters and with 316 SS (non-NACE) bolts SS Flange Adapters and with B7M alloy steel bolts  Monel Flange Adapters and with carbon steel bolts Monel Flange Adapters and with 316 SS (non-NACE) bolts  Hastelloy C Flange Adapters and with carbon steel bolts Hastelloy C Flange Adapters and with 316 SS (non-NACE) bolts  Each 1/2-inch NPT Flange Adapter Kit includes: Gasket, Flange Adapter ..... 1/2-inch NPT Flange Adapter ..... Bolt, hex head, 7/16-20 UNF, 1.50 inches long, Flange Adapter ..	           2 2 4
<b>Ka</b> <b>Kb</b> <b>Kc</b>	..... ..... .....	SS Blind Flange Adapter Kit, with Carbon Steel bolts SS Blind Flange Adapter Kit, with A286 SS (NACE) bolts SS Blind Flange Adapter Kit, with 316 SS (non-NACE) bolts SS Blind Flange Adapters and B7M alloy steel bolts  Each Blind Flange Adapter Kit includes: Gasket, Flange Adapter ..... Blind Flange Adapter ..... Bolt, hex head, 7/16-20 UNF, 1.50 inches long, Flange Adapter ..	           2 2 4

**Table 5 Process Head Assembly Kits**

Key No	Part Number	Description	Quantity Per Unit
	51452864-010	<u>Process Head Assembly Kit, with <b>PTFE</b> Gasket and with:</u> Carbon steel head (zinc plated) without side vent/drain	
	51452864-012	Carbon steel head (zinc plated) with side vent/drain	
	51452864-020	Stainless steel head without side vent/drain	
	51452864-022	Stainless steel head with side vent/drain	
	51452864-030	Hastelloy C head without side vent/drain	
	51452864-032	Hastelloy C head with side vent/drain	
	51452864-040	Monel head without side vent/drain	
	51452864-042	Monel head with side vent/drain	
		<u>Process Head Assembly Kit, with <b>VITON</b> Gasket and with:</u>	
	51452864-110	Carbon steel head (zinc plated) without side vent/drain	
	51452864-112	Carbon steel head (zinc plated) with side vent/drain	
	51452864-120	Stainless steel head without side vent/drain	
	51452864-122	Stainless steel head with side vent/drain	
	51452864-130	Hastelloy C head without side vent/drain	
	51452864-132	Hastelloy C head with side vent/drain	
	51452864-140	Monel head without side vent/drain	
	51452864-142	Monel head with side vent/drain	
		Each Process head Assembly Kit includes:	
<b>K1</b>	.....	Pipe Plug (See Note.).....	2
<b>K2</b>	.....	Vent Plug (See Note.).....	1
<b>K3</b>	.....	Vent Bushing (See Note.).....	1
<b>K5</b>	.....	Process Head .....	1
<b>K6</b>	.....	Gasket (PTFE), Process Head .....	1
<b>Ka</b>	.....	Gasket (PTFE), Flange Adapter.....	1
		NOTE: This item is made of the same material as the Process Heads, except for Kits with carbon steel Process Heads, which include stainless steel Pipe Plug, Vent Plug, and Vent Bushing.	

**Table 6 Pressure Specification and Ratings Summary Comparisons**

Transmitter Model	Upper Range Limit	Maximum Allowable Working Pressure (Note 1)	
		Previous	New Design
SMA 110	25 inches H <sub>2</sub> O @ 39.2 F (differential pressure) 100 psia (absolute pressure)	100 psi (6.9 bar)	100 psi (6.9 bar)
SMA 125	400 inches H <sub>2</sub> O @ 39.2 F (differential pressure) 750 psia (absolute pressure)	750 psi (51.7 bar)	750 psi (51.7 bar)
SMG 170	400 inches H <sub>2</sub> O @ 39.2 F (differential pressure) 3000 psia (absolute pressure)	3000 psi (206.8 bar)	<b>4500</b> psi (310.3 bar)

*Note 1* Maximum Working Pressure Rating and Overpressure Rating may vary with materials of construction and with process temperature. For more specific information, refer to:

34-SM-03-01  
SMV 3000 Smart Multivariable Flow Transmitter  
Specification and Model Selection Guide.

**Table 7 Dimension Drawings for Transmitter Models (Revision S or Greater)**

For Mounting Transmitter on a...	Using Mounting Bracket Type...	See Drawing Number...
Vertical Pipe	Angle	50001091
Horizontal Pipe	Angle	50001092
Vertical Pipe	Flat	50001093
Horizontal Pipe	Flat	50001094

