

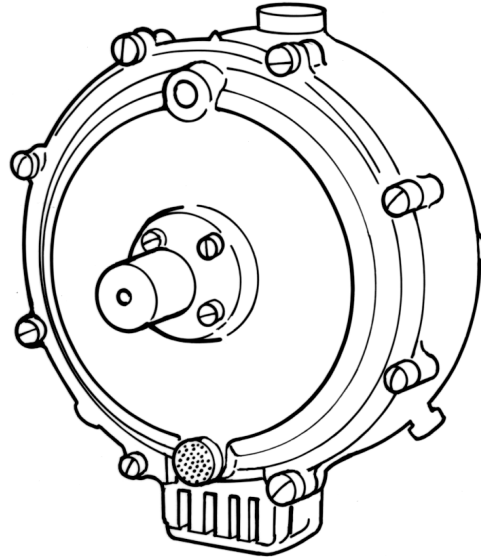
**MODEL E & PE SERIES TWO-STAGE CONVERTERS**

**TECHNICAL DESCRIPTION**

The IMPCO Model E & PE Series are two-stage regulator/converters. It is engine coolant heated to assist liquid fuel vaporization. Diagnostic test ports are standard for both the primary and secondary pressure chambers, and a choice of diaphragm materials is available. E & PE Series regulator/converters are renewable with the appropriate repair kits.

The Model E Series provides a negative outlet pressure, with two pressures available. The only difference between the standard and the optional unit is the secondary outlet spring. The standard model EB utilizes a blue spring, while the optional EO model uses an orange spring. These optional pressures can be used to fine tune special engine applications. The orange spring makes a good choice for cold weather start-ups due to the lower negative “give-up,” however, it will also provide for richer fuel mixtures relative to the standard blue spring. A manual primer is standard on the Model E.

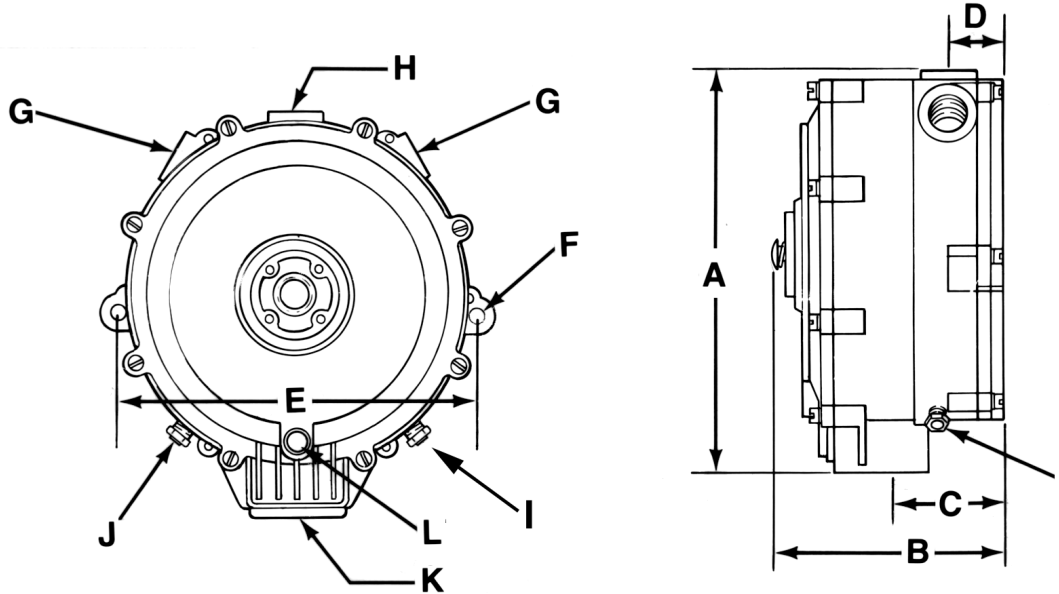
The Model PE Series provides a positive outlet pressure. It is offered for special applications that require positive pressure and/or the ability to vaporize liquid fuel, or for situations where regulatory code or specifications require a positive feed system. Although the standard IMPCO natural gas systems use positive pressure, a heated regulator / converter is not required of CNG, and it is recommended that the Model PEV be used for these systems. Additional mixture stability is possible with the PE, though, as a result of a more consistent fuel temperature gained through the use of the heated labyrinth. While the PE is supplied as a fixed outlet pressure regulator, it can be converted to an adjustable unit with the AC1-74 retrofit kit.



**SPECIFICATIONS**

Type .....	Liquid Withdrawal
Capacity .....	150 kW (200 hp) - PE-7-3 22K Kw (300 hp)
Fuel Lock .....	Required
Mounting Position .....	Horizontal
Maximum Input Pressure .....	2,150 kPa (312 psi)
Operating Pressure:	
Model E	
Primary Chamber .....	6.9 - 13.8 kPa (1.0 - 2.0 psi)
Secondary Chamber .....	-370. Pa (-1.5" w.c.) Standard, 125. Pa
Model PE	
Primary Chamber .....	10.5 - 24.0 kPa (1.5 - 3.5 psi)
Secondary Chamber .....	1,100. Pa (4.5 in w.c.) fixed
Operating Temperature Range .....	-40° C to 120° C (-40° F to 250° F)
Certification .....	UL, ULC, RQD E4 #67, RRC (for PE-3 only)
Weight .....	2.0 Kg (4.12 lbs.)

DIMENSIONS



	A	B	C	D	E	F	G	H	I
STANDARD CONVERTER	OVERALL HEIGHT	OVERALL DEPTH	BACK OF CONVERTER TO CTR. OF VAPOR FUEL OUTLET	BACK OF CONVERTER TO CTR. OF WATER OUTLET	MOUNTING HOLES CTR. TO CTR.	MOUNTING HOLES DIA.	COOLANT INLET AND OUTLET (NPT)	LPG FUEL INLET (NPT)	PRIMARY TEST PORT (NPT)
EB, EB-2	184 mm (7.250")	102 mm (4.000")	50.8 mm (2.000")	22.2 mm (0.875)	168 mm (6.625)	7.1 mm (0.281")	3/8"	1/4"	1/8"

PE	184 mm (7.250")	114 mm (4.500")	50.8 mm (2.000")	22.2 mm (0.875)	168 mm (6.625)	7.1 mm (0.281")	3/8"	1/4"	1/8"
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	J	K	L
STANDARD CONVERTER	SECONDARY ACCESSORY PORT (NPT)	VAPOR FUEL OUTLET (NPT)	VENT BALANCE LINE (NPT)
EB, EB-2	1/8"	1"	1/8"

PE	1/8"	1"	1/8"
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**MODEL E AND PE SERIES**

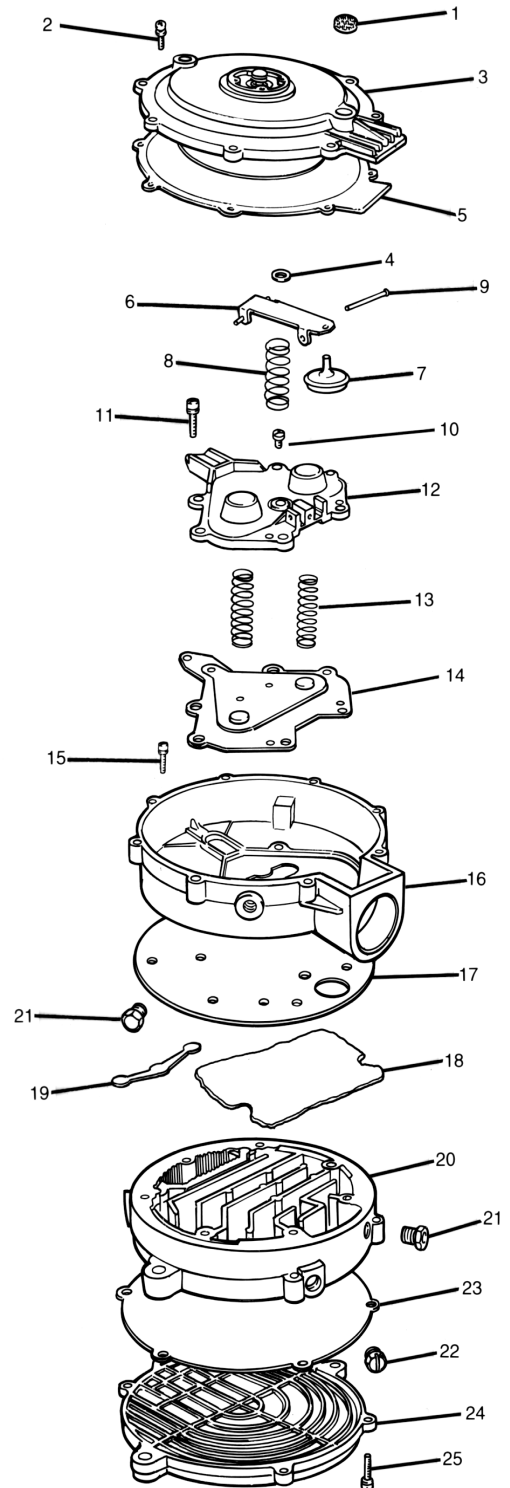
ITEM #	PART #	DESCRIPTION
1	S7-1	Screen, atmospheric vent
2	S1-3 *	Screw, 10-24 x 5/8" SEMS (8)
3	ACI-22-2	Cover ass'y, secondary PE Black Anodized
4	NSS	Washer, hand primer
5	AD1-14-1 * ‡ AD1-23 * ‡	Diaphragm ass'y, secondary, Hydrin Diaphragm ass'y, secondary, silicone
6	AL1-86	Lever, secondary
7	S4-37	Seat, secondary (new)
8	S2-22 S2-23	Spring, secondary regulator (blue), standard Spring, secondary regulator (orange), optional
9	NSS	Pin, secondary lever fulcrum
10	S1-40 *	Screw, 10-24 x 3/8" SEMS (2)
11	S1-39	Screw, 12-24 x 7/8" SEMS (7)
12	NSS S2-13 S2-42 S2-15273	Cover, primary diaphragm Spring, primary regulator (2) EB Spring, primary lever, PE & EB Spring, primary lever, PEV 1-8 only
13	AD1-15	Diaphragm ass'y, primary
14	P1-11	Pin, primary valve
15	AB1-20	Body, regulator E series
16	G1-37 *	Gasket, regulator body
17	F3-1 *	Sponge
18	S4-7	Seat, primary
19	AB1-19-1	Body, ass'y, heat exchanger
20	NSS	Plug, hex head, 1/8 NPT (2)
21	P3-13	Plug, brass, 1/8 NPT, water drain
22	G1-30079	Gasket, heat exchanger cover
23	NSS	Cover, heat exchanger
24	S1-3 *	Screw, 10-24 x 5/8" SEMS (6)

**NSS = Not Serviced Separately**

\* Repair kit components.

† Two vapor outlet pressures are available. Orange secondary spring gives Neg. 120 kPa (Neg. 0.50 in H<sub>2</sub>O) pressure. Blue secondary spring gives Neg. 370 kPa (Neg. 1.50 inH<sub>2</sub>O) pressure  
To change any B regulator to O, change blue secondary spring to orange.

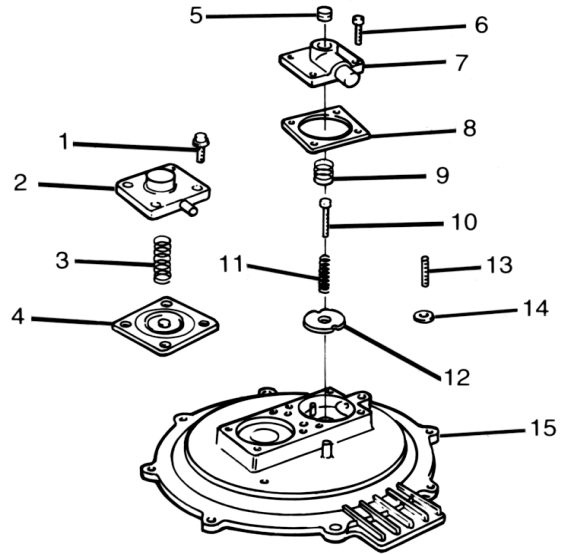
‡ For Model E only.



MODEL E AND PE SERIES (CONTINUED)

MODEL E COVER ASSEMBLY

ITEM #	PART #	DESCRIPTION
1	S1-59	Screw, 8-32 x 5/8" SEMS (4)
2	NSS	Cover, diaphragm
3	NSS	Spring, diaphragm
4	NSS	Diaphragm ass'y for EC1
5	NSS	Plug, 1/16 NPT
6	S1-59	Screw, 8-32 x 5/8" SEMS (4)
7	NSS	Cover, EC1-3
8	NSS	Gasket, EC1 body
9	NSS	Spring, valve
10	S1-86	Screw, 6-32 x 7/8" adjustment
11	NSS	Spring, adjustment lock
12	NSS	Valve, disk
13	NSS	Screw, 10-32 x 3/4" Allen set
14	NSS	Nut, 10-32
15	NSS	Cover ass'y



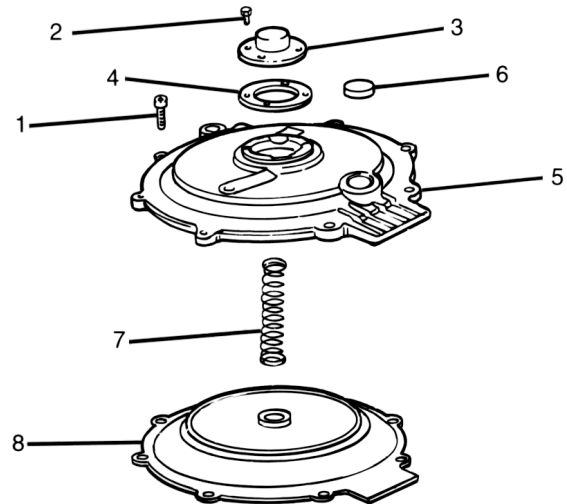
MODEL PE COVER ASSEMBLY

ITEM #	PART #	DESCRIPTION
1	S1-3 *	Screw, 10-24 x 5/8" SEMS (8)
2	S1-101 *	Screw, 6-32 x 1/4" SEMS (4)
3	H3-3	Housing spring
4	G1-84 *	Gasket, spring housing
5	AC1-22-2	Cover ass'y
6	S7-1	Screen, atmospheric vent
7	S2-37	Spring, secondary
8	AD1-14-2 *	Diaphragm ass'y, secondary, Hydrin

\* Repair kit component.

Note: AD1-14-2 not available in silicone.

**NSS = Not Serviced Separately**



**STANDARD AND OPTIONAL EQUIPMENT**

**FUEL CONTROL VALVES**

PART #	DESCRIPTION
SV *	Start assist valve, electric solenoid
VPV *	Vacuum power valve
FCV	Fuel control valve, computer feedback system

\* Use in secondary accessory port.

**GAUGE**

PART #	DESCRIPTION
G2-2	For Models E & L secondary lever

**PRIMER**

PART #	DESCRIPTION
AB1-28	Mechanical primer, for E-series converters (also fits J- & L-series, cannot be used w/ ECI).

**EC1 ACCESSORIES**

PART #	DESCRIPTION
H1-5	Hose 1/4" O.D, Neoprene

**REPAIR KITS**

PART #	DESCRIPTION
RK-E	Repair Kit Model E
RK-E-2	Repair Kit Model E, w/ silicone diaphragm
RK-E-3	Repair Kit Model E
RK-PE	Repair Kit Model PE

**STANDARD AND OPTIONAL EQUIPMENT**

MODEL	SECONDARY DIAPHRAGM	FUEL OUTLET PRESSURE
PE	Hydrin	Converter, Ass'y
PE-7-3	Hydrin	Converter, Ass'y. Low Pressure
EB	Hydrin	Regulator, Ass'y
EB-2	Silicone	Regulator, Ass'y
EB-2ULC	Silicone	Regulator, Ass'y Canada

**DIAPHRAGMS**

PART #	DESCRIPTION
AD1-23	Diaphragm Ass'y, Secondary, VMQ E
AD1-23-2	Diaphragm Ass'y, Secondary, VMQ PE
AD1-23-3	Diaphragm Ass'y, Secondary, FVMQ PE
AD1-23-4	Diaphragm Ass'y, Secondary, FVMQ E