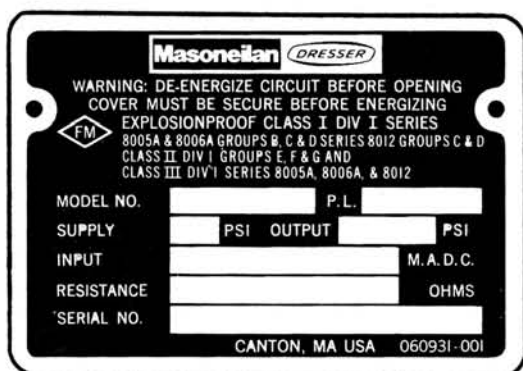


Parts Supplement for Model 8012 Electropneumatic Valve Positioner

For Installation and Operation Instructions Refer To Masoneilan Publication ES5000



Unit Serial Plate
(Actual Size)

Note: This parts supplement lists standard construction parts only. Refer to the specification stamped on the **unit serial plate** and always provide the serial number when ordering parts to ensure that the correct items are supplied.



Model 8012 Electropneumatic Positioner
Basic Bill of Material*

Ref. No.	Description	Computer Abbrev.	Part Number	Qty
1	Cover Screw	CVR SCR	060930-001-117	4
2	Emblem	EMBLEM	983382-002-600	1
3	Cover	COVER	063202-001-609	1
4	Mounting Screw	MTG SCR	971304-010-110	2
5	Magnet S/A	MAGNET	063222-001-999	1
6	Adjusting Screw	ADJ SCR	063227-001-153	1
7	Nut	NUT	971511-006-250	1
8	Spring (Force Balance)	SPRING	See Table 1	1
9	Screw	SCREW	971308-003-110	3
10	Spring Lever	SPR LVR	063216-001-151	1
11	Nut	NUT	971511-007-250	4
12	Adjusting Screw	ADJ SCR	051270-001-207	1
†† 14	Case	CASE	063201-001-609	1
• 15	Terminal Board S/A	TML BRD	See Table 1	1
16	Nozzle	NOZZLE	See Table 3	1
18	Adapter (Flame Arrestor)	ADAPTER	060903-002-999	1
• 19	Gasket	GASKET	060188-015-660	1
• 20	Relay	RELAY	See Table 2	1
21	Mounting Screw	MTG SCR	971061-024-110	4
22	Mounting Bracket	MTG BKT	See Table 7	1
23	Screw	SCREW	971302-003-250	3
24	Cover Plate (Stroke Adj.)	CVR PLT	063229-002-105	1
25	Washer	WASHER	971502-022-250	1
26	Retaining Clip	RTN CLP	051324-001-151	1
27	Clevis Pin	CLV PIN	051325-001-152	1
28	Clevis	CLEVIS	051330-001-888	1
29	Cap Screw	CAP SCR	971000-006-110	3
30	Serial Plate	SRL PLT	060931-001-600	1
31	Lever (Stroke Adj.)	LEVER	063208-002-999	1
32	Stroke Lever	STK LVR	063215-001-999	1
33	Spring (Stroke Lever)	SPRING	004171-107-151	1
34	Back Lever	BCK LVR	See Table 8	1
35	Back Lever Adapter	BL ADP	063204-001-999	1
36	Snap Ring	SNP RNG	971881-018-435	1
37	Screw	SCREW	971305-003-250	2
38	Screw	SCREW	971317-003-250	1
39	Spring Bracket	SPR BKT	063224-001-151	1
• 40	Coil S/A	COIL	See Table 1	1
41	Beam	BEAM	063226-001-609	1
42	Screw	SCREW	971317-001-250	8
43	Locknut	LOCKNUT	971511-004-400	1
44	Machine Screw	MCN SCR	971317-005-250	1
45	Machine Screw	MCN SCR	971317-002-250	2
46	Flapper	FLAPPER	063228-001-600	1
48	Weight	WEIGHT	063234-001-600	1
• 49	Flexure Bearing	FLEXURE	063225-001-779	1
• 50	Flexure Bearing	FLEXURE	063225-002-779	1
51	Locknut	LOCKNUT	971511-005-400	1
52	Biasing Spring	BIASPRG	060920-006-999	1
53	Machine Screw	MCN SCR	971267-013-110	6
54	Cap	CAP	060945-001-609	1
• 55	Diaphragm S/A	DPH SA	See Table 2	1
• 56	Bellofram Plate S/A	BLF PLT	See Table 2	1
• 57	Gasket	GASKET	See Table 2	1
58	Spring	SPRING	060016-003-151	1
• 59	Metering Tube S/A	MTR TBE	See Table 2	1
• 65	O-ring	O RING	See Table 2	1
66	Relay Body	RLY BDY	060942-005-609	1
67	Relay Plug	RLY PLG	060186-005-151	1
68	Spring	SPRING	050045-002-151	1
69	Holding Screw	HLD SCR	050040-001-400	1
† 70	Sleeve Bearing	SLV BRG	007695-142-480	1
† 71	Bearing Post	BRG PST	063203-001-152	1
† 72	Bearing Post	BRG PST	063203-002-152	1
† 73	Groove Pin	GRV PIN	971342-122-151	1
† 74	Flame Arrestor	FLM ARS	972153-001-400	1
75	Nipple	NIPPLE	974076-004-888	1

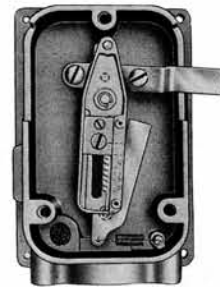
• Recommended Spare Parts

† Included with Ref. No. 14

†† When ordering specify Model No. of unit

For cams and cam mounting parts see Page 5

* All internal components of the 8012 are identical. As shown below, only the mechanism to transmit motion and methods of mounting differ.



Used on 37/38 & 87/88 Spring Diaphragm Actuators



8012-2-C used on Camflex II 35002 Series
8012-3-C used on Sigma F 47/48 Series
8012-4-C used on MiniTork II 37002 & 38002 Series
8012-5-C used on Ball II Valve 36002 Series
8012-6-C used on HPBV 39002 Series
8012-7-C used on Varimax 30000 Series

Table 1 - Part Variations Due to Signals and Loads

Signal mA dc	Force Balance Spring Ref. No. 8		Terminal Board S/A - Ref. No. 15			Coil S/A - Ref. No. 40			Positioner Load Resistance (ohms)	Controller Load Requirement (ohms)
	Rate	Part Number	Code No. *	Temp Comp.	Part Number	Code No. *	Resistance (ohms)	Part Number		
1-5	Full	004171-106-151	1	No	063238-001-999	1	2140	063233-001-999	2140	0-3000
4-20	Full	004171-106-151	1	No	063238-001-999	2	173	063233-002-999	173	0-800
10-50	Full	004171-106-151	2	No	063238-002-999	3	29	063233-003-999	104	100-600
1-3, 3-5	1/2	004171-108-151	3	Yes	063238-003-999	1	2140	063233-001-999	2704	0-3000
1-5	Full	004171-106-151	4	Yes	063238-004-999	1	2140	063233-001-999	12000 †	12000
10-50	Full	004171-106-151	5	Yes	063238-005-999	3	29	063233-003-999	105-205 †	108-200

• Recommended spare parts

* Code numbers are identification numbers stamped or etched on the parts

† With adjustable Potentiometer

Table 2 - Part Variations, Standard and High Temperature Service

Relay - Ref. No. 20 (incl. Refs. 55, 56, 57, 59, & 65)									
Temp Service	Code No. *	Relay S/A Part Number	†† Metering Tube S/A - Ref. No. 59 (incl. Ref. 65)				Other Relay Parts		
			Code No. *	Part Number	O-ring - Ref. No. 65		Diaph. S/A Ref. No. 55 Part Number	Bellofram Plt. S/A Ref. No. 56 Part Number	Gasket Ref. No. 57 Part Number
					Identifying Color	Part Number			
Standard	10	060942-010-999	18	060189-015-999	Black	971886-002-680	060982-004-999	060944-004-999	060188-008-659
High Temp	13	060942-013-999	18	060189-017-999	Red or Green	971886-002-688	060982-005-999	060944-006-999	060188-013-678

Note: All parts on Table 2 are recommended spare parts

* Code numbers are identification numbers stamped or etched on the parts

†† When supply is 55-75 psi order part number 060189-006-999 for standard temp. For high temp. order part number 060189-010-999

Table 3 - Nozzle Variations (Ref. No. 16)
Model 8012

37/38		20 psi Supply (3-15 psi Range)		35 psi Supply (6-30 psi Range)		87/88		20-60 psig Supply	
Actuator Size		Code No. *	Part Number	Code No. *	Part Number	Actuator Size		Code No. *	Part Number
9 (45 in ²)		11	063218-001-400	11	063218-001-400				
11 (71 in ²)		11	063218-001-400	11	063218-001-400	6 (60 in ²)		11	063218-001-400
13 (105 in ²)		13	063218-003-400	12	063218-002-400	10** (100 in ²)		12	063218-002-400
15 (145 in ²)		13	063218-003-400	12	063218-002-400	16** (160 in ²)		13	063218-003-400
18 (200 in ²)		13	063218-003-400	12	063218-002-400	23 (230 in ²)		13	063218-003-400
24 (330 in ²)		13	063218-003-400	13	063218-003-400				

Model 8012-1-C & 2-C

Valve Size (in.)	Supply Pressure (psi)	Code No. *	Part Number
1-2	20	15	063218-005-400
	30	15	063218-005-400
3-4	20	12	063218-002-400
	30	11	063218-001-400
	35	11	063218-001-400
	45 ††	11	063218-001-400
6-12	30	13	063218-003-400
	35	13	063218-003-400
	45	12	063218-002-400
	55	12	063218-002-400
	65	11	063218-001-400
	75	11	063218-001-400

Model 8012-3-C Thru 6-C

Actuator Size	Supply Pressure (psi)	Code No. *	Part Number
A (30 in ²)	20	11	063218-001-400
	30	15	063218-005-400
B (70 in ²)	20	11	063218-001-400
	30	11	063218-001-400
B (140 in ²)	20	13	063218-003-400
	30	12	063218-002-400

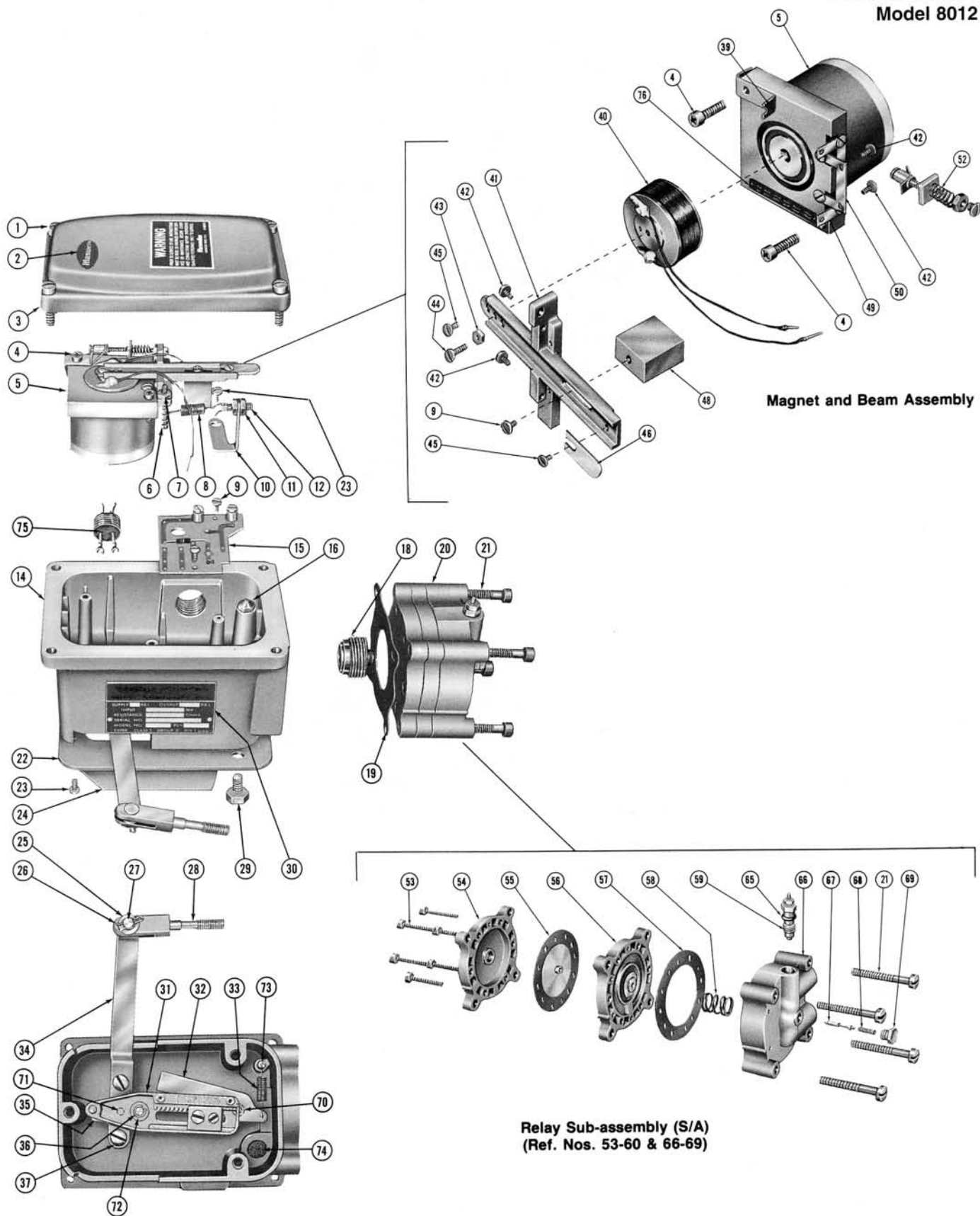
Model 8012-7-C

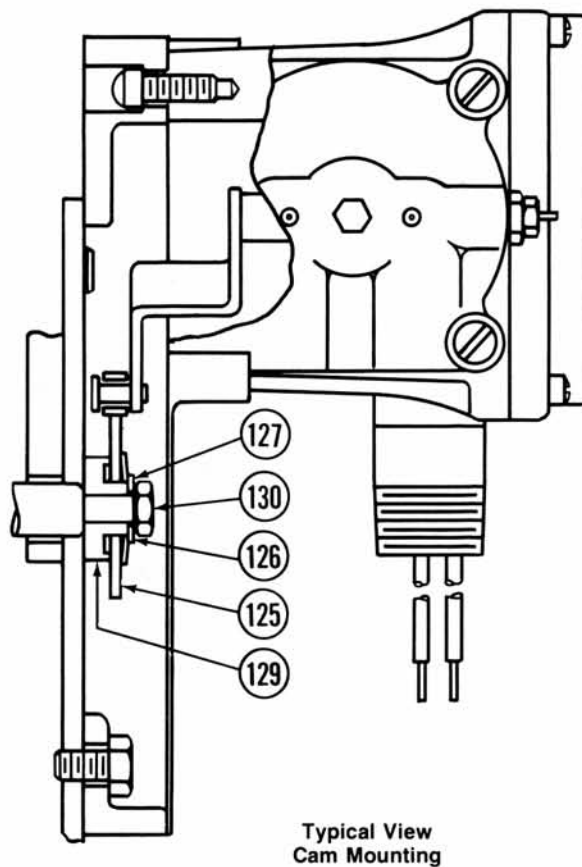
Actuator Size	Supply Pressure (psi)	Code No. *	Part Number
3	30	15	063218-005-400
	50	15	063218-005-400
5	30	15	063218-005-400
	50	11	063218-001-400
	70	11	063218-001-400
7	30	12	063218-002-400
	50	12	063218-002-400
	60	12	063218-002-400
9	30	11	063218-001-400
	50	11	063218-001-400
	60	11	063218-001-400

* Code numbers are identification numbers stamped or etched on parts

** Use No. 11 nozzle with 21-45 psig range

†† Available for 4" only





Typical View
Cam Mounting

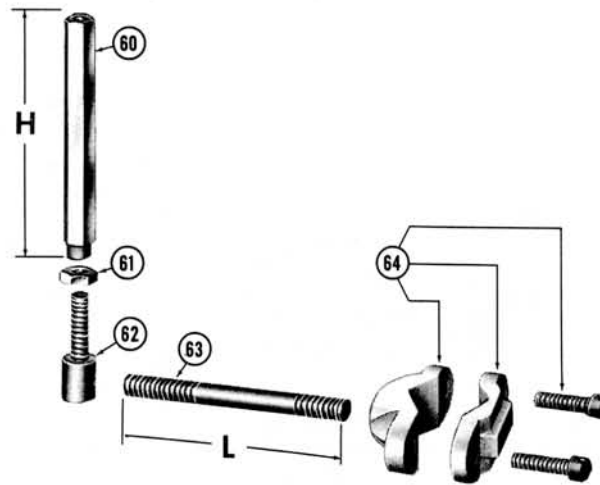
Table 4 - Cam Mounting Parts

Ref. No.	Description	Qty	Part Number		
			Model 8012-2-C & 3-C	Model 8012-4-C thru 6-C	Model 8012-7-C
125	Cam	1	See Table 5	See Table 5	See Table 5
126	Disk Spring	4	971510-010-151	971510-010-151	971510-010-151
127	Washer	1	971502-020-250	971502-020-250	971502-020-250
129	Cam Guide	1	041122-135-152	041122-135-152	041122-135-152
130	Cap Screw	1	971001-017-110	971001-018-110	971001-017-110

Table 5 - Cam Identification

Valve/Actuator Type	Model Used	Cam * Part Number
35002 Series Camflex II	8012-2-C	041126-181-153
47/48 Series Sigma F †	8012-3-C	041126-180-153
47/48 Series Sigma F	8012-3-C	041126-181-153
37002 Series MiniTork II & 38002 Series	8012-4-C	021128-006-153
36002 Series Ball Valve II	8012-5-C	021128-007-153
39002 Series HPBV	8012-6-C	021128-006-153
30000 Series Varimax	8012-7-C	041126-183-153

† Used only to obtain modified percentage flow characteristic when used with **linear valve trim**
* All but last 3 digits are stamped on part



Take-off Clamp Sub-assembly (S/A)

Table 6 - Linkage and Piping Variations (Model 8012)

Ref. No.	Description	Comp. Abbrev.	Dim	Control Valve Diaphragm Actuator Case Size						Qty
				9	11	13	15	16	18L	
				Part Number	Part Number	Part Number	Part Number	Part Number	Part Number	
34	Back Lever	BCK LVR		063207-001-151	063207-101-151	063207-001-151	063207-001-151	063207-001-151	063207-002-151	1
-	Stroke Scale	STK SCL		Incl. in Ref. 32	Incl. in Ref. 32	Incl. in Ref. 32	Incl. in Ref. 32	Incl. in Ref. 32	983672-003-600	1
-	Drive Screw	DRV SCR		Not used	Not used	Not used	Not used	Not used	971335-002-250	2
60	Turnbuckle	TRNBCKL	H	051331-004-400	051331-004-400	051331-005-400	051331-008-400	051331-008-400	051331-008-400	1
				3 1/4"	3 1/4"	5 1/4"	7 1/4"	7 1/4"	7 1/4"	
61	Locknut	LOCKNUT		971514-001-250	971514-001-250	971514-001-250	971514-001-250	971514-001-250	971514-001-250	1
62	Turnbuckle Screw	TBK SCR		051329-001-152	051329-001-152	051329-001-152	051329-001-152	051329-001-152	051329-001-152	1
63	Clamp Rod	CLP ROD	L	Incl. in Ref. 64	Incl. in Ref. 64	Incl. in Ref. 64	051332-039-152	051332-039-152	051332-039-152	1
				3 1/8"	3 1/8"	3 1/8"	4 1/8"	4 1/8"	4 1/8"	
64	Take-off Clamp S/A	TOF CLP		051425-002-999	051425-002-999	051425-002-999	Not used	Not used	Not used	1
-	Tubing	TUBING		051433-006-429	051433-006-429	051433-006-429	051433-006-429	051433-006-429	051433-006-429	2
-	Connector	CONECTR		971668-003-400	971668-003-400	971668-003-400	971668-003-400	971668-003-400	971668-003-400	3
-	Elbow	ELBOW		971670-003-400	971670-003-400	971670-003-400	971670-003-400	971670-003-400	971670-003-400	1
-	Cap Screw	CAP SCR		971002-007-110	971002-007-110	971002-007-110	971002-007-110	971002-007-110	971002-007-110	2

Table 7 - Mounting Bracket (Not Shown)

Actuator Size (Type)	Part Number	
	Bracket	Mounting Plate
No. 9 thru 18 Spring Diaph.	063229-001-779	Not used
No. 18L	063229-003-779	Not used
For 8012-2-C thru 8012-7-C	041122-001-609	035126-011-105

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