

Model 14A Pneumatic Flow Integrator Styles A, B, and C

Give instrument Model Code when ordering.

*Parts preceded by an asterisk are recommended spare parts.
See Recommended Spare Parts Summary section for quantities.

TO ORDER PARTS, CALL 1-866-746-6477.

Figure 1. Model 14A Pneumatic Flow Integrator

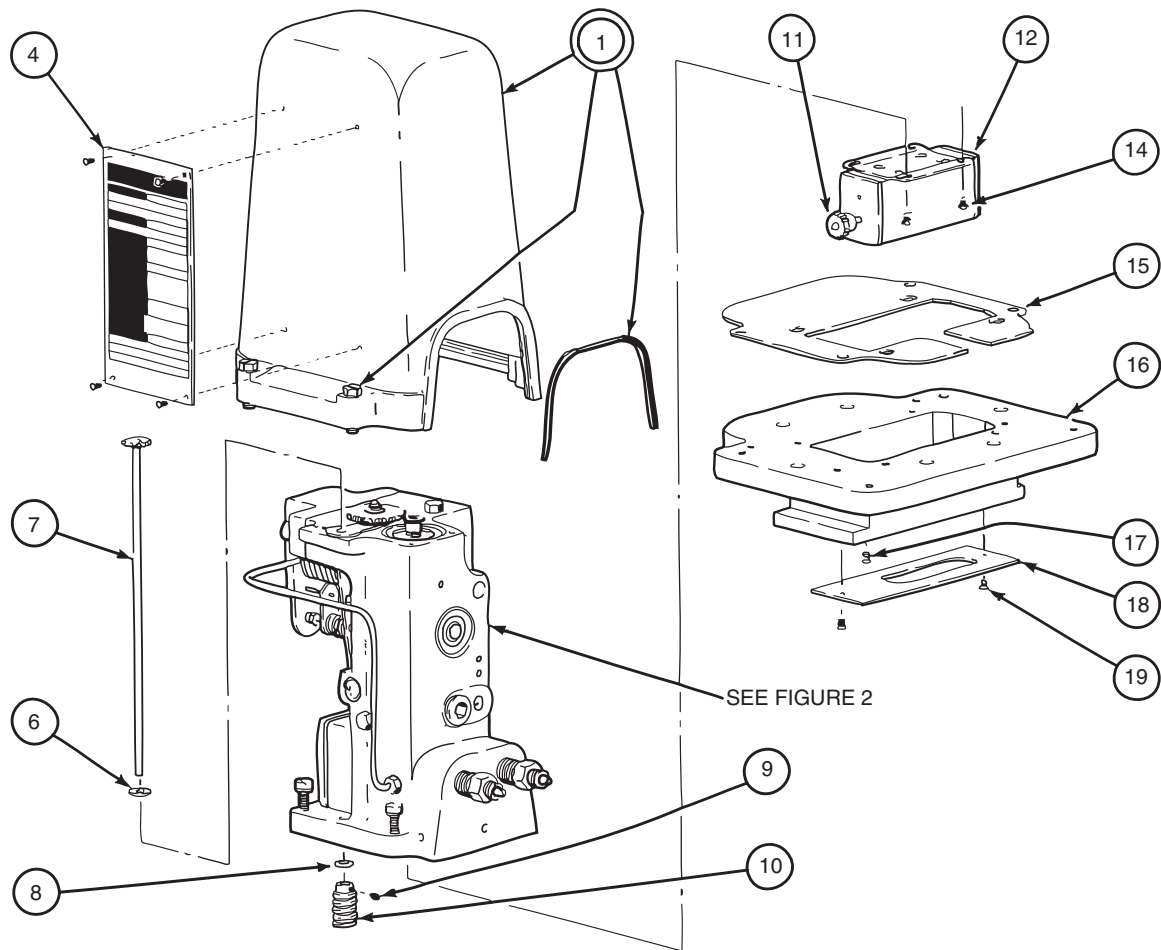


Table 1. Model 14A Pneumatic Flow Integrator

Item	Part No.	Qty.	Part Name
1	B1277PL	1	Cover Assembly
—	B1271CY	1	Gasket
—	D0129GH	4	Screw
2	—	—	Item 2 intentionally not used.
3	—	—	Item 3 intentionally not used.
4	D0125TS	1	Data Plate
5	—	—	Item 5 intentionally not used.
6	0005860	1	Washer
7	U0108LL	1	Counter Gear Assembly
8	U0104RC	1	Washer
9	0048858	1	Screw, Set, 0.112-40 x 0.125
10	U0108EM	1	Worm; 48 Pitch; 0.333 x 0.563 Pitch Thread
11	U0108EF	1	Worm Gear Assembly
12	U0108EE	1	Counter; Direct Drive; Non Reset; 10 Counts/rev.

Table 1. Model 14A Pneumatic Flow Integrator (Continued)

Item	Part No.	Qty.	Part Name
13	—	—	Item 13 intentionally not used.
14	X0169LQ	4	Screw, Pan Hd.; Cross-Recessed; SEMS; 0.099-48 x 0.188
—	0038006	4	Lockwasher
*15	U0108EC	1	Gasket
16	U0119XB	7	Mounting Plate
17	U0124BW	1	Screw, Flat Hd., 0.138-32 x 0.437
18	U0119YL	1	Factor Plate (Blank)
19	0043617	2	Screw, Flat Hd., 0.086-56 x 0.187

Figure 2. Model 14A Pneumatic Flow Integrator

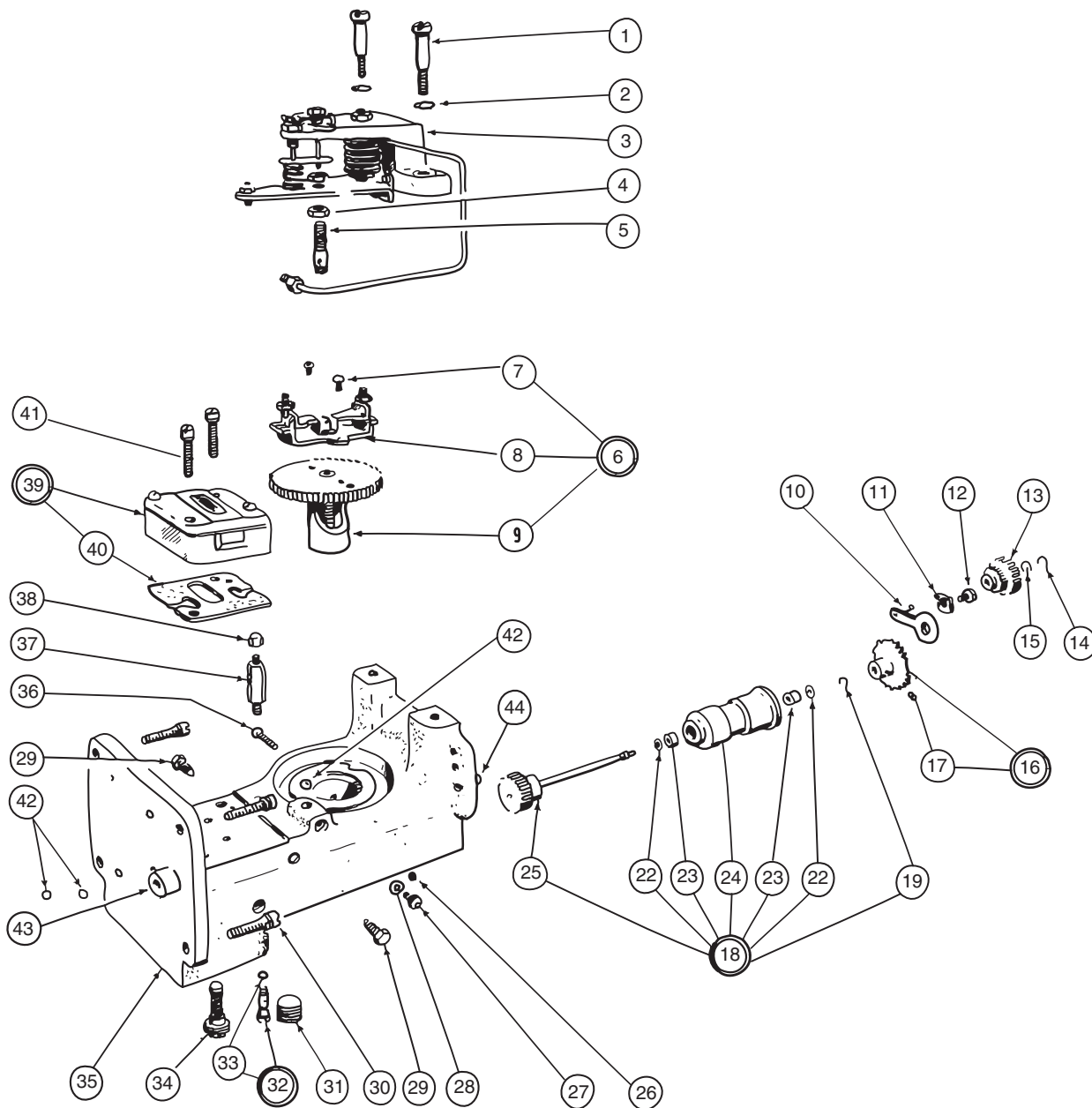


Table 2. Model 14A Pneumatic Flow Integrator

Item	Part No.	Qty.	Part Name
1	U0108EB	2	Screw
2	X0102BK	2	Lockwasher
*3	U0123BC	1	Signal Bellows Assembly
4	0018980	2	Locknut
*5	U0119YQ	1	Force Pin Assembly (Since May '78), see Note 2
*6	U0120DS	1	Turbine Wheel and Flexure Assembly, (see Notes 1 and 3)
7	X0169LQ	2	Screw, Pan Hd., 0.099-48 x 0.187 with Lockwasher

Table 2. Model 14A Pneumatic Flow Integrator (Continued)

Item	Part No.	Qty.	Part Name
8	U0119YP	1	Flexure Assembly
9	U0119YR	1	Turbine Wheel Assembly
10	U0108FA	1	Gear Arm Assembly
11	U0108EZ	1	Gear Clamp
12	0041895	1	Screw, Pan Hd., 0.164-32 x 0.250
*13	Below	1	Compensating Gear Assembly
	U0108LP		Hourly and minute flow rates
	U0108LN		Daily flow rates
*14	X0106AS	1	Retaining Ring
15	0024818	1	Washer
*16	–	1	Range Change Gear (see Table 1)
17	0018569	1	Set Screw
18	U0108XB	1	Worm Gear Assembly
19	X0106AS	1	Retaining Ring
20	–	–	Item 20 intentionally not used.
21	–	–	Item 21 intentionally not used.
22	0024818	2	Washer; ss; 0.195 ID; 0.375 OD; 0.032 Thick
23	G0105CL	2	Ball Bearing
24	U0108XM	1	Worm Bearing Housing
25	U0108XC	1	Shaft Assembly
26	0046414	1	Screw, Set; cs; 0.164-32 x 0.250 Hex Socket Hd.
27	0041283	1	Screw, Binder Hd., 0.190-32 x 0.250
28	N0302SC	1	Washer; Nylon; 0.175 ID, 0.384 OD; 0.015 Thick
29	0042351	2	Plug
30	0006535	4	Screw, Fil. Hd., 0.190-32 x 0.750 (with lockwasher)
31	X0100WP	1	Plug, 1/4 NPT
*32	U0106CA	1	Orifice Screw
*33	C0127CM	1	O-ring, 2.9 mm (0.11 in) ID
34	B0102ZP	1	Strainer Assembly
35	U0108PK	1	Body
36	0025922	1	Screw, Round Hd., 0.164-32 x 0.625
37	U0108XR	1	Mounting Column
*38	U0102EW	1	Nozzle
*39	C0135YW	1	Relay Replacement Kit, M40G
*40	C0100EM	1	Gasket
41	X0116CS	2	Screw, Pan Hd., 0.190-32 x 1.000
42	C0123KK	3	Ball
43	U0108AL	1	Bearing
44	U0108AM	1	Bearing
*–	U0108PY	1	Brake Assembly (Optional)
–	U0120BV	1	Calibration Tool
–	F0105AK	1	Flexure Holding Tool, for calibration

— NOTES —

- 1 Prior to February 1965, Instruments of Style A construction were identified by one adjustable calibration wheel instead of two weight nuts on the turbine wheel assembly. On a Style A instrument, if any part of the turbine wheel assembly requires replacement, it will be necessary to convert the instrument to a later construction. Order Conversion Kit U0119YU. The conversion procedure is described on Instruction Sheet MI 6-243.
- 2 Current Flexure design requires longer force pin (U0119YQ) than those used on instruments prior to May 1978. If replacing flexure only, specify Kit U0119YT which includes flexure, force pin, and instructions. If replacing whole turbine wheel and flexure assembly (U0120DS) replace force pin with new pin U0119YQ.
- 3 Recommended level of replacement is assembly U0120DS. This eliminates any calibration problems that may arise from replacing either the turbine wheel (Item 6) or the flexure (Item 8) independently. Refer to Instruction Sheet MI 6-242.

Range Change Gears (Item 16 in Figure 2)

The Range Change Gear is selected to give the desired integrator count for the scale being employed. Thus a 6-tooth gear gives 300 counts per hour when the pen is at full scale, and would be used with a 0 to 30 chart. Refer to Instruction Sheet MI 6-235 for more detailed information.

Table 3. Integrator Range Change Gears (Item 16 in Figure 2)

Counts Per Hour (at full-scale)	Counts Per Minute (at full scale)	Counts per Day (at full scale)	Number of Teeth in Range Change Gear	Item 16 Part No.
300	5	7 500	6	0018758
350		10 000	7	0036772
400			8	D018549
450			9	D0113FR
500	7.5	12 500	10	0018548
600		15 000	12	0018547
700		17 500	14	0031108
750		16 000	15	0023993
800	10	20 000	16	0018546
900		25 000	18	0021146
1000			20	0018545
1100			22	D0113RR
1200	15	30 000	24	0018544
1250		40 000	25	0023991
1300			26	D0113RS
1400			28	D0113RT
1500	20	50 000	30	0018543
1600		60 000	32	0023236
1750			35	D0113RW
1800			36	0019950
2000	25	67 500	40	0018542
2100		60 000	42	D0113RX
2400			48	0023233
2500			50	0018790
2700	30		54	D0118CW

(Number of Teeth in Range Change Gear) (50) = Counts per Hour

(Number of Teeth in Range Change Gear) (50) ÷ (60) = Counts per Minute

(Number of Teeth in Range Change Gear) (1250) = Counts per Day

RANGE CHANGE GEARS (ITEM 16 IN FIGURE 2)

Figure 3. Field Mounting Parts

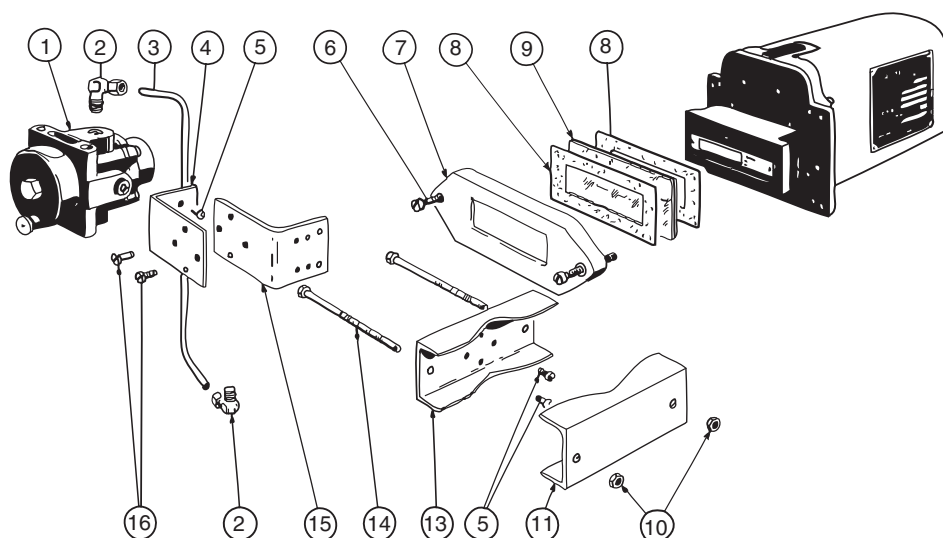


Table 4. Field Mounting Parts

Item	Part No.	Qty.	Part Name
—	C0146NT	1	Air Supply Set (Item 1-5)
*1	B0123HD	1	Regulator (alternative)
2	X0172BE	2	Elbow
3	C0146NP	1	Tube
4	C0146NR	1	Bracket
5	X0100NR	4	Screw, Fil. Hd.; ss; 0.250-20 x 0.375
6	X0100SK	2	Screw, Fil. Hd., 0.250-20 x 1.500
7	U0108FZ	1	Cover
*8	U0119YM	2	Gasket
9	U0108FY	1	Glass
—	C0146NS	1	Mounting Set (Items 10 to 16)
10	0011963	2	Nut, 0.375-18
11	C0126MR	1	Channel
12	—	—	Item 12 is intentionally not used.
13	U0108KC	1	Channel
14	X0100SL	2	Screw, Hex Hd., 0.375-16 x 4.000
15	C0146NQ	1	Bracket
16	X0100WA	2	Screw, Fil. Hd., 0.250-20 x 0.625
—	U0119YN	—	Kit of Parts, to convert Panel Mounted 14A Integrator to Field Mounted Integrator.

Figure 4. Panel Mounting Parts

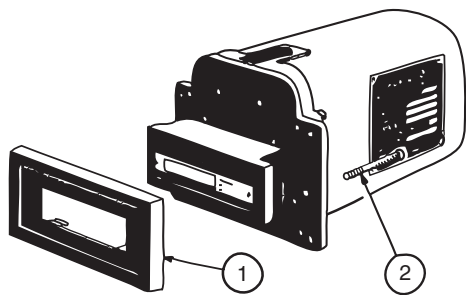


Table 5. Panel Mounting Parts

Item	Part No.	Qty.	Part Name
*1	U0119XK	1	Bezel
2	X0127DM	4	Screw, Pan Hd., 0.190-32 x 1.250

Recommended Spare Parts Summary

Figure Number	Item Number	Part Number	Part Name	Number of Parts Recommended for		
				1 Inst.	5 Inst.	20 Inst.
1	15	U0108EC	Gasket	1	1	3
2	3	U0123BC	Signal Bellows Assembly	0	1	2
	5	U0119YQ	Force Pin Assembly (a)	0	1	2
	6	U0120DS	Turbine Wheel and Flexure Assembly	0	1	2
	13	Below U0108LP U0108LN	Compensating Gear Assembly Hourly and minute flow rates Daily flow rates	0	0	1
	14	X0106AS	Retaining Ring	0	1	2
	16	Below 0018758 0036772 D018549 D0113FR 0018548 0018547 0031108 0023993 0018546 0021146 0018545 D0113RR 0018544 0023991 D0113RS D0113RT 0018543 0023236 D0113RW 0019950 0018542 D0113RX 0023233 0018790 D0118CW	Range Change Gear (See Table 1 for more details): 6 Teeth 7 Teeth 8 Teeth 9 Teeth 10 Teeth 12 Teeth 14 Teeth 15 Teeth 16 Teeth 18 Teeth 20 Teeth 22 Teeth 24 Teeth 25 Teeth 26 Teeth 28 Teeth 30 Teeth 32 Teeth 35 Teeth 36 Teeth 40 Teeth 42 Teeth 48 Teeth 50 Teeth 54 Teeth	0	0	1
	32	U0106CA	Orifice Screw	0	1	2
	33	C0127CM	O-ring, 2.9 mm (0.11 in) ID	1	2	3
	34	B0102ZP	Strainer Assembly	0	1	2
	38	U0102EW	Nozzle	0	1	2
	39	C0135YW	Relay Replacement Kit, M40G	1	1	2
	40	C0100EM	Gasket	1	1	2
	–	U0108PY	Brake Assembly, Optional	0	0	1
3	1	B0123HD	Regulator	0	0	1
	8	U0119YM	Gasket	0	2	4
4	1	U0119XK	Bezel	0	1	2

(a) Also see NOTE 2 at the end of Figure 2 section.

