



Field Control Division

H. D. Conkey & Company, Mendota, Ill.

Field Barometric Draft Controls

Field M+MG2: A Three-Fuel Control, in Sizes 10 in. through 32 in., for Oil, Oil-Gas, Gas, and Coal Fired Furnaces and Boilers.

The M+MG2 will serve gas, oil or coal with equal efficiency, and requires only minor, in-the-field changes to adjust from one fuel to another. A plant might convert from coal, to oil, to gas, then to oil-gas, without obsoleting this control. With coal it serves as a combination barometric draft control and check damper. With oil it serves as a single-acting barometric control. With gas it becomes a double-acting control, opening inward to regulate up-drafts, opening outward to relieve down-drafts. Where gas-oil is used interchangeably, the control change takes less than a minute.

The Field M+MG2 is a specialized, precision-made, three-fuel control. Because it is a control of extreme sensitivity, it is, of necessity, a control of extreme structural strength. For example, accuracy is increased when the clearance between a ring and gate is held to a minimum. To permit this, in the M+MG2, without risk of binding, Field developed a die-formed, heavy gage ring. Its deflection strength exceeds many fold the normal requirements of shipping, installation or use. The gate is also very heavy—39 pounds for a 32 inch control. Such weight obviously provides extreme rigidity. Heavy weight is also, paradoxically, a requirement of the virtually friction-free gate mounting that gives the M+MG2 its extreme sensitivity. Only a heavy gate could be so delicately balanced. The

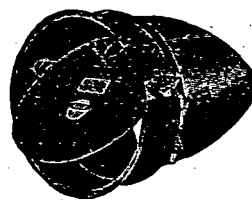
same weight factor also prevents the spurious responses to which so sensitive a gate might normally be subject.

The M+MG2 gate is mounted on a long, thin, stainless steel knife edge, which in turn rests on self-aligning bearings. The bearings are self-cleaning. Soot or dirt cannot accumulate to cause binding or friction. They are also self-leveling—assuring that the knife edge is always in contact across the full width of the bearing, for an even distribution of weight. When the gate moves, only the sharp corner of the knife edge rests on the bearings—an area of contact so minute that friction is virtually non-existent. The result is extreme and instantaneous sensitivity to draft change. The gate is deeply recessed in the ring, to direct the flow of air over the gate and avoid response to random, variable air conditions outside the control.

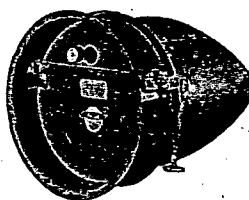
The M+MG2 permits an unusually wide range of draft settings. The 18 in. control, for example, will maintain a draft setting as low as 0.002 in. The same control will maintain a draft as high as 0.3 in., a requirement where there is a very high draft loss through the appliance. Compensation for differences between horizontal and vertical installation is fully provided, by the simplest means available on any Field control. Where a safety switch must be specified, to meet gas code requirements, attachment is easily, effectively, and compactly made. Compactness is a characteristic of the M+MG2. There are no protruding parts. Even the stainless steel bead chain is short, holding setting weights neatly against the side of the control.



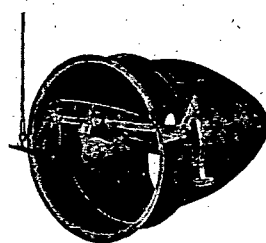
Unless otherwise specified the M+MG2 control is shipped as a single-acting control, with patterned collar. For gas, the installer will set control for double-action. If solid fuel is involved, order the M+MG2 Barocheck. If control is to be shipped less collar, so specify.



M + MG2 Double Acting for Gas, opens inward to regulate up drafts, and opens outward to relieve internal pressures



M + MG2 Single Acting for Oil



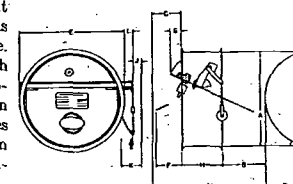
M + MG2 Barocheck for Solid Fuels

PHYSICAL DATA

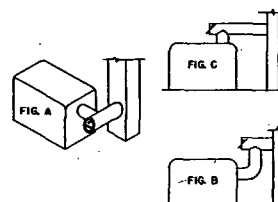
Control Size	Nominal Capacity Sq. In.	Recom. Pipe Sizes		A	B	C	D	E	F	G	H	J	K	L	M	Shpg. Wt.		Vol. (Cu. Ft.)	
		Dia.	Circum.													Comp.	L.C.	Comp.	L.C.
10	78.5	9 & 10	28 1/4 to 31 3/4	10	4 1/4	5	4 1/4	11	3 1/4	1 1/4	4 1/4	1	3 1/4	1	14 1/4	9 1/4 #	7 1/4 #	.76	.43
12	113	11 & 12	36 1/4 to 37 3/4	12	5 1/4	6	5	13 1/4	4 1/4	1 1/4	4 1/4	1	3 1/4	1	16 1/4	11 1/4 #	8 1/4 #	1.32	.70
14	154	13 & 14	42 1/4 to 44	14	7 1/4	7	5 1/4	15 1/4	5 1/4	2 1/4	5 1/4	1	3 1/4	1	18 1/4	17 #	11 #	2.12	1.03
16	201	15 & 16	47 to 50 1/4	16	8 1/4	8	6 1/4	17 1/4	6 1/4	2 1/4	5 1/4	1 1/4	4	1	20 1/4	28 #	17 1/4 #	3.1	1.41
18	255	17 & 18	53 1/4 to 56 1/4	18	9 1/4	9	7 1/4	19 1/4	6 1/4	2 1/4	5 1/4	1 1/4	4	1	22 1/4	34 #	22 1/4 #	3.88	2.08
20	314	19 to 21	59 1/4 to 66	20	9 1/4	10	8 1/4	22	7 1/4	3	7 1/4	1 1/4	4	1	24 1/4	42 1/4 #	28 1/4 #	5.65	2.90
24	452	22 to 25	69 to 78 1/4	24	12 1/4	12	10 1/4	28	9 1/4	3 1/4	8 1/4	2	5 1/4	1 1/4	28 1/4	54 #	44 #	7.18	4.35
28	616	26 to 30	81 1/4 to 94 1/4	28	13 1/4	14	*	30 1/4	10 1/4	4 1/4	11 1/4	2	6 1/4	1 1/4	32 1/4	66 #	59 #	7.80	7.80
32	804	31 to 34	97 1/4 to 107	32	15 1/4	16	*	35	12 1/4	4 1/4	12 1/4	2	6 1/4	1 1/4	36 1/4	82 #	75 #	12.20	12.20

*No Points On These Collars

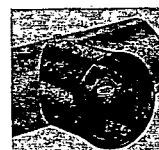
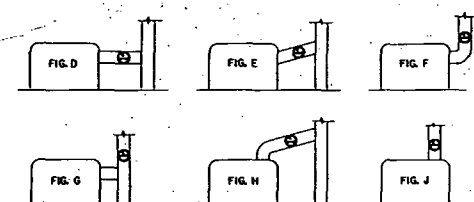
SWITCHES: A draft hood provides relief for down draft pressures, but gives no visual sign of spillage. The double-acting M+MG2 gate opens outward to relieve such pressures, and by its position signals any spillage. In addition, the M+MG2 can be equipped with an automatic switch where the engineer finds conditions which could create frequent and prolonged down drafts. A time delay switch is usually recommended for an atmospheric burner; a thermal switch for a power burner. These switches provide an obvious means to measure the extent of a down draft problem so that an engineer can judge if and when some remedial action is indicated.



BEST LOCATIONS FOR GAS



BEST LOCATIONS FOR OIL OR SOLID FUELS



FIELD TYPE M: For automatic heating equipment, designed to assure finer performance, greater fuel economy, through highly accurate control of drafts. Available in sizes from 6 in. through 9 in. for pipe diameters of 5 in. through 10 in. Features "Rocking Chair" gate action, off-center gate mounting, sidewings, extended housing. Widely used in the heating industry.



FIELD TYPE RC: Calibrated draft control in sizes 6 in. through 9 in. for 5 in. through 10 in. flues. Features extreme capacity, and reversible wing flap on gate for more precise adaption to either vertical, horizontal or sloping flues. Friction-free gate mounting, single strap attaching, easily leveled on a sloping flue.



FIELD MG1: Double-acting control for lower-input gas-fired furnaces and boilers; widely used in conversion burner installations. Opens outward to relieve down-drafts; opens inward to regulate up-drafts. Sizes 7, 8, and 9 in. for 6 through 9 in. flues.