

## Switch Box Kits for Manual Operation

As a matter of safety or process control, it is sometimes desirable to sense the position of a manually operated valve and electrically relay that information to indicator lights or a logic control panel. The standard kits for ball valves contain two single-pole double-throw micro-switches with adjustable cams, typically set for sensing the on and off positions. Two additional switch and cam sets or a standard 1K potentiometer with 4–20 mA output signal may be added for more sophisticated sensing.

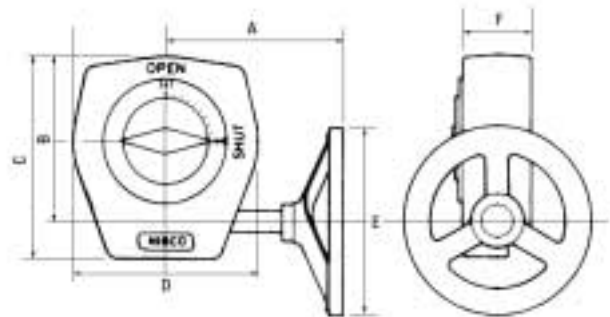


### Part Numbers For Switch Box Adaption Kits

Type Switch Box Adaptation Kit (For manual valve operation)	Location Mounted	Valve Size										
		1/2	3/4	1	1 1/4 & 1 1/2	2	2 1/2	3	4	6	8	
TB Ball Valve-Mounted Switch Box Kit (With special lever handle)	Field	29280007	29280008	29280009	29280011	29280012	—	29280014	29280016	29280018	—	
	Factory	29280107	29280108	29280109	29280111	29280112	—	29280114	29280116	29280118	—	

## Manual Gear Operators

Provides smooth low-torque operation by virtue of a gear reducer, which converts multi-turn manual operation of a round handle into quarter-turn valve operation. Additional benefits of applying a gear operator to a quarter-turn valve are: Sudden closing or opening of the valve is prevented, thus protecting the piping system from hydraulic shock. Throttling control is far more reliable than direct manual positioning. Because of increased turning torque with valve size, a gear operator is standard equipment for manual operation of the 10" Model-C Butterfly Valve. No lever handle is available. However, gear operators are available as an accessory for all other sizes of butterfly valves, along with an assortment of special-use options. See the table below. Also, the smallest gear operator may be mounted on the Tru-Bloc Ball Valve. Those kits may be found in the table at the bottom of this page. Finally, gear operators may be mounted on the external support plate of all stem extensions for quarter-turn valves.



### Part Numbers of Gear Operators and Options For Butterfly Valves<sup>1</sup>

Item	BF Valve Model	Valve Size						
		2	2 1/2	3	4	6	8	10
Gear Operator #981 (Must also select appropriate G.O. Bushing)	B & C	29240018	29240018	29240018	29240018	29240018	29240019	29240020
G.O. Drive Bushing For Gear Operator #981	B	—	—	29242014	29242016	29242018	—	—
	C	29241014	29241014	29241014	29241016	29241019	29241019	29241020
Memory Stop for G.O. #981	B & C <sup>2</sup>	29244018	29244018	29244018	29244018	29244018	29244018	29244018
Flag Indicator for G.O. #981	B & C <sup>2</sup>	29245018	29245018	29245018	29245019	29245018	29245018	29245018
2" Sq. Nut (C.I.) for G.O. #981	B & C <sup>2</sup>	29393020	29393020	29393020	29393020	29393020	29393020	29393020
Padlock Flange for G.O. #981	B & C <sup>2</sup>	29243018	29243018	29243018	29243018	29243018	29243019	29243020
Babbit Sprocket for G.O. #981	B & C <sup>2</sup>	29390020	29390020	29390020	29390020	29390020	29390020	29390020
1/0 Chain /ft. for Babbit Sprocket	B & C <sup>2</sup>	29391020	29391020	29391020	29391020	29391020	29391020	29391020

<sup>1</sup> All gear operator items in this table may be field or factory assembled to butterfly valves. When factory assembly is desired, add the accessory part number(s) to the valve figure number.

<sup>2</sup> Gear operator options may also be selected for inclusion on gear operator kits for TB ball valves. See the table on page 29 for these kits.