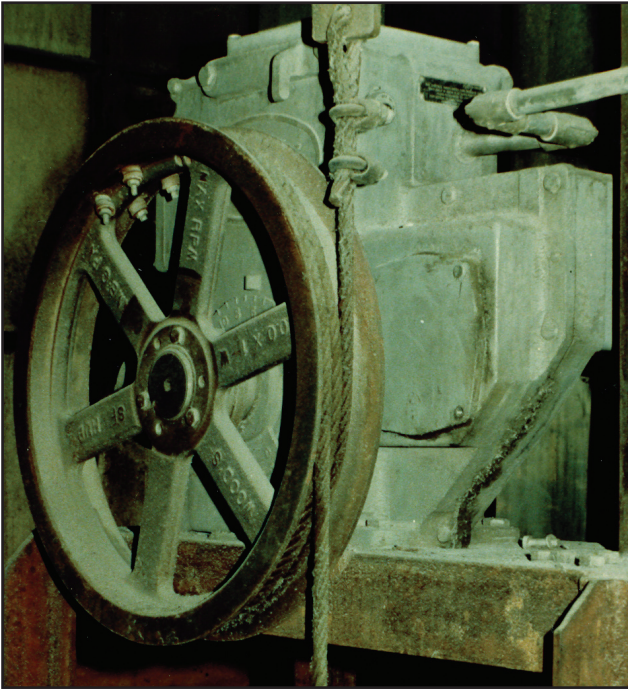


GROUP 11 MULTI-TURN ACTUATORS

Beck damper actuator improves Glass Furnace balancing systems.



In many glass container manufacturing plants, maintenance engineers are seeking to improve the efficiency and extend the life of their regenerative furnaces. Beck Multi-Turn Actuators are playing an important role in upgrading these installations by providing high accuracy and quick response position control to balancing dampers used on the hot exhaust side of the furnace. These actuators are specifically designed to control the differential pressure in glass furnaces, thus optimizing fuel efficiency and inhibiting refractory deterioration.

Easy Retrofit

Three important benefits of the Beck Group 11 multi-turn actuator make it ideal for retrofit. First, the actuator and sheave are supplied as a complete unit designed for all load and timing considerations, ready to drop into place; second, the Beck multi-turn actuator is engineered for a wide range of travel selections to fit the particular installation; and third, the actuator can be supplied to accommodate virtually any control signal input, either new or existing. These important advantages practically eliminate all troublesome barriers to a smooth retrofit.

Outstanding features for reliability and long life.

The single most important benefit of the Beck multi-turn actuator is its ability to modulate continuously 24 hours a day without overheating and without ever burning out. Beck actuators have been proven by operating flawlessly in glass plants for decades, because the exclusive high torque, low inertia motor stays cool even in response to active signal inputs caused by rapidly changing draft conditions. Periodic maintenance is eliminated, and replacement parts, should they ever be required, are available for virtually every Beck actuator built since 1950.

How to specify Beck multi-turn actuators:

The chart on the following page provides all the data required to select the proper actuator model, sheave diameter, travel requirements and input signal information for most installations. Beck sales engineers are prepared to assist in sizing and specifying actuators to meet the special requirements of any application.

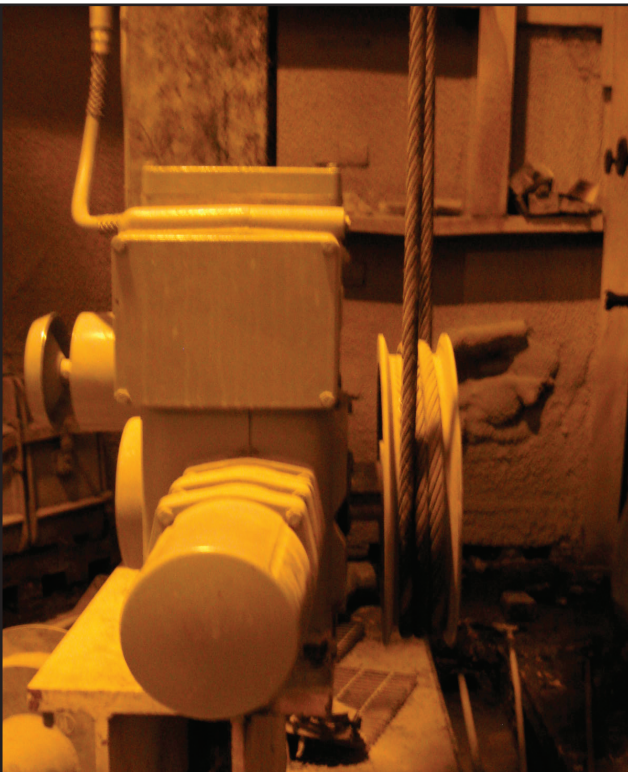


TABLE 1. MULTI-REVOLUTION APPLICATION EXAMPLES

Figure Type	WEIGHT		FULL TRAVEL			SHEAVE		BECK ACTUATOR	
	DOOR (LBS.)	COUNTERWEIGHT (LBS.)	DISTANCE (IN.)	SPEED (IN./MIN.)	TIME (MIN.)	WIRE ROPE DIAMETER (IN.)	DIAMETER (IN.)	MODEL NUMBER	TORQUE / TIMING
A.	1000	0	13	6.3	2.1	3/8	12	11-31X	650/100
	1000	0	31	20.9	1.5	3/8	10	11-41X	650/24
	1000	0	63	20.9	3.0	3/8	10	11-41X	650/24
	1000	0	126	20.9	6.0	3/8	10	11-41X	650/24
	1200	0	302	20.9	14.4	3/8	24	11-41X	1800/60
	1300	0	43	5.2	8.3	3/8	10	11-31X	650/100
	2800	0	151	10.5	14.4	1/2	12	11-41X	1800/60
B.	1000	900	22	13.1	1.7	3/8	10	11-31X	300/40
	1000	1000	26	12.5	2.1	3/8	24	11-31X	650/100
	1000	1000	52	12.5	4.2	3/8	24	11-31X	650/100
	1000	1000	104	12.5	8.4	3/8	24	11-31X	650/100
	1700	1700	201	20.9	9.6	1/2	16	11-41X	1000/40
	2000	2000	302	20.9	14.5	1/2	24	11-41X	1800/60
	2500	2200	75	15.7	4.8	1/2	12	11-41X	1000/40
	2600	2300	52	6.3	8.3	1/2	12	11-31X	650/100
	4100	4100	201	14.0	14.4	5/8	16	11-41X	1800/60
C.	3400	3000	43	5.2	8.3	3/8	10	11-31X	650/100
	5800	5200	151	10.5	14.4	9/16 CWT.	14	11-41X	1800/60
						1/2	12		
						3/4 CWT.	18		
D.	600	1600	17	10.5	1.6	5/16	8	11-31X	300/40
						1/2 CWT.	12	11-41X	800/60
						3/8	10		
						5/8 CWT.	16	11-31X	650/100
						3/8	10		
						5/8 CWT.	16	11-41X	1500/100
1/2	12								
7/8 CWT.	20								

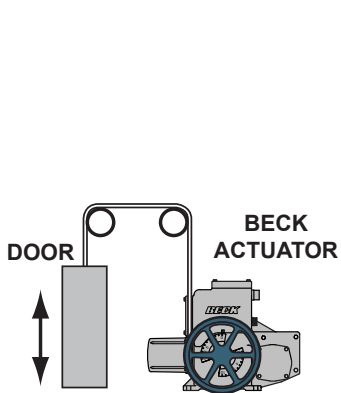


FIG. A: Basic System, No Counterweight

Actuator pulls full weight of door plus inertial and friction forces. Sheave diameter must suit rope size. Larger sheaves limit actuator pull.

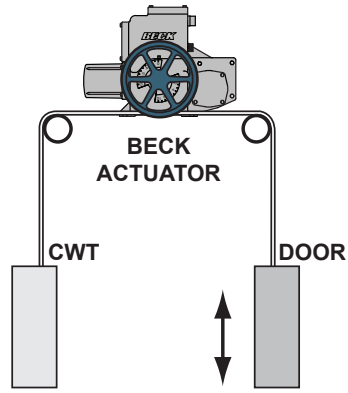


FIG. B: Basic System with Counterweight

Actuator pulls net weight (door less counterweight) plus combined inertial and friction forces. Wire rope holds door weight plus about half of actuator pull force.

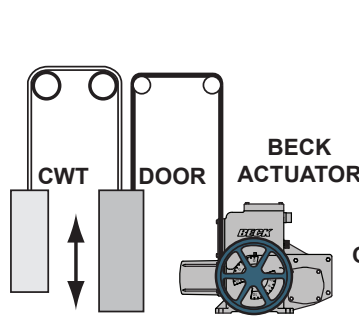


FIG. C: Dual System, Mostly Counterweighted

Heavy loads on separate sheave system. Actuator pulls net weight (door less counterweight) plus combined inertial and friction forces.

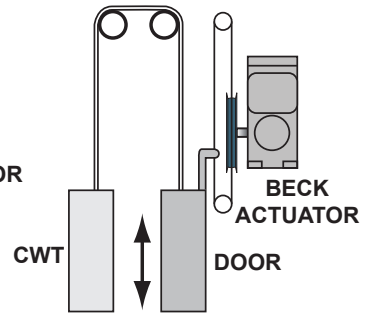


FIG. D: Dual System, Fully Counterweighted

Heavy loads on separate sheave system. Maximum usage of actuator pull. Actuator pulls only combined inertial and friction forces.

BECK® **HAROLD BECK & SONS, INC.**

11 TERRY DRIVE • NEWTOWN, PENNSYLVANIA 18940 • USA
 PHONE: 215-968-4600 • FAX: 215-860-6383 • E-MAIL: sales@haroldbeck.com
 www.haroldbeck.com