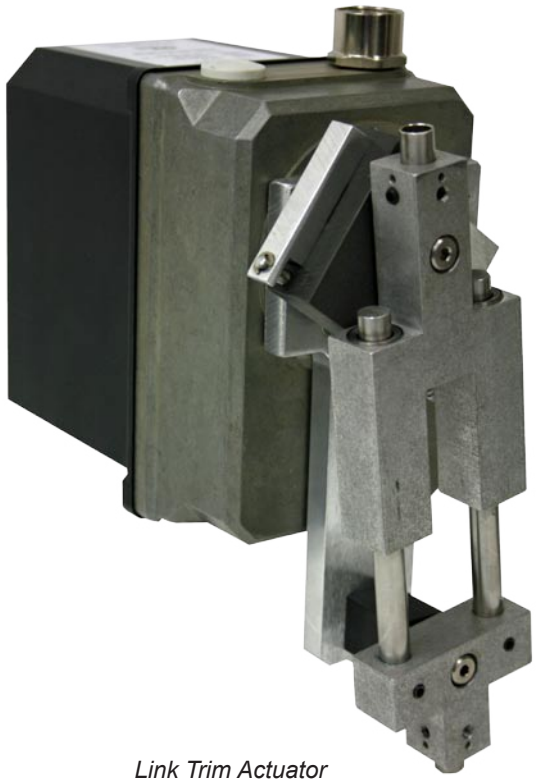
LINK TRIM ACTUATOR
Model LTA-SM

- **Mounts in-line using existing Damper Linkage eliminating the need for custom brackets or jackshaft re-design**
- **Field adjustable +/- 0.15" to +/- 0.75" trimming; mechanical stops prevent over-travel**
- **Up to 76 pounds Thrust Output**
- **Self-locking, Overload Protected, Electric Actuator with Position Feedback**
- **Model LTA Actuator, PCC-III Controller, SPS Firing Rate Sensor, and model ZP Oxygen Analyzer provide complete Oxygen Trim control package for a Jackshaft Burner**



Link Trim Actuator

Description

The **Link Trim Actuator** (**LTA**) is an easy to install actuator used for Oxygen Trim control on single point positioning (Jackshaft) burners. The LTA mounts in-line as part of the burner fan damper linkage rod assembly. The LTA actually becomes an integral part of the burner linkage. A short length is cut out from the middle of the existing linkage rod, and the remaining rod ends are inserted into holes in the ends of the LTA. With the LTA at the mid-stroke, or 'Null', position, the end-to-end damper linkage rod length will be un-changed, and the burner will operate the same as it did previously. A single screw adjustment sets +/- 0.15" thru +/- 0.75" stroke without changing the LTA mid-stroke ('Null') length. This eliminates tedious interactive zero and span adjustments. The LTA end-to-end travel time does not change when the stroke distance is adjusted.

Operation

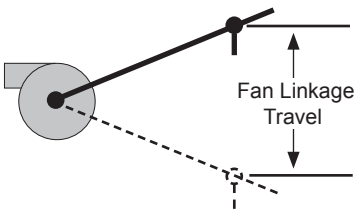
The Preferred Instruments PCC-III Oxygen Trim Controller has a programmable Oxygen setpoint as a function of burner firing rate. The controller receives flue gas Oxygen signals from the Model ZP Oxygen analyzer, determines the Oxygen deviation from setpoint, sends a corrective signal to the LTA actuator, which in turn trims the burner air flow.

The existing jackshaft actuator positions the fuel control valve and air damper via the jackshaft linkage. The LTA becomes an integral part of the link (rod) that connects the fan lever arm to the jackshaft lever arm. When the LTA is at mid-stroke, the new fan link is the same length as the original. The LTA movement 'lengthens' or 'shortens' the fan linkage in order to add or subtract air flow to keep the Oxygen at setpoint.

Suggested Specification

The burner fuel/air ratio shall be maintained by a rigid jackshaft linkage between the jackshaft actuator, fuel valves and the fan damper. Provide an Oxygen trim linear actuator for each burner that is an integral part of the fan linkage and includes mechanical +/- 10 % trim limits, fail in last position brake, and trim feedback sensor. The trim actuator shall be field adjustable for +/- 0.15" thru +/- 0.75" trim and shall have a constant 25 sec. stroke time for any selected stroke. Provide a minimum of 22 lbs thrust. Bearings shall be linear ball bearing type with hardened stainless steel shafts. Pneumatic actuators are not acceptable. Actuator shall be Preferred Instruments, Danbury, CT, **Model LTA**.

LINK TRIM ACTUATOR
Model LTA



Stroke (Inches)

Fan Linkage Travel	+/- 7.5% Trim	+/- 10% Trim	+/- 12.5% Trim
2"	0.15	0.20	0.25
3"	0.23	0.30	0.38
4"	0.30	0.40	0.50
5"	0.38	0.50	0.63
6"	0.45	0.60	0.75
7"	0.53	0.70	
8"	0.60		

Operating Thrust

Stroke (+/- Inches)	Thrust (Pounds)
0.2	76
0.3	51
0.4	38
0.5	30
0.6	25
0.75	22

Example
To set the LTA for 10% Trim when the fan linkage travels 4 inches, set the LTA stroke at 0.40 inches. The thrust for +/- 0.4" stroke is 38 pounds.

Specifications

Power:	120 VAC, 3.5 W
Ambient Temp:	-4 to 122° F
Input:	120 VAC increase & decrease
Motor:	DC motor with electronic overload protection
Operating Thrust:	Refer to the “Operating Thrust” table
Travel:	Refer to the “Stroke” table
Position Feedback:	Potentiometer, 1000 ohm
Manual Operation:	Pushbutton clutch release
Linkage Connections:	⅜" dia. x ¾" deep holes 5/16" dia. or ½" MNPT with included Adapters
Stroke Time:	25 second
Dimensions:	4 ⅜" W X 5 ¾" H X 6 ⅞" L
Motor Housing:	NEMA 2
Weight:	5.31 lbs.

Ordering Information
To order the Linear Trim Actuator, specify the following:
Model LTA-SM