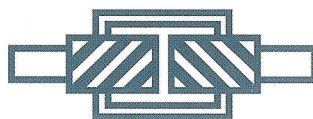


CANDY POSITIONER



CANDY POSITIONER™
ADVANCE / RETARD TIMING WHILE RUNNING
1 TURN OF CONTROL KNOB CORRECTS 6 DEGREES
MODEL # POSI-2
SERIAL # 7 11 0
RATING 2 HP @ 1750 RPM
MAX TORQUE 77 LB. IN.
CANDY MFG. CO.
MADE IN U.S.A.

Rotary Motion Control - Even While Running



- 1:1 Phase transmission with 400 degrees of precise rotary adjustability.
- Eliminates costly downtime associated with trial and error start-ups and changeovers.
- Unique design provides the highest degree of quality, durability and economy.

PRINCIPLE OF OPERATION

DESCRIPTION

The Candy Positioner, POSI series, is a phase shifting mechanism used to accurately adjust and "fine tune" the timing relationship of machine actions.

In normal operation, the Positioner is a 1:1 phase transmission with input and output shafts rotating in the same direction. When the control shaft is rotated, a differential action occurs between the input and output shafts. This adjustment may occur while the machine is in the static position or while running.

By providing "on the fly control", the Positioner eliminates costly downtime associated with production set-ups and changeovers.

The Positioner has been developed to enhance the machine designer's competitive advantage by maximizing production efficiency.



The **Candy Positioner** offers the ideal balance of :

- precise control
- economy
- quality and durability

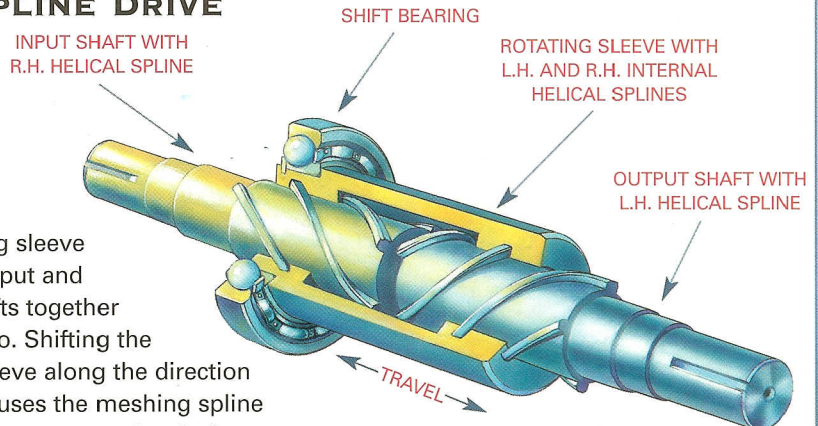
Because there are no meshing gears typical of traditional gearboxes, the Candy Positioner is an exceptionally quiet, cool running and long lasting rotary motion control device.

The Positioner employs a spline drive assembly to achieve phase adjustments, allowing either in-line shaft to be used as the input. The input and output shafts have helical splines cut integrally at the inboard ends, one left-hand spline and one right-hand spline. A rotating sleeve with an internal

or female spline at either end, one left-hand and one right-hand, locks the input and output shafts together rotating with them at a 1:1 ratio.

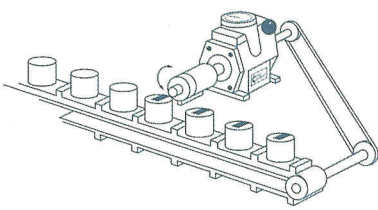
When the control knob is rotated, a mechanism shifts or slides the splined sleeve from one end of the travel to the other. The splined sleeve shifting across the male splines creates a twisting action, changing the angular position between the input and output shafts. The Positioner provides a 400 degree differential range, with 200 degrees of angular adjustment in either the advance or retard direction (from the center position with both the keyseats in-line).

THE SPLINE DRIVE

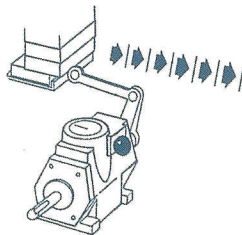


The rotating sleeve locks the input and output shafts together in a 1:1 ratio. Shifting the rotating sleeve along the direction of travel causes the meshing spline teeth to counter-rotate the shafts providing 400 degrees of angular adjustability.

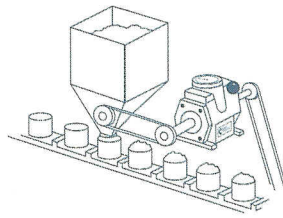
TYPICAL APPLICATIONS



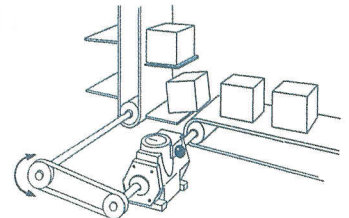
Adjust the phase of printing cylinders and glue heads.



Set and lock stroke or cam positions with pin-point accuracy.



Set precise timing for dispensers, fillers and applicators.



Synchronize independent machines or machine components from a driven line shaft.

TECHNICAL DATA

CONSTRUCTION:

The Candy Positioner is constructed from quality materials and has been designed to operate in harsh environments commonly found in the packaging, printing and converting industries. The housing is aluminum and is coated with a USDA approved epoxy finish. The stainless steel input and output shafts incorporate a patented internal backbone design and are supported by Timken bearings. This combination provides superior overhung load capacity.

CONTROL SHAFT:

Rotating the control shaft of the Positioner creates a differential action between the input and output shafts.

By rotating the control shaft in the same direction as the input, the output will advance ahead of the input. Likewise, by rotating the control shaft in a direction opposite to the input, the output will retard.

Standard units are shipped with a knob mounted on the control shaft for manual phase adjustments. The Positioner is also available with a keyed shaft in place of the knob. **Note:** If you plan to design a control motor assembly, remember that the Positioner is not infinitely adjustable.

DIAL INDICATOR:

The Positioner has a built-in dial which indicates relative shaft location within the 400 degree range. Starting at zero, the center of the adjustment range, the dial scale reads 0 to 200 degrees in both the advance and retard directions. The lexan protected dial only moves when a rotation is applied to the control shaft. By noting the numerical relative position, an operator can quickly and accurately return to a previously established or desired position.

KEY LOCK:

The Positioner also has a built-in key lock which not only prevents unauthorized adjustments, but also ensures that the Positioner will not drift out of adjustment under severe vibration.

LUBRICATION:

All Positioners are shipped from the factory with the appropriate lubricant, Mobil SHC 634 synthetic oil. The units are shipped with a plug in place of the vent to prevent leakage during transportation. Prior to installing the differential, it is necessary to install the vent, which is supplied with each unit.



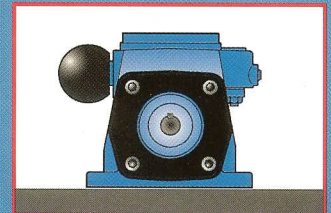
MOUNTING/ INSTALLATION

The Positioner housing has feet for traditional gearbox mounting.

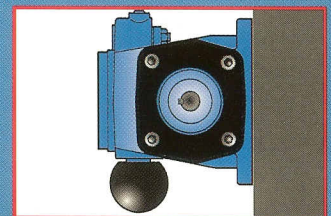
Wall mounts and ceiling mounts are also available.

These alternative mounting arrangements must be specified upon ordering.

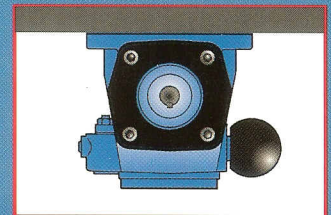
When the Positioner is installed in a ceiling mount arrangement, the dial indicator housing will fill with oil. In either the ceiling or wall mount arrangement, it is necessary to relocate vent and drain plug locations.



Standard Mount



Wall Mount



Ceiling Mount



ORDERING

- When ordering a Candy Positioner, it is important to choose the appropriate size based on required torque and operating speeds. The "E" Stop or maximum torque condition must be considered when sizing the Positioner.
- The mounting configuration must be specified:
 - Standard mount
 - Wall mount
 - Ceiling mount
- If a control motor assembly will be used to actuate the control shaft, specify a control shaft option in place of the knob.

TECHNICAL DATA

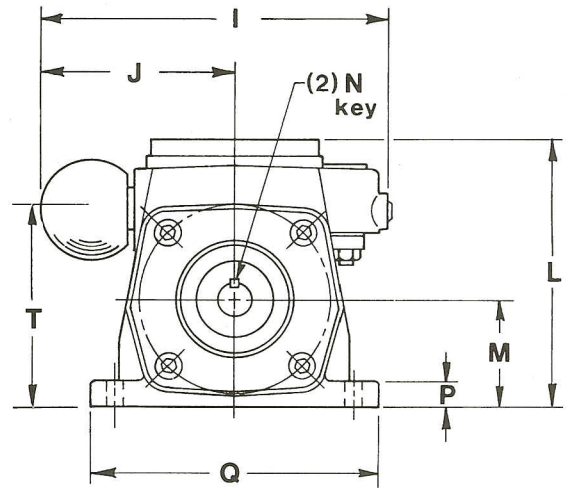
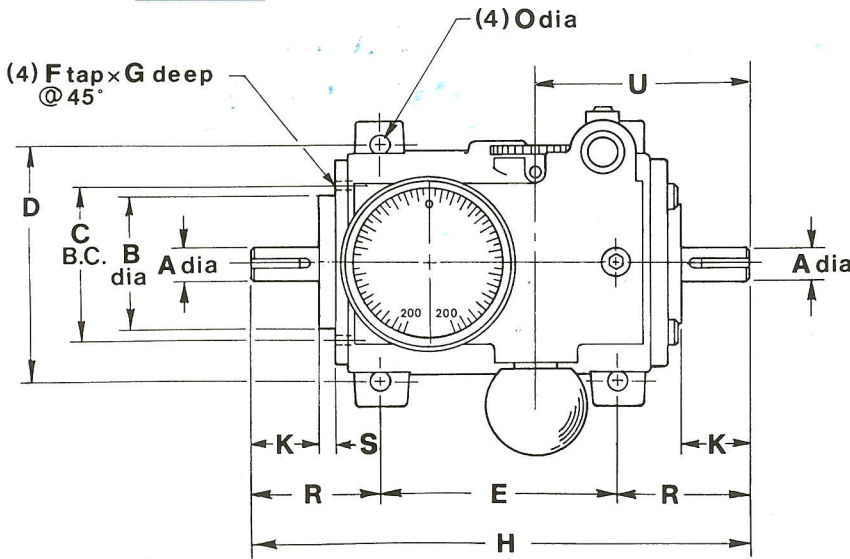
	POS-½	POSI-2	POSI-7
Shaft diameter, inches	.500	.750	1.125
HP rating @ 1750 RPM	.5	2.0	7.0
Torque, inch lbs. @ 1750 RPM	18.0	72.0	252.1
Torque, inch lbs. @ 375 RPM	26.6	114.3	400.2
Torque, inch lbs. @ 100RPM	42.5	170.0	595.0
Maximum static torque, inch lbs.	66	270	900
Maximum overhung load, lbs.*	125	250	500
Control knob correction rate	6°/turn	6°/turn	4°/turn
Maximum phase shift	400°	400°	400°
Total control knob turns	66½	66½	100
Control knob torque, inch lbs.**	3.7	15.4	38.4
WK ² , pound inch squared	.14	1.28	6.46
Full load efficiency, percent	94.0	95.5	96.0
Weight, pounds	6	18	41

*at mid-point of shaft extension

**@ 1750 RPM full torque rating

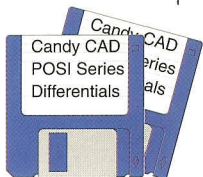
Note: All dimensions are in inches. Dimensions and Specifications are subject to change without notice.

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	
POSI-½	½	1½	2½	3½	3½	⅝-18	1	7½	5¼	2⅞	1	4⅞	1½	¼sq.	1⅜	⅞	4¼	1⅞	¼	3	3⅞	
POSI-2	¾	3	4½	5½	4¼	¾-16	1½	10¼	7½	4⅞	1½	6⅞	2½	⅜sq.	1⅞	¾	6¼	3	⅝	4⅞	4¼	
POSI-7	1½	3½	5½	7	6½	⅞-14	1¾	14½	8¾	5¼	2¼	7⅞	3½	¼sq.	1⅞	⅞	8½	4	¾	6¼	6	
	+.000 -.001																				±.005	



Note: The Ball Control Knob can be replaced with a straight keyed shaft. Shaft extends to J dimension.

POSI	½	2	7
SHAFT DIA.	⅝	¾	1
KEY	⅜ x ⅞ Lg.	⅜ x 1 Lg.	¼ x 1½ Lg.



The Positioner series is available in Auto CAD, DXF and Personal Designer formats.



Candy Mfg. Co., Inc.
 5633 W. Howard St., Niles, IL 60714
 Phone: (847) 588-2639
 Fax: (847) 588-0055
 email: Candymfgco@aol.com
 www.candycontrols.com