

# ROTARY CONTROLS

## 1. GENERAL FEATURES

ELESA-CLAYTON rotary controls are used to set and regulating a wide variety of machine functions.

The device consists of:

- a handwheel/knob, to manoeuvre the control spindle, thus changing the position of the machine element
- a position indicator, which provides the position of the machine element.

## 2. POSITION INDICATORS

ELESA-CLAYTON position indicators can be classified according to the type of reading or movement:

### 2.1 Types of reading

**ANALOGUE:** the reading is displayed by means of two rotating pointers over a graduated dial.

**DIGITAL-ANALOGUE:** the reading is directly displayed by means of a roller counter and a rotating pointer over a graduated dial.

**DIGITAL:** the reading is directly displayed by means of a roller counter.

**LCD DIGITAL:** the reading is directly displayed by means of a digital electronic display.

The analogue indicators are normally provided with a graduated dial and two pointers which indicate the number of turns and part of a turn made by the control spindle starting from an initial position zero. In general these indicators are used to regulate flows, capacities, strokes, setting of speed variators, etc.

The indicators with digital-analogue, digital and LCD digital reading are provided with a roller counter or a display which indicates the linear displacement of the machine element connected to the control spindle from the initial position zero.

### 2.2 Types of movement

**GRAVITY** (page 464): is used when the handwheel spindle is horizontal or max 60° inclined. The rotation of the handwheel with the indicator makes the pointers move while the dial, appropriately counterbalanced, is kept still by the gravity force.

**POSITIVE DRIVE** (page 470): is used on spindles in any position. The rotation of the handwheel with the indicator makes the pointers move while the dial is kept still by an anchor pin fitted to the machine.

**DIRECT DRIVE** (page 488): is used on control spindles in any position, the indicator is directly mounted on the control spindle and is kept in position by means of a referring back pin.

- 2.3** The indicators are normally supplied separately from their relative handwheels/knobs, except integral models, whose indicator is fitted in during the production.

TYPES OF READING	ANALOGUE				
TYPES OF MOVEMENT	GRAVITY			POSITIVE DRIVE	
POSITION INDICATORS SERIES	GA01 GA02 GA05	GA11 GA12	MBT.50-GA11 MBT.70-GA12	PA01 PA02 PA05	PA11 PA12
					

### 3. HOW TO SELECT THE ROTARY CONTROL

- 3.1 Choice of the type of reading (see 2.1). Establish if is necessary to display a number of turns or a linear displacement. For the first application choose an analogue indicator. For the second one choose a digital-analogue, digital or LCD digital indicator.
- 3.2 Establish the indicator and the spindle position on which depends the choice of the requested movement: gravity, positive drive or direct drive (see 2.2).
- 3.3 Establish the required ratio for analogue types or the reading after one revolution for the following types: digital-analogue, digital and LCD digital.
- 3.4 Establish the direction of rotation. For clockwise increasing readings (right) = D. For anticlockwise increasing readings (left) = S.
- 3.5 Consider the conditions of use of the handwheel i.e. outdoors, vibrations, corrosive environments, etc. See the complete data on the page of the chosen indicator.
- 3.6 Choose the appropriate handwheel/knob for the application considering the diameter and the grip required to transmit the necessary torque. Other factors to take into consideration are the control spindle diameter and whether a handle is required for quick operations.

### 4. SPECIAL EXECUTIONS

- 4.1 The ELESA-CLAYTON position indicators standard range available on this catalogue satisfies most applications. Changes to adapt the indicator to particular applications are possible, for example:
  - special dials for indicators with analogue or digital-analogue reading, on customers indications
  - stainless steel metal parts for application on machines and equipment where laws or particular hygienic and environmental factors make it mandatory to use corrosion resistant materials
  - gravity indicators with analogue reading with glycerine-filling for high vibration applications, which may interfere with the reading, or to avoid condensation on the indicator window
  - special ratio on request and for sufficient quantities, developed by ELESA Technical Department.

DIGITAL-ANALOGUE		DIGITAL			LCD DIGITAL
GRAVITY	POSITIVE DRIVE	DIRECT DRIVE			DIRECT DRIVE
GW12	PW12	DD51	DD52	DD52R	DE51
					