

# Alfa Laval ThinkTop® Basic Digital

## Sensing and control

### Introduction

The Alfa Laval ThinkTop® Basic Digital is a modular valve control unit that offers reliable, cost-effective operation and standard functionality for automated sensing and control of hygienic valves. ThinkTop Basic Digital provides real-time information about valve operating status 24/7 while boosting productivity.

### Application

The ThinkTop Basic Digital is designed to control the fluid handling process in hygienic applications across the dairy, food, beverage, biotechnology, pharmaceutical and many other industries.

### Benefits

- Reliable and accurate valve sensing and control
- Proven and inherently safe design
- Low total cost of ownership
- Watertight design
- Easy to operate

### Standard design

The ThinkTop Basic Digital valve sensing and control unit consists of a proven no-touch, set-and-forget sensor system with light-emitting diodes (LEDs), solenoid valves, and valve control sensor board for connection to any programmable logic controller (PLC) system with a digital interface. It fits on all Alfa Laval hygienic valves; no adapter is required. Installation is straightforward. No special expertise or tools are required. To initiate manual setup, simply press a push-button startup sequence.

### Working principle

The sensor system accurately detects valve stem movement, the position of the valve at any given time, with an accuracy of  $\pm 0.1\text{mm}$  through the use of microchip sensors. To locate the current valve position, sensor chips inside the sensor board calculate the angle between the axial magnetic field produced by an indication pin mounted on the valve stem.

The solenoid valves receive signals from the PLC system to activate or deactivate the air-operated valve. It then transmits feedback signals indicating the main valve position and condition back to the PLC system.



In the control unit, up to three electric solenoid valves can physically convert compressed air into mechanical energy to activate or deactivate the pneumatic valve actuator.

Each control unit fits any Alfa Laval hygienics valve and has a valve tolerance band with a default tolerance. This eliminates the need to re-adjust the sensors and boosts productivity. LEDs conveniently display the main valve position, solenoid activation, setup and local fault indication on the control unit.

### Certificates



## TECHNICAL DATA

### Communication

Interface:	Digital PNP/NPN
Supply voltage:	24 ± 10% VDC

### Sensor board

Max current consumption:	45mA
Feedback signal #1:	De-energized valve
Feedback signal #2:	Energized valve
Feedback signal #5:	Status
Valve tolerance band options:	1
Default tolerance band:	± 5 mm
Sensor accuracy:	± 0.1 mm
Stroke length:	0.1 - 80 mm

### Solenoid valve

Max current consumption:	45mA
Air supply:	300-900 kPa (3-9 bar)
Type of solenoids:	3/2-ways or 5/2-ways
Numbers of solenoids:	0-3
Manual hold override:	Yes
Throttle, Air in/out 1A, 1B:	0 - 100%
Push-in fittings:	ø6 mm or 1/4"

## PHYSICAL DATA

### Materials

Steel parts:	Stainless steel and Brass
Plastic parts:	Black Nylon PA 6
Seals:	Nitrile (NBR) rubber

### Environment

Working temperature:	-20 °C to +85 °C
Protection class:	IP66 and IP67
Protection class equivalent:	NEMA 4.4x and 6P

### Cable connection

Main cable gland:	PG11 (4 - 10 mm)
Max wire size:	0.75 mm <sup>2</sup> (AWG 19)



#### Note!

For further information: See also ESE00225  
The ThinkTop has Patented Sensor System, Registered Design  
and Registered Trademark owned by Alfa Laval

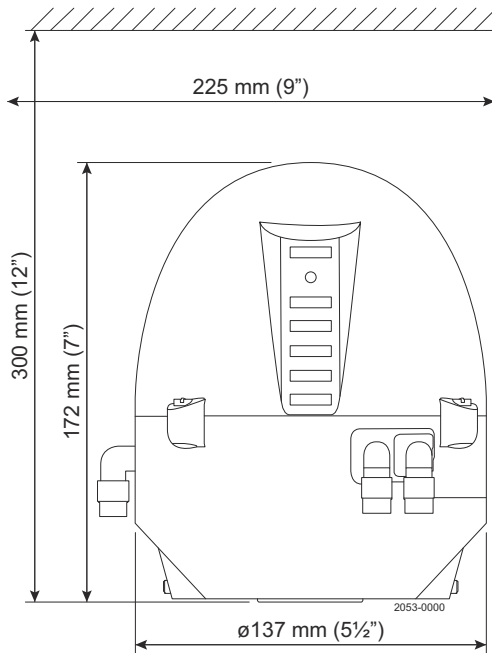
## Options

- Communication interface
- Solenoid valve configuration
- Pneumatic tubing interface

## Accessories

- Various cable options
- Threaded plate for indication pin on SRC, SMP-BC and i-SSV valves
- Special indication pin for Unique SSV-LS, Unique SSV High Pressure valves
- Adaptor for Unique SSSV 7000 Small Single Seat valves

## Dimensions (mm)



## Electrical connection

P1	
1	De-energized (PLC input)
2	Energized (PLC input)
3	Activation of solenoid # 1 (PLC output)
4	Activation of solenoid # 2 (PLC output)
5	Activation of solenoid # 3 (PLC output)
6	Supply voltage sensor (+) 10-30 VDC
7	Supply voltage sensor (+) 0 VDC
8	Common supply solenoids
9	PNP/NPN jumper
10	PNP/NPN jumper
11	Solenoid com.blue
12	Solenoid # 1, internal connection (Grey)
13	Solenoid # 2, internal connection (Grey)
14	Solenoid # 3, internal connection (Grey)

2053-0001

This document and its contents are subject to copyrights and other intellectual property rights owned by Alfa Laval Corporate AB. No part of this document may be copied, re-produced or transmitted in any form or by any means, or for any purpose, without Alfa Laval Corporate AB's prior express written permission. Information and services provided in this document are made as a benefit and service to the user, and no representations or warranties are made about the accuracy or suitability of this information and these services for any purpose. All rights are reserved.

### How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at [www.alfalaval.com](http://www.alfalaval.com)