



Leave Surveillance to the Top

Alfa Laval ThinkTop® Digital 8-30 VDC PNP/NPN

Concept

The ThinkTop® is designed to ensure optimum valve control in conjunction with Alfa Laval butterfly, single-seat and Mixproof valves and it is compatible with all major PLC systems (Programmable Logic Controller with PNP/NPN interface). It is for use in food, dairy and brewery installations and in biopharmaceutical applications.

Working principle

The ThinkTop® is a control head including indication units and solenoid valves to control all kinds of processing valves. It is used to control and supervise pneumatic valves and it is mounted on the top of the valve. It receives signals from a PLC to control the valve and it sends feedback signals to the PLC to indicate when the valve is in a certain position. To adapt the sensor board to the specific valve and to the application, the user sets up the ThinkTop by the local keys or by using the key pad (which is ordered separately). When using the key pad it is not necessary to dismantle the top unit.



TECHNICAL DATA

Communication

Interface Digital
 Supply voltage 8-30 VDC

Sensor board

Power supply 24 VDC, 1 W
 Feedback signal #1 Closed valve
 Feedback signal #2 Open valve
 Feedback signal #3 Seat-lift 1 or 1 Ext. signal
 Feedback signal #4 Seat-lift 2 or 1 Ext. signal
 Feedback signal #5 Status
 Valve tolerance band 1-5
 Default tolerance band ± 5 mm
 Sensor accuracy ± 0.1 mm
 Stroke length 0.1 - 80 mm

Solenoid valve

Supply voltage 24 VDC ± 10%, 1 W
 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 function air inlet/outlet 0/100 %
 Push-in fittings ø6 mm

PHYSICAL DATA

Materials

Plastic parts Blue Nylon PA 12 Reinforced
 Steel parts Stainless steel 304 and 316
 Seals Nitrile (NBR) rubber

Environment

Working temperature -20 °C to +85 °C
 Protection class IP66 and IP67

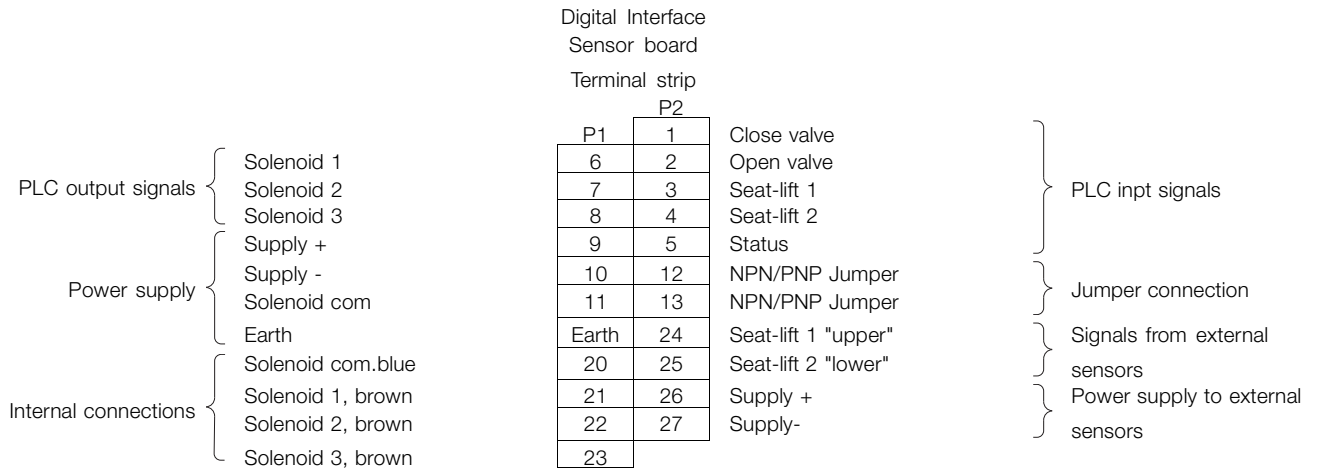
Cable connection

Main cable gland PG11 (ø4 - ø10 mm)
 Cable gland for external sensor PG7 (ø3 - ø6.5 mm)
 Max wire diameter 0.75 mm² (AWG 20)

Typical Power Consumption ThinkTop

Test conditions = One ThinkTop connected with 1 feedback active (on) and		
No solenoid valve on	Supply voltage 24 VDC	30 mA
1 solenoid valve active	Supply voltage 24 VDC	75 mA
2 solenoid valves active	Supply voltage 24 VDC	120 mA
3 solenoid valves active	Supply voltage 24 VDC	165 mA

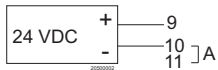
Electrical connection



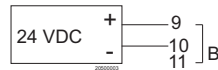
Example of connecting power supplies

When using one power supply for sensor system and solenoid valves:

Example of connecting power supplies

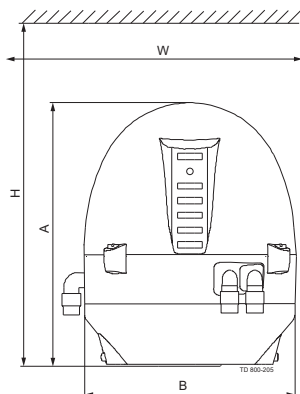


A. Jumper if positive activation of solenoids



B. Jumper if negative activation of solenoids

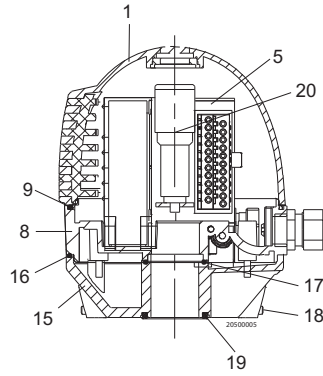
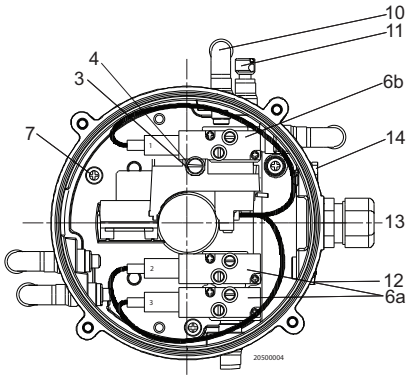
Dimensions



Note! This is the basic design.
Recommended clearance around the ThinkTop

Valve Type	W	H	A	B
Unique SSV NC	225	250	171.6	ø137
SMP-SC/-BC/-TO	225	250	171.6	ø137
Unique Mixproof	225	250	171.6	ø137
MH	225	250	171.6	ø137
SBV	225	250	171.6	ø137
Unique SSV NO	225	320	171.6	ø137
LKLA-T	225	300	171.6	ø137

Basic design



1. Shell
2. N/A
3. Screw
4. Washer
5. Sensor board
6. Solenoid valve*
7. PT screw
8. Base
9. Special X-ring, grey
10. Air fittings
11. Blow-off valve
12. Thread plug, PG7
13. Cable gland, PG11
14. Gore Vent. membrane
15. Adapter
16. Special X-ring, black
17. O-ring
18. Allen screw
19. Special X-ring
20. Indication pin

* 6a: Solenoid valve (3/2)

* 6b: Solenoid valve (3/2 or 5/2).

Options

- 5 m PVC control cable 12 x 0.5 mm², (AWG 20); 9611993627
- Gore Vent. w/adaptor (Fig. 1 Basic Design pos. 14) for ThinkTop before November 2006; 9613431501

Accessories

- IR keypad
- External PNP sensors
- Main Cland PG11
- Cable gland PG7 for external sensor
- External sensor bracket for Unique Mixproof

Ordering

When ordering please purchase the following:

- Digital 8-30 VDC PNP/NPN.
- Number of solenoid valves (0-3).
- Type of solenoid valves (3/2 or 5/2).
- Push-in fittings $\varnothing 6$ mm or 1/4"
- Please state if for series 700 valves.
- Special indication pin; 9613158101 For Unique SSV-LS valves
- Special indication pin; 9612637001 For SRC-LS Stop valve size 63.5101.6 mm/DN 65 - 100
- Special indication pin; 9613158101 For Unique SSV High Pressure valve size 76.1101.6 mm/DN 80100

Note!

For further information: See also ESE000353

The ThinkTop has Patented Sensor System, Registered Design and Registered Trademark owned by Alfa Laval



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