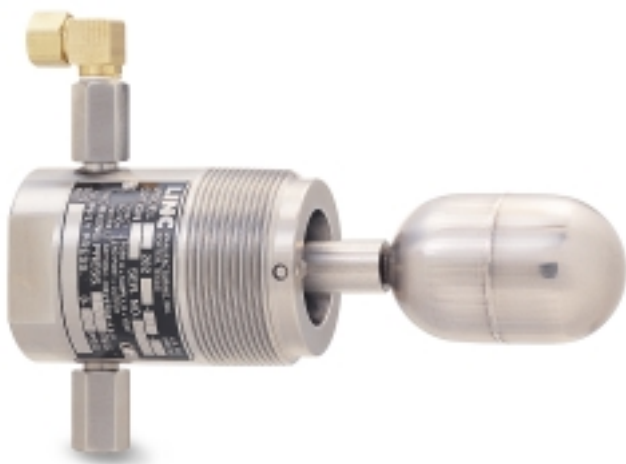


# LEVEL CONTROL SWITCHES

L I N C - 2 8 2 & 2 8 2 S C S E R I E S

## The LINC-282 & LINC-282SC Series: Snap Acting, Non-Bleed Pneumatic Level Control Switches



### Application:

These units are used as a level control or as a high or low level alarm. The pneumatic output can be used to operate valves, sound alarms or perform any other desired pneumatic function. Any liquid or liquid interface can be monitored.

### Operation:

As the float is moved by varying liquid height, a magnet in the float arm is moved. The magnet operates the 282's three-way, two-position cartridge. The output is snap-acting from 0 psi to full supply pressure or conversely, on float movement.

The arm containing the magnet also acts as a counterweight for the float. As a result, the float is small and can operate in liquids with a specific gravity of 0.5 or higher. This small float permits economical installation where other types of controls would be cost prohibitive.

Direct acting (increase in liquid level increases output) or indirect acting (increase in liquid level decreases output) is selected simply by changing the supply pressure and exhaust connections.

### Benefits:

- Easy to Repair.....
- Easy to Field Test.....
- No Leaks.....
- Lower Operating Costs.....
- Lower Inventory.....
- Safe.....
- Corrosion Resistant.....
- Optional Corrosion Resistant Materials.....
- High & Low Pressure Applications.....

### Features:

- Repairs on-site in 20 minutes with the Quick-Change pneumatic cartridge
- The Manual Override option enables mechanical and pneumatic function testing while installed
- Environmentally-isolated design keeps operational fluids away from supply gas
- Quick-Change replacement parts
- Non-Bleed output saves gas
- Direct or indirect acting by changing the supply and exhaust ports
- Use One 282 on either high or low level activation
- Pneumatic activation in an environmentally-isolated design
- Standard 316 Stainless Steel wetted and housing components for corrosion resistance
- Monel, Kynar, Teflon, Teflon Coated, Hastelloy C, PVC, Polypropylene, and Alloy 20
- Available with Stainless Steel and Polypropylene displacer options for various process pressures

# LEVEL CONTROL SWITCHES

## LINC - 282 & 282SC SERIES

### Specifications: LINC-282 & LINC-282SC Series Pneumatic Level Controls

<b>Output:</b>	Non-bleed, snap-acting	
<b>Pressure:</b>	Working: 1,500 psi std., available to 5,000 psi, (1,500 psi maximum with the Manual Override option)	
	Supply: 30, 60, 100 psi std.	
	Output: 0-30, 0-60, 0-100 psi	
<b>Temperature:</b>	-40°F to + 450°F	
<b>Specific Gravity:</b>	0.5 minimum standard, interface 0.1 differential minimum	
<b>Materials:</b>	316 stainless steel standard, other austenitic metals and plastics available	
<b>Flow Rate:</b>	40 SCFH at 30 psi, with 30 psi cartridge	
<b>Connections:</b>	Process:	2" NPT standard, available 1 1/2" NPT, 3" flanged or larger, and externally caged
	Supply:	1/4" NPT
	Output:	1/4" NPT

### Ordering Chart:

	<b>Series:</b>	282 - Pneumatic level control
		282SC- Externally caged pneumatic level control, ring bolted (available on body style "0" only)
	<b>Body Style:</b>	0 - Ring bolted, 1,500 psi WP standard, 3,000 psi WP available only in the 282SC model
		1 - Standard, 2" NPT
		2 - Standard, 2" NPT with manual override
		3 - Extended <sup>1</sup> , 2" NPT, vertical displacer
		6 - Extended <sup>1</sup> , 2" NPT, vertical displacer, manual override
		7 - Extended <sup>1</sup> , 2" NPT, horizontal displacer
		8 - Extended <sup>1</sup> , 2" NPT, horizontal displacer, manual override
	<b>Type:</b>	1 - Standard
		2 - High pressure, 5,000 psi polypropylene displacer, temperature +180°F max, specific gravity 0.6 min.
		3 - Interface, 5,000 psi polypropylene displacer, temperature +180°F max, upper fluid less than: .870 specific gravity; lower fluid more than: .970 specific gravity.
		4 - Other gravities for interface, specify gravities of fluids (upper & lower)
		9 - Displacer, 5,000 psi polypropylene displacer, temperature +180°F max, specific gravity 0.5 min.
	<b>Supply Pressure:</b>	1 - Maximum, 30 psi, flow rate at 30 psi, 40 scfh
	2 - Maximum, 60 psi, flow rate at 30 psi, 25 scfh	
	3 - Maximum, 100 psi, flow rate at 30 psi, 15 scfh	
<b>Other <sup>2</sup>:</b>	0 - None	
	2 - Annulus plug	
	5 - This number means special; specify your requirements. i.e. 3" flanged 150# RF	
<b>Option Number:</b>	( ) - Factory will assign an option number based on specified requirements.	

<sup>1</sup> Body style 3, 6, 7, 8 available only Type 9.  
<sup>2</sup> If no further requirements are desired, omit "Other" option codes from the part number.  
 Example: 282-11-10

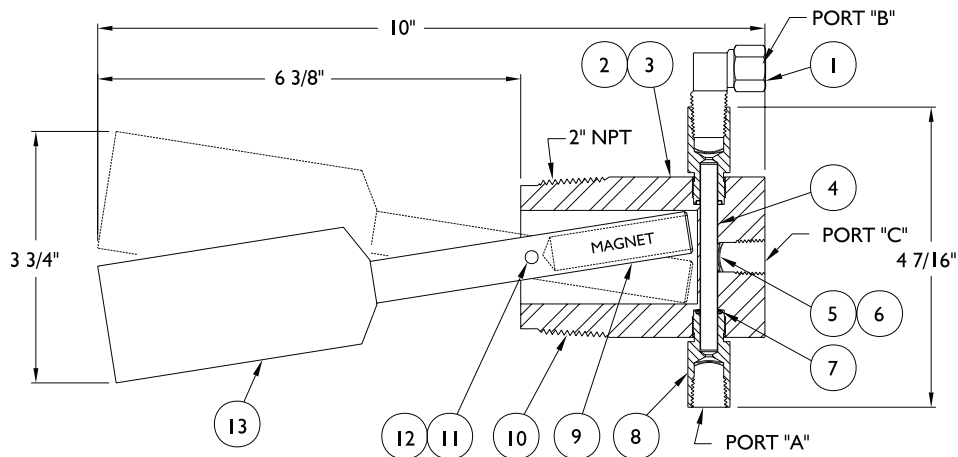
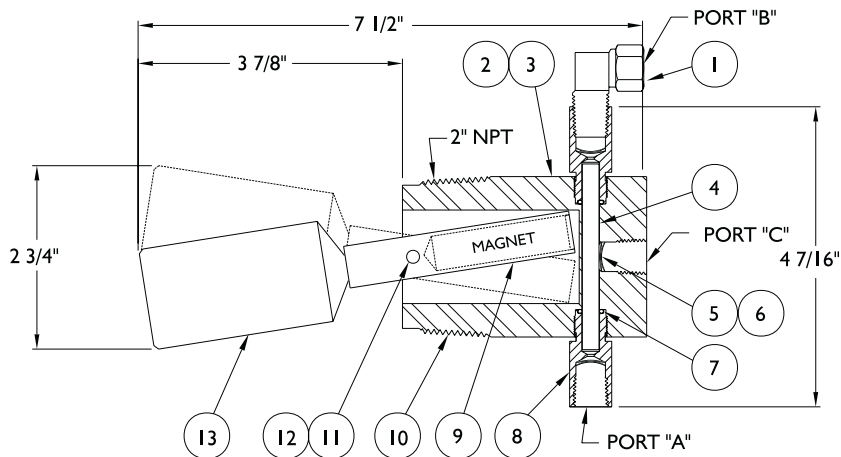
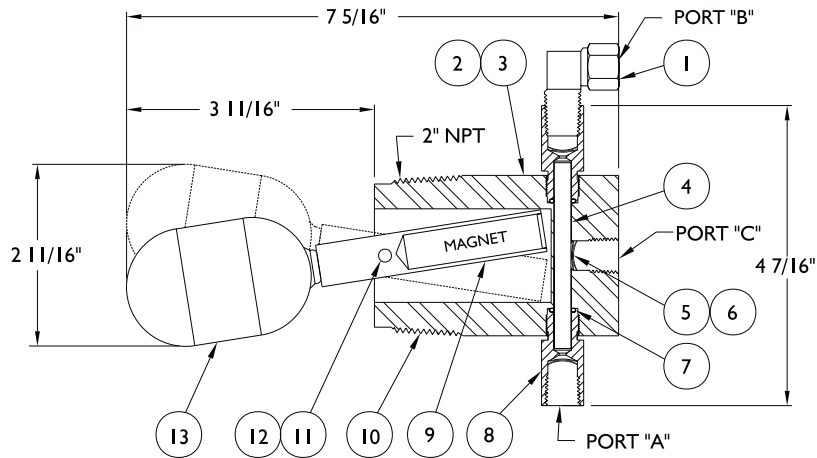
LINC- - - - ( )

**Example: LINC-282-11-15 pneumatic level control**  
 Specify: 3" - 150# RF, CS flange

# LEVEL CONTROL SWITCHES

## LINC - 282 & 282 SC SERIES

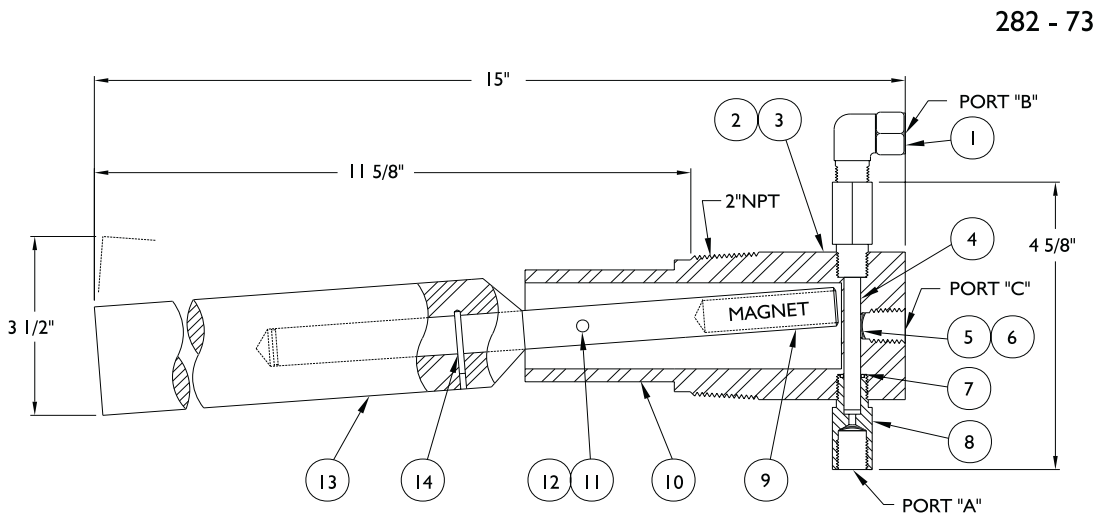
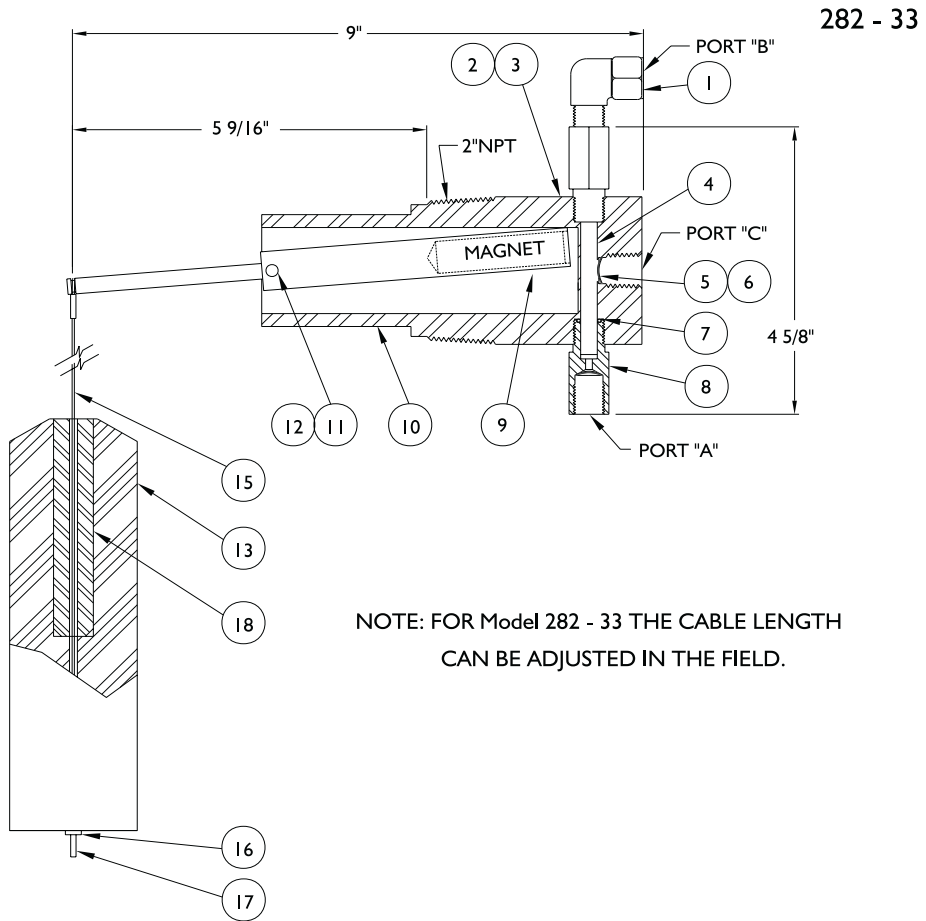
The LINC-282 Pneumatic Series:  
Standard Unit, Diagram



# LEVEL CONTROL SWITCHES

## LINC - 282 & 282 SC SERIES

The LINC-282 Pneumatic Series:  
Standard Unit, Diagram

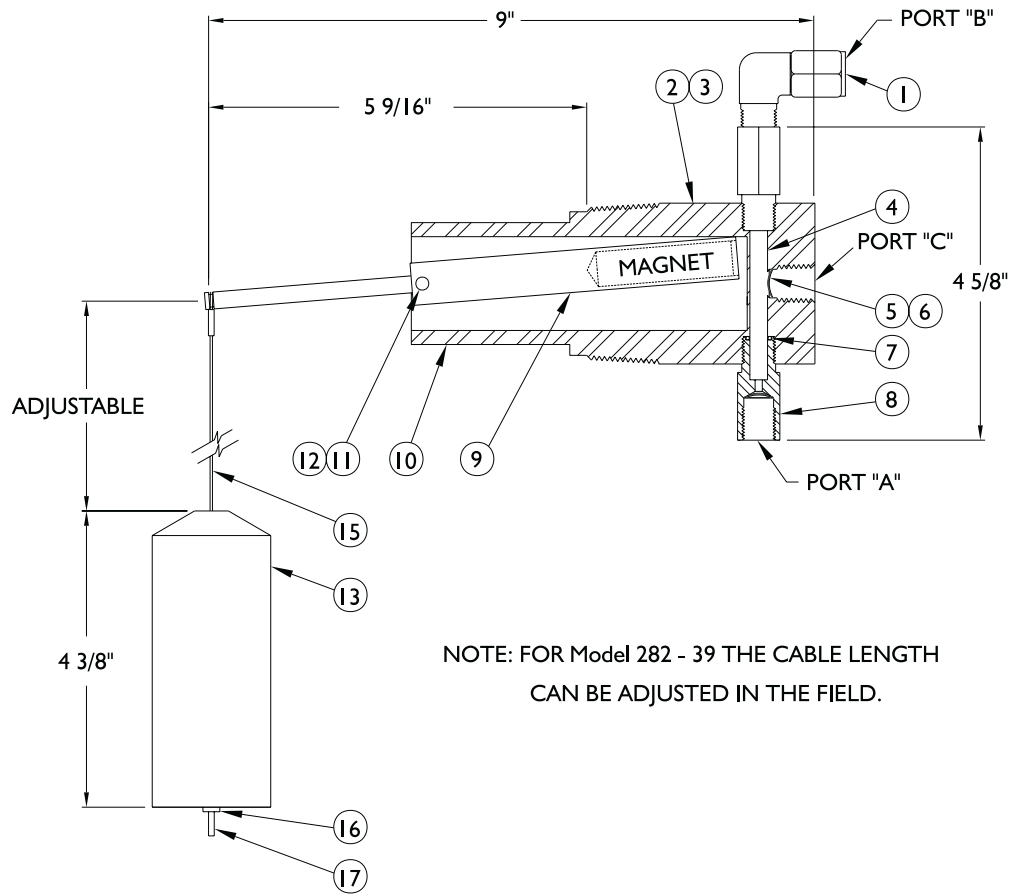


# LEVEL CONTROL SWITCHES

L I N C - 2 8 2 & 2 8 2 S C S E R I E S

The LINC-282 Pneumatic Series:  
Extended Body, Diagram

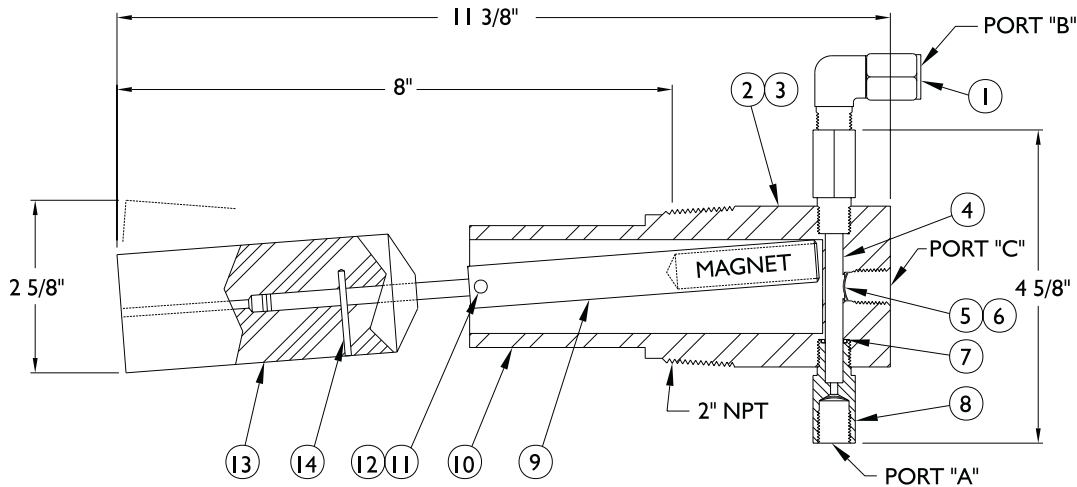
## 282 PNEUMATIC LEVEL CONTROL



282 - 39

NOTE: FOR Model 282 - 39 THE CABLE LENGTH  
CAN BE ADJUSTED IN THE FIELD.

282 - 79



# LEVEL CONTROL SWITCHES

## LINC - 282 & 282 SC SERIES

### The LINC-282 Pneumatic Series: Parts List

Model	282-11	282-12	282-13			
Item	Part #	Part #	Part #	Description	Material	Qty
1	23339	23339	23339	Vent Assembly	Brass	1
2	10998	10998	10998	Nameplate	316 ss	1
3	10324	10324	10324	Drive Screw	18-8 ss	2
4	See Chart Below			Switch Cartridge		
5	11006	11006	11006	Filter	18-8 ss	3
6	10403	10403	10403	Retaining Screen	18-8 ss	3
7	10108	10108	10108	O-Ring	Fluorocarbon	2
8	22451	22451	22451	Port Adapter	303 ss	2
9	22068	22068	22166	Float/Magnet Arm	316 ss	1
10	30816	30816	30816	Body	316 ss	1
11	20334	20334	20334	Pin	316 ss	1
12	22066	22066	22066	Spacer	316 ss	2
13	13217			Float/Displacer	316 ss	1
		20892	20898	Float/Displacer	Polypropylene	1

Model	282-33	282-39	282-73	282-79			
Item	Part #	Part #	Part #	Part #	Description	Material	Qty
1	23339	23339	23339	23339	Vent Assembly	Brass	1
2	10998	10998	10998	10998	Nameplate	316 ss	1
3	10324	10324	10324	10324	Drive Screw	18-8 ss	2
4	See Chart Below				Switch Cartridge		1
5	11006	11006	11006	11006	Filter	18-8 ss	3
6	10403	10403	10403	10403	Retaining Screen	18-8 ss	3
7	10108	10108	10108	10108	O-Ring	Fluorocarbon	2
8	22451	22451	22451	22451	Port Adapter	303 ss	2
9	31074	31074	31113	31074	Float/Magnet Arm	316 ss	1
10	31072	31072	31072	31072	Body	316 ss	1
11	23537	23537	23537	23537	Pin	316 ss	1
12	22066	22066	22066	22066	Spacer	316 ss	2
13	24182	23503	23512	23503	Float/Displacer	Polypropylene	1
14	11571	11571	11571	11571	Pin	15-7 PH ss	1
15	11566	11566			Wire	18-8 ss	24"
16	23500	23500			Stop Ring	316 ss	2
17	11565	11565			Crimp	18-8 ss	3
18	24181				Weight	316 ss	1

#### Pneumatic Switch Cartridge

Part #	Model Option	Description
22935	-1	0-30 PSI Switch
22936	-2	0-60 PSI Switch
22899	-3	0-100 PSI Switch

All 282 Ports are 1/4" NPT Female.

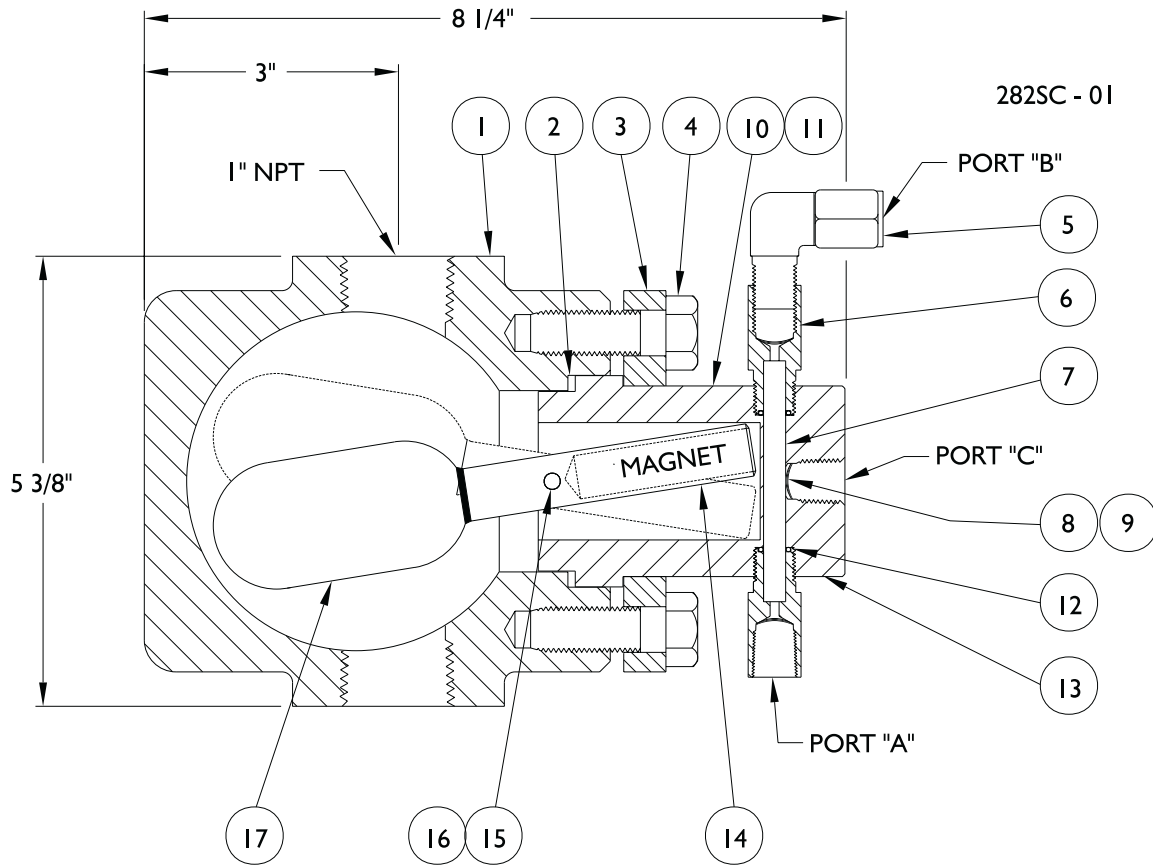
For Direct Acting Operation:  
Connect Supply to Port "A"  
Connect Output to Port "C"  
Port "B" is Vent

For Indirect Acting Operation:  
Connect Supply to Port "B"  
Connect Output to Port "C"  
Port "A" is Vent

# LEVEL CONTROL SWITCHES

L I N C - 2 8 2 & 2 8 2 S C S E R I E S

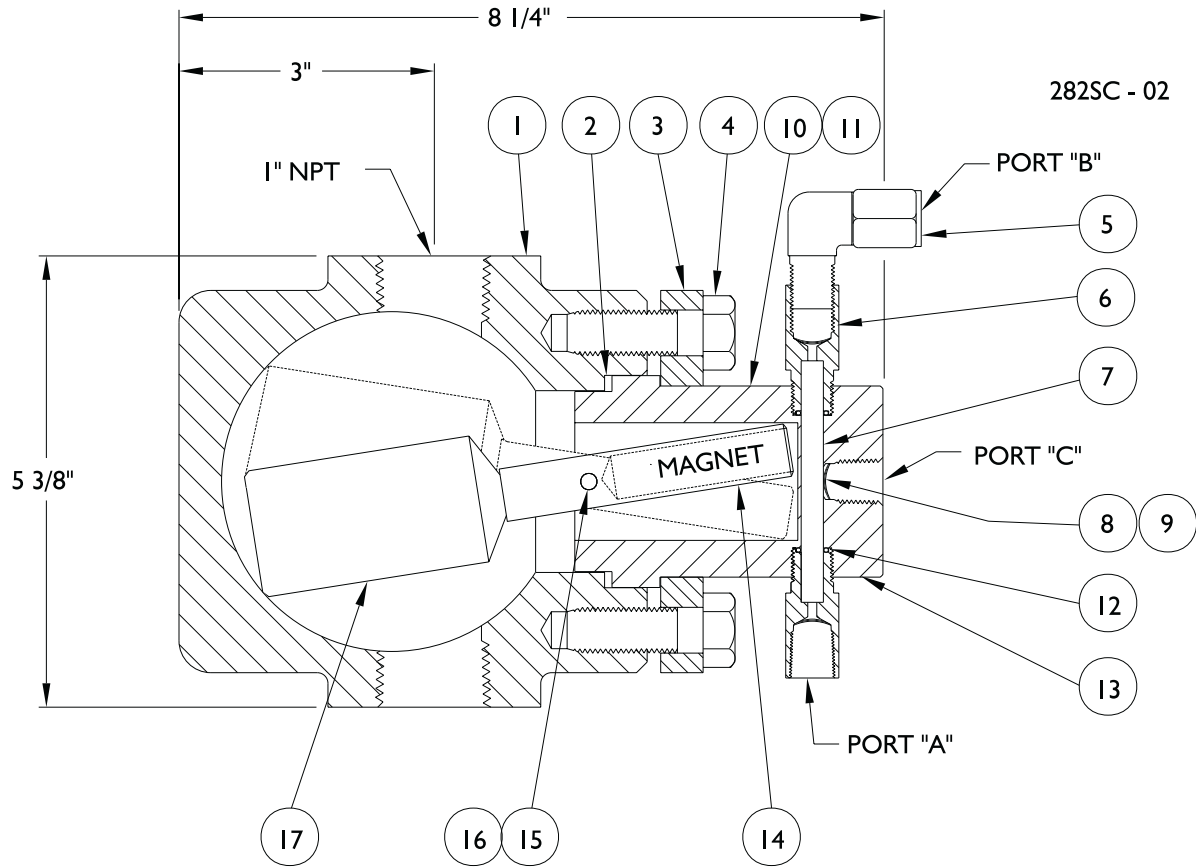
The LINC-282SC Pneumatic Series:  
Standard Caged Units, Diagram



# LEVEL CONTROL SWITCHES

L I N C - 2 8 2 & 2 8 2 S C S E R I E S

The LINC-282SC Pneumatic Series:  
Standard Caged Units, Diagram

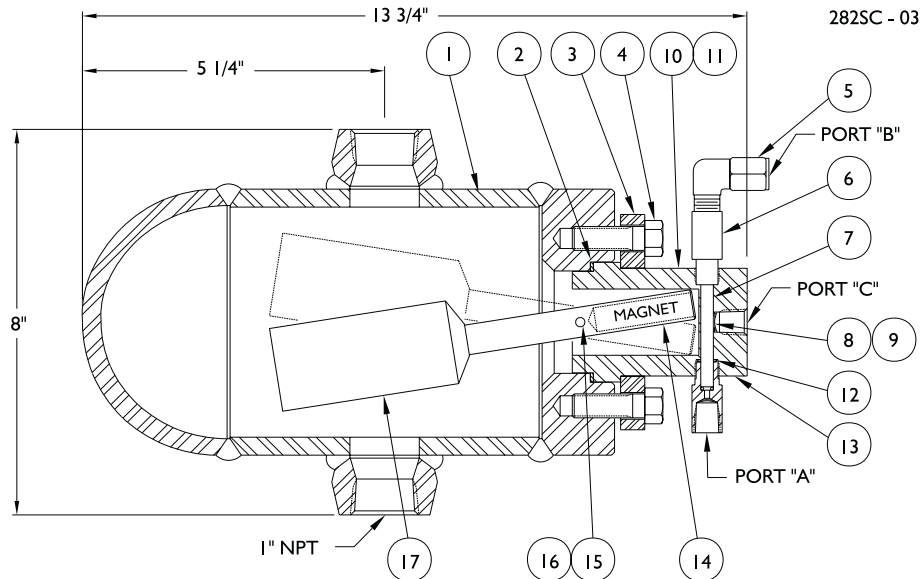




# LEVEL CONTROL SWITCHES

L I N C - 2 8 2 & 2 8 2 S C S E R I E S

The LINC-282SC Pneumatic Series:  
Standard Caged Units, Diagram and Parts List



Model	282SC-01	282SC-02	282SC-03			
Item	Part #	Part #	Part #	Description	Material	Qty
1	40256	40256	43561	Cage	Steel	1
2	11257	11257	11257	Gasket	PTFE	1
3	30258	30258	30258	Ring Flange	Steel	1
4	11216	11216	11216	Cap Screw	Plated, B7	6
5	23339	23339	23339	Vent Assembly	Brass	1
6	22451	22451	22451	Port Adapter	303 ss	2
7	See Chart Below			Switch Cartridge	Sealed	1
8	10403	10403	10403	Retaining Screen	18-8 ss	3
9	11006	11006	11006	Filter	18-8 ss	3
10	10998	10998	10998	Nameplate	316 ss	1
11	10324	10324	10324	Drive Screw	18-8 ss	2
12	10108	10108	10108	O-Ring	Fluorocarbon	2
13	30848	30848	30848	Body	316 ss	1
14	22068	22068	22166	Float/Magnet Arm	316 ss	1
15	20334	20334	20334	Pin	316 ss	1
16	22066	22066	22066	Spacer	316 ss	2
17	10245			Float/Displacer	316 ss	2
		20892	20898	Float/Displacer	Polypropylene	1

### Pneumatic Switch Cartridge

Part #	Model Option	Description
22935	-1	0-30 PSI Switch
22936	-2	0-60 PSI Switch
22899	-3	0-100 PSI Switch

All 282 Ports are 1/4" NPT Female.

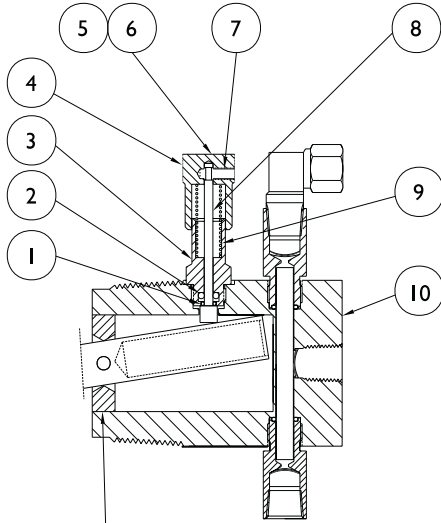
For Direct Acting Operation:  
Connect Supply to Port "A"  
Connect Output to Port "C"  
Port "B" is Vent

For Indirect Acting Operation:  
Connect Supply to Port "B"  
Connect Output to Port "C"  
Port "A" is Vent

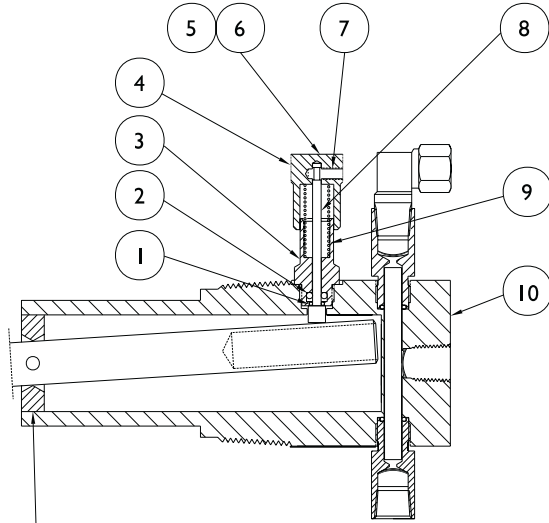
# LEVEL CONTROL SWITCHES

## LINC - 282 & 282 SC SERIES

The LINC-282 Pneumatic Series:  
Manual Override Standard Units & Extended Body,  
Diagram and Parts List



ANNULUS PLUG OPTION  
SUBSTITUTE P.N. 22184  
FOR SPACERS



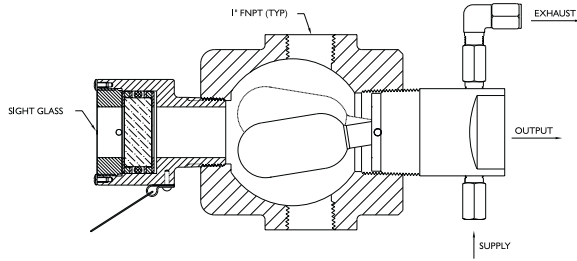
ANNULUS PLUG OPTION  
SUBSTITUTE P.N. 22184  
FOR SPACERS

Model	282-2	282-6, -8			
Item	Part #	Part #	Description	Material	Qty
1	10282	10282	O-Ring	Fluorocarbon	1
2	11139	11139	O-Ring	Fluorocarbon	1
3	24991	24991	Nut, manual override	303 ss	1
4	24993	24993	Knob	303 ss	1
5	11186	11186	Nameplate	316 ss	1
6	10324	10324	Drive Screw	18-8 ss	1
7	11361	11361	Socket Head Screw	316 ss	1
8	24992	24992	Stem	316 ss	1
9	13175	13175	Spring	18-8 ss	1
10	30809	31103	Level Control Body	316 ss	1

PARTS FOR 282 CONTROLS WITH MANUAL OVERRIDE  
OTHER PARTS ARE SAME AS STANDARD UNIT

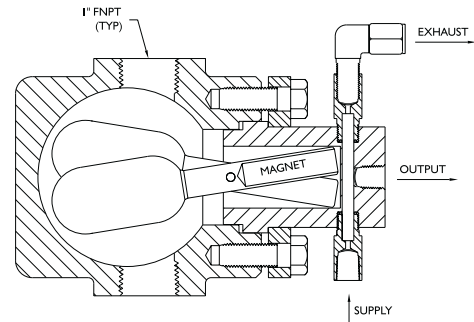
# LEVEL CONTROL SWITCHES

## STANDARD UNIT OPTIONS



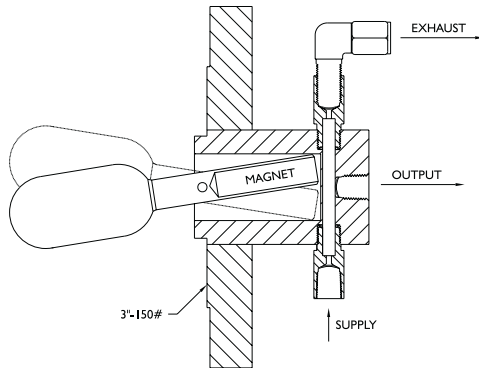
### 282 & 700 Cage

Compact external cage available in steel or stainless steel.



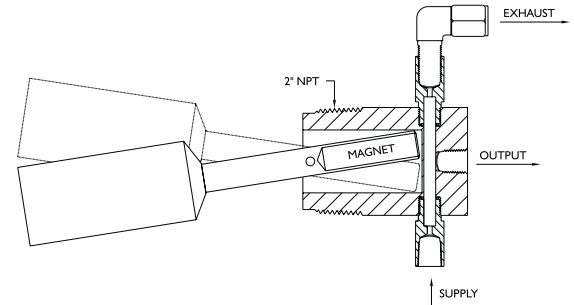
### 282SC

This rig bolt configuration eliminates the 2" pipe threads on control mount and meets API-RP14E Specifications.



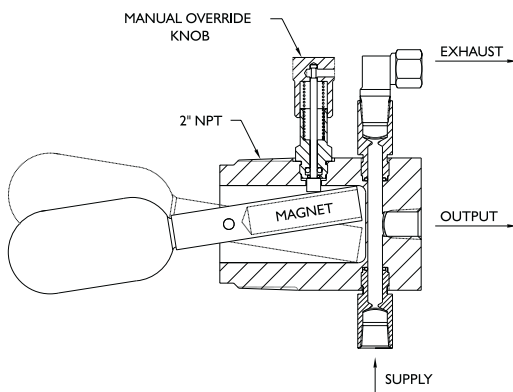
### 282 Flanged

Flanged units are available in 3" and larger and all pressure ratings.



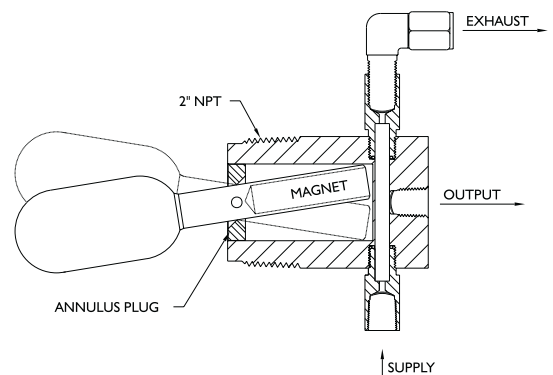
### 282-13 Interface

The interface unit will operate in fluids with specific gravity differential as low as 0.1.



### 282 Manual Override

Pushing the external knob causes the float arm to move, operating the pneumatic cartridge by manual means.

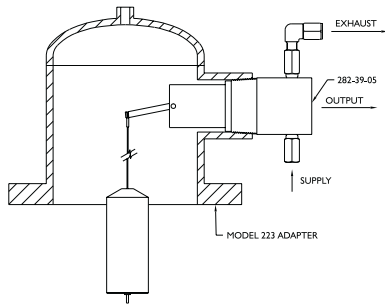


### 282 Annulus Plug

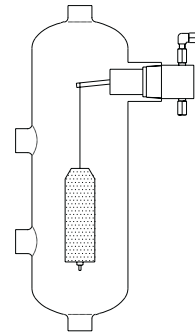
The Annulus Plug prevents foreign material from getting into the cavity. Available on all models.

# LEVEL CONTROL SWITCHES

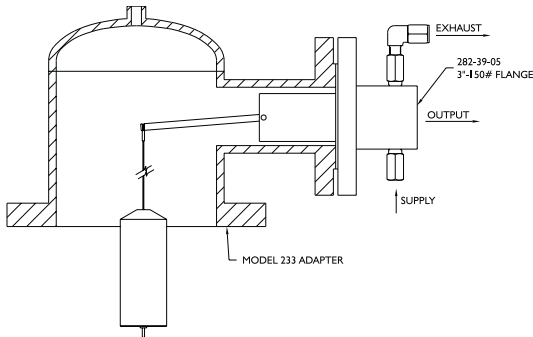
## OPTIONAL CONFIGURATIONS



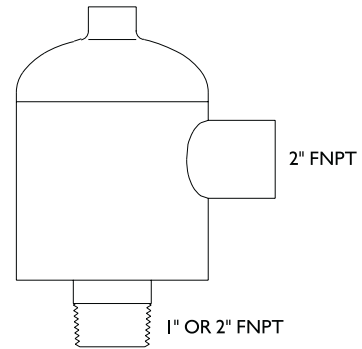
282-39  
Allows direct replacement of other manufacturer level control. Patent #4,481,389



Choice of threaded, beveled or flanged connections.

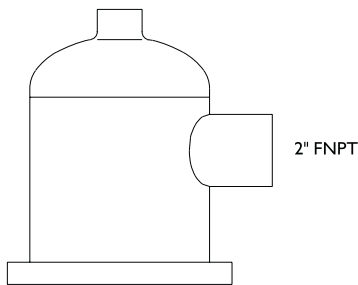


282-39-05 with Model 233 Adaptor

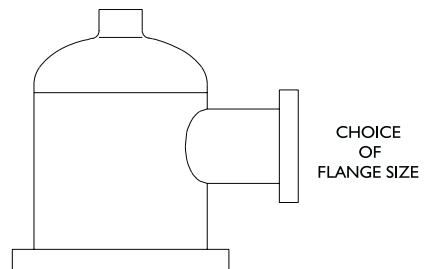


MODEL 221

Model 221



Model 223



Model 233