

# FLOAT OPERATED CONTROLLERS

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**GEN 3:** . . . . . **· 08:05.1 - 08:05.3**  
 APPLICATIONS: Liquid level controller for oil and gas separators, water knock outs, gas scrubbers and accumulators.  
 OPERATING PRESSURE RANGES: 0 psig to 4000 psig

**GEN 3 FLOAT ASSEMBLIES:** . . . . . **· 08:40.1**

**HORIZONTAL PNEUMATIC LEVEL SWITCH WITH RELAY:** . . . . . **· 08:50.1 - 08:50.2**  
 APPLICATIONS: Liquid level controller for oil and gas separators, water knockouts, gas scrubbers and accumulators.  
 OPERATING PRESSURE RANGES: 0 psig to 2000 psig

**HORIZONTAL PNEUMATIC LEVEL SWITCH WITHOUT RELAY:** . . . . . **· 08:50.3 - 08:50.4**  
 APPLICATIONS: Liquid level controller for oil and gas separators, water knockouts, gas scrubbers and accumulators.  
 OPERATING PRESSURE RANGES: 0 psig to 2000 psig

**HORIZONTAL ELECTRIC LEVEL SWITCH:** . . . . . **· 08:60.1 - 08:60.3**  
 APPLICATIONS: Senses a specific liquid level and produces electric output.  
 Electric output can activate alarms, solenoid valves or other electrically switched devices  
 OPERATING PRESSURE RANGES: 0 psig to 5000 psig

**LEVEL SWITCH HORIZONTAL EXTERNAL FLOAT CAGE** . . . . . **· 08:70.1**

**TECHNICAL DATA:**

**GEN 3 DIMENSIONS** . . . . . **· 08:I**

**PNEUMATIC SWITCH DIMENSIONS** . . . . . **· 08:IV**

**ELECTRONIC SWITCH DIMENSIONS** . . . . . **· 08:V**

**SEALS** . . . . .

**08:VI**

**MATERIAL SPECIFICATIONS** . . . . . **· 08:VII**

**TEMPERATURE** . . . . . **· 08:VI**

# FLOAT OPERATED CONTROLLERS



## CODE BUILDER F SERIES (LEVEL CONTROLS)

Series:

F = Float Operated Controllers

Model:

PL = GEN 3 Pneumatic Level Controller

Connection Size:

2 = 2 NPS  
3 = 3 NPS  
4 = 4 NPS  
5 = 5 NPS (HU only)  
6 = 6 NPS

End Connection:

**S4 = 4000 psi MNPT - 2 inch only**  
AR = 150 RF  
BR = 300 RF  
DR = 600 RF  
ER = 900 RF  
FR = 1500 RF  
DJ = 600 RTJ  
EJ = 900 RTJ  
FJ = 1500 RTJ  
HU = Hammer Union - 3,4,5 inch only  
GV = Grooved - 2 inch L & R only (PC & EC only)

Mounting Type:

L = Left Side Mount  
R = Right Side Mount  
B = Back Mount (PC & EC only)

Displacer Type:

Displacer Extensions:

A = None  
B = 6 inch  
C = 12 inch  
D = 18 inch

1 = 1 7/8 x 12	Poly 4000 psi
2 = 1 7/8 x 20	
3 = 2 3/4 x 14 1/4	
4 = 2 1/2 x 12	
5 = 1 7/8 x 5 11/16	
6 = 1 3/4 x 12	316SS 2000 psi
7 = 1 3/4 x 20	

Service Type:

S = Standard  
C = Corrosive

F PL 2 S4 B 1 A S

Options: Additional cost and lead times will apply  
If multiple options required input in sequential order  
Leave blank if no options required

1 = NACE Certification (Corrosive Option Only)  
2 = Hydrostatic Test Certification  
3 = MTR (Shell Components)  
A = AFLAS Elastomer  
H = HSN Elastomer  
X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.  
See product pages 08:10.1 - 08:30.3 for available options

Series:

F = Float Operated Controllers

Model:

PS = Pneumatic Level Switch  
 PK = Pneumatic Level Switch w/o Relay  
 PX = Pneumatic Extended Level Switch  
 ES = Electric Level Switch  
 EL = Electric Level Switch Low power  
 EV = Electric Level Switch Vertical Float

Connection Size:

1 = 1 1/2 NPS (ES, EL & EV only)  
 2 = 2 NPS

End Connection:

S4 = MNPT

Override:

W = With manual Override  
 N = Without Manual Override

Float Type:

P = Poly - 5000 psi (ES, EL & EV only)  
 S = 316SS - 2000 psi

Float Extensions:

A = None

Service Type:

S = Standard

F	PS	2	S4	W	P	A	S	
---	----	---	----	---	---	---	---	--

Options: Additional cost and lead times will apply  
 If multiple options required input in sequential order  
 Leave blank if no options required

1 = NACE Certification  
 2 = Hydrostatic Test Certification  
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 H = HSN Elastomer  
 X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.  
 See product pages 08:50.1 - 08:60.3 for available options

**NOTES:**

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Kimray is an ISO 9001- certified manufacturer.

#### APPLICATIONS:

Liquid level controller for oil and gas separators, water knockouts, gas scrubbers and accumulators.

Liquid interface control in fluids of 0.20 minimum differential specific gravities with the standard displacer. Other displacers are available to control liquid interface to 0.10 minimum specific gravities.

Operates any diaphragm control valve requiring not more than 45 psig diaphragm pressure.

#### FEATURES:

- Compact design fits in production units & other tight spaces.
- Snap or throttle control in one pilot
- Easily convert b/tw left/right mount & direct/indirect action
- Non-bleed pilot (Preferred EPA Natural Gas Star BMP)
- 1/4" NPT vent ports for optional emissions capture
- No vent gas in enclosure
- Simple pilot removal
- Powder coated enclosure
- Vibration resistant
- PVC Displacer (Std.) (4000 psi, 175°F);
- 316 SS Displacer (Optional) (1500 psi, 450°F)
- 40 micron supply gas filter
- Paraffin cleanout port

#### CERTIFICATIONS:

- NACE MR0175 compliant Wetted Parts option available
- documents available upon request, specify when ordering
- Canadian Registration Number (CRN):  
0H23619.2

Kimray is an ISO 9001- certified manufacturer.

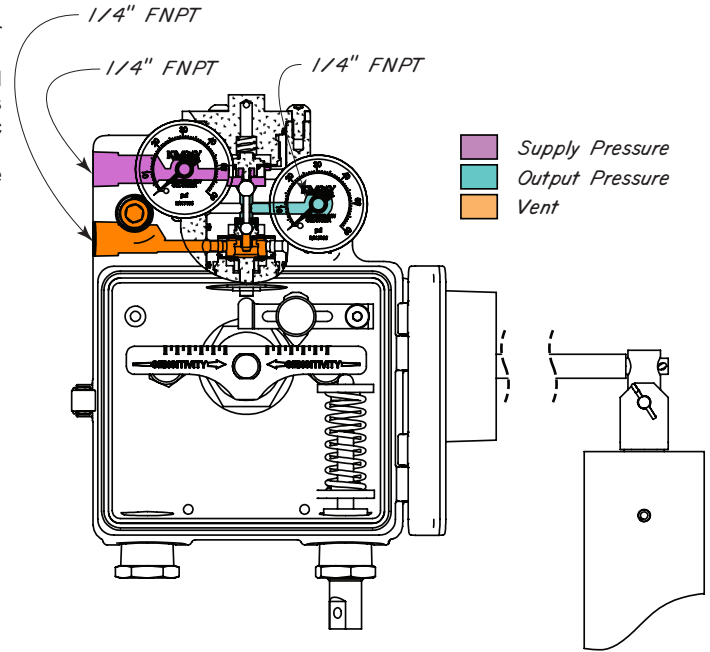


Image above shown in left mount

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Supply Press. psig	Max. W.P. †† psig		
FPL2S4L1AS	LCL	2"	NPT	Left Hand	5 - 45	4000		
FPL2ARL1AS	LCA		150RF			285		
FPL2BRL1AS			300RF			740		
FPL2DRL1AS			600RF			1480		
FPL2FRL1AS			1500RF			3705		
FPL2DJL1AS			600RTJ			1480		
FPL2FJL1AS			1500RTJ			3705		
FPL3ARL1AS	LCW		150RF			285		
FPL3BRL1AS			300RF			740		
FPL3DRL1AS			600RF			1480		
FPL3ERL1AS		900RF	2220					
FPL3FRL1AS		1500RF	3705					
FPL3DJL1AS		600RTJ	1480					
FPL3EJL1AS		900RTJ	2220					
FPL3HUL1AS	LDC	H.U.	3000					
FPL4ARL1AS	LDM	4"	150RF	Right Hand	5 - 45	285		
FPL4BRL1AS			300RF			740		
FPL4DRL1AS			600RF			1480		
FPL4ERL1AS			900RF			2220		
FPL4FRL1AS			1500RF			3705		
FPL4DJL1AS			600RTJ			1480		
FPL4HUL1AS			H.U.			1500		
FPL5HUL1AS			LEM			5"	H.U.	1500
FPL6FRL1AS						6"	1500RF	3705

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Supply Press. psig	Max. W.P. †† psig			
FPL2S4R1AS	LCR	2"	NPT	Right Hand	5 - 45	4000			
FPL2ARR1AS	LCJ		150RF			285			
FPL2BRR1AS			300RF			740			
FPL2DRR1AS			600RF			1480			
FPL2FRR1AS			1500RF			3705			
FPL2DJR1AS			600RTJ			1480			
FPL2FJR1AS			1500RTJ			3705			
FPL3ARR1AS	LDE		3"			150RF	Right Hand	5 - 45	285
FPL3BRR1AS						300RF			740
FPL3DRR1AS						600RF			1480
FPL3ERR1AS		900RF		2220					
FPL3FRR1AS		1500RF		3705					
FPL3DJR1AS		600RTJ		1480					
FPL3EJR1AS		900RTJ		2220					
FPL3HUR1AS	LDL	H.U.	3000						
FPL4ARR1AS	LDV	4"	150RF	Right Hand	5 - 45	285			
FPL4BRR1AS			300RF			740			
FPL4DRR1AS			600RF			1480			
FPL4ERR1AS			900RF			2220			
FPL4FRR1AS			1500RF			3705			
FPL4DJR1AS			600RTJ			1480			
FPL4HUR1AS			H.U.			1500			
FPL5HUR1AS			LEV			5"	H.U.	1500	
FPL6FRR1AS						6"	1500RF	3705	

#### NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 08:I - 08:VII

† For Corrosive service remove last "S" & replace with "C"

†† For code builder see page 08:00.2

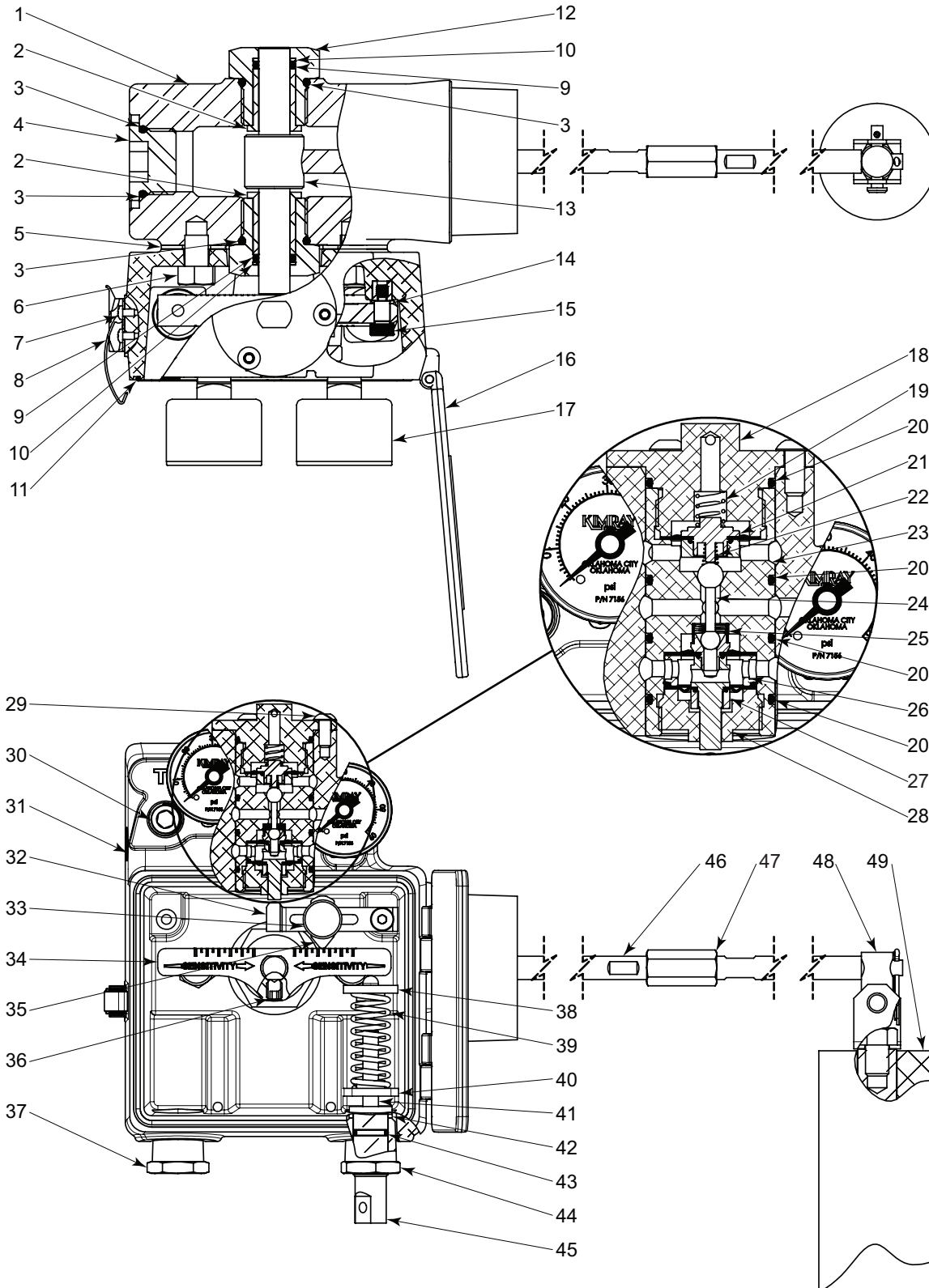
†† Max W.P. values based on -20°F to 100°F.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

# FLOAT OPERATED CONTROLLERS



## GEN 3 PNEUMATIC LEVEL CONTROLLER MODEL PL



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



ITEM	QTY.	DESCRIPTION	PART NUMBER						CORROSIVE
			STANDARD						
			2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	
1	1	Body	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	
		MNPT	7736	----	----	----	----	7736S6	
		150RF	7820	7826	7833	----	----	----	
		300RF	7821	7827	7834	----	----	----	
		600RF	7822	7828	7835	----	----	----	
		900RF	----	7829	7836	----	----	----	
		1500RF	7823	7830	7837	----	7839	----	
		600RTJ	7824	7831	7838	----	----	----	
		900RTJ	----	7832	----	----	----	----	
		1500RTJ	7825	----	----	----	----	----	
		Hammer Union	----	7759	7760	7761	----	----	

ITEM	QTY.	DESCRIPTION	PART NO		ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
2	2	Flanged Bearing *	7678		27	1	Lower Diaphragm Assy. ◇ *	7096AS	
3	3	O-Ring, Fitting *	7679V		28	1	Bottom Cartridge Cap ◇	7743	
4	1	SAE Bearing	7667S6		29	3	Pilot Screw	7739	
5	1	Mount Gasket *	7754		30	3	NPT Socket Plug	7762	
6	2	Mount Screw	7908		31	1	Enclosure	7735AS	
7	2	Latch Screw	7752		32	1	Pilot Lever	7673	
8	1	Latch	5463		33	1	Sensitivity Knob	7742	
9	2	O-Ring, Shaft *	7758V		34	1	Torque Lever	7672	
10	2	Back-Up Standard *	7680V		35	1	Sensitivity Fulcrum	7674	
		Shaft PTFE (AFLAS kit only)	7819		36	1	Torque Level Set Screw	7749	
11	1	Cover Seal	7763		37	1	Hex NPT Plug	7756	
12	2	Bearing Hub	7666	7666S6	38	1	Upper Spring Plate	7675	
13	1	Torque Shaft	7668	7668S6	39	1	Spring Standard	7725	
14	1	Pilot Washer *	7751				Spring Heavy	7726	
15	1	Pilot Lever Screw	7740		40	1	Lower Spring Plate	7676	
16	1	Enclosure Cover	7737		41	1	Spring Adjuster Set Screw	7750	
17	2	Gauge	7156		42	1	Spring Adjuster Washer *	7727	
18	1	Top Cartridge Cap ◇	7745		43	1	O-Ring, Spring Adjuster *	7748	
19	1	Booster Spring ◇ *	585L		44	1	Spring Adjuster Bushing	7757	
20	4	O-Ring, Pilot ◇ *	5226V		45	1	Spring Adjusting Knob	7677	
21	1	Upper Diaphragm Assy. ◇ *	7102AS		46	1	Displacer Arm	7681	
22	1	Conical Spring ◇ *	5469		47	1	Displacer Arm Coupling	5454	
23	1	Cartridge Body ◇	7744		48	1	Rod Assembly	7723A	
24	1	Pilot Plug ◇ *	112			1	Optional 6" Arm Extension	5543L6	
25	1	Spring ◇ *	5541				Optional 12" Arm Extension	5543L12	
26	1	Diaphragm Spacer ◇ *	5475				Optional 18" Arm Extension	5543L18	
Repair Kits			RYC		* These parts are recommended spare parts and stocked as repair kits.				
Pilot Assembly			YBZ		◇ These parts are stocked as Pilot Assembly				

ITEM	QTY.	DESCRIPTION	PART NO	WEIGHT	MAX TEMP	MAX PSI	MIN DIFF. SP.GR.	MATERIAL	SPRING P/N BASED ON EXTENSION LENGTH			
									NO Ext.	6" Ext.	12" Ext.	18" Ext.
49	1	Displacers							7725	7725	7725	7725
		1 7/8" x 12" Lg	7637A	1lb 15oz	175°F	4000	>0.20	PVC	7725	7725	7726	7726
		2 1/2" x 12" Lg	7639A	3lb 0.5oz	175°F	4000	>0.15	PVC	7725	7725	7726	7726
		1 7/8" x 20" Lg	7638A	3lb 5oz	175°F	4000	>0.15	PVC	7725	7725	7726	7726
		2 3/4" x 14 1/4" Lg	7640A	4lb 5oz	175°F	4000	>0.1	PVC	7725	7726	7726	7726
		1 3/4" x 12" Lg	5461SS6	1lb 15oz	450°F	2000	>0.20	316SS	7725	7725	7725	7725
		1 3/4" x 20" Lg	5461SS6L20	3lb 0oz	450°F	2000	>0.17	316SS	7725	7725	7726	7726

ACCESSORIES (not shown)	
ITEM	DESCRIPTION
Hex Key	7845
Filter	7847

EXTENSION RODS KITS			
Extension Kit	Length	Coupling	Arm Ext.
LPA	6"	5454	5543L6
LPB	12"	5454	5543L12
LPC	18"	5454	5543L18

**NOTES:**

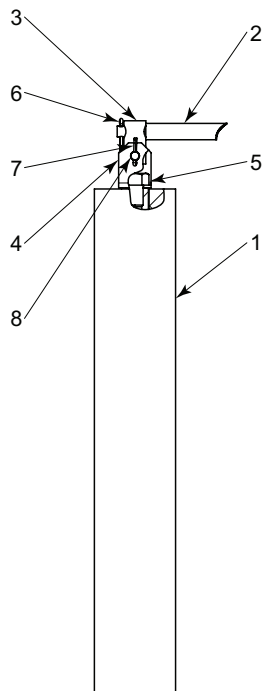


Kimray is an ISO 9001- certified manufacturer.

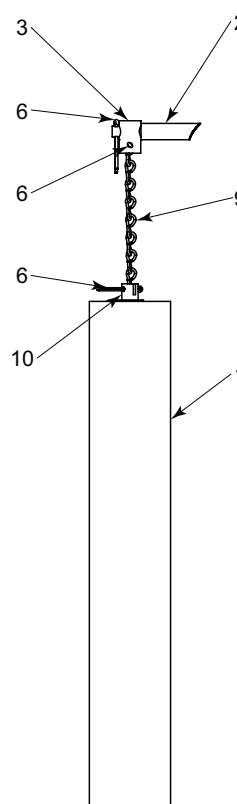
HORIZONTAL (STD.)



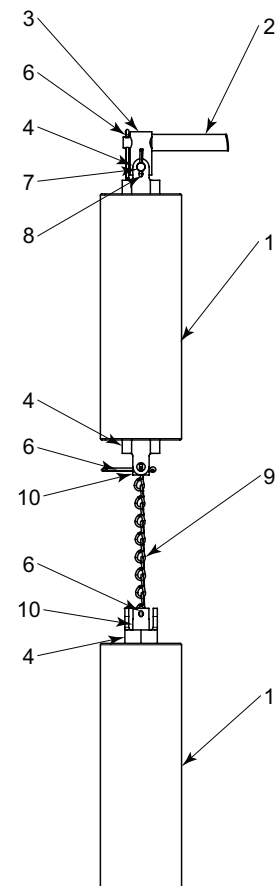
VERTICAL (STD.)



HANGING



SPLIT FLOAT



ITEM	DESCRIPTION	HORIZONTAL (STD.)		VERTICAL (STD.)		HANGING		SPLIT	
		PART NO	QTY.	PART NO	QTY.	PART NO	QTY.	PART NO	QTY.
1	Displacer	7637A	1	7637A	1	7637A	1	5560	2
2	Displacer ARM			5453	1	5453	1	5453	1
3	Hanger Block			6541	1	5546SS6	1	6541	1
4	U Bracket / Bushing			7577	1		1	6557SS6	3
5	Bolt			7696S6	1				
6	Cotter Pin			363	1	363	3	363	3
7	Clevis Pin			7168	1			7168	1
8	Cotter Pin			7169	1			7169	1
9	Chain					* 2826	1	* 2826	1
10	Screw					5547SS6	1	5547SS6	2
Kit Number						CMQ		CMP	

\* Part 2826 chain comes in 8 foot length

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

**NOTES:**

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Kimray is an ISO 9001- certified manufacturer.

#### APPLICATION:

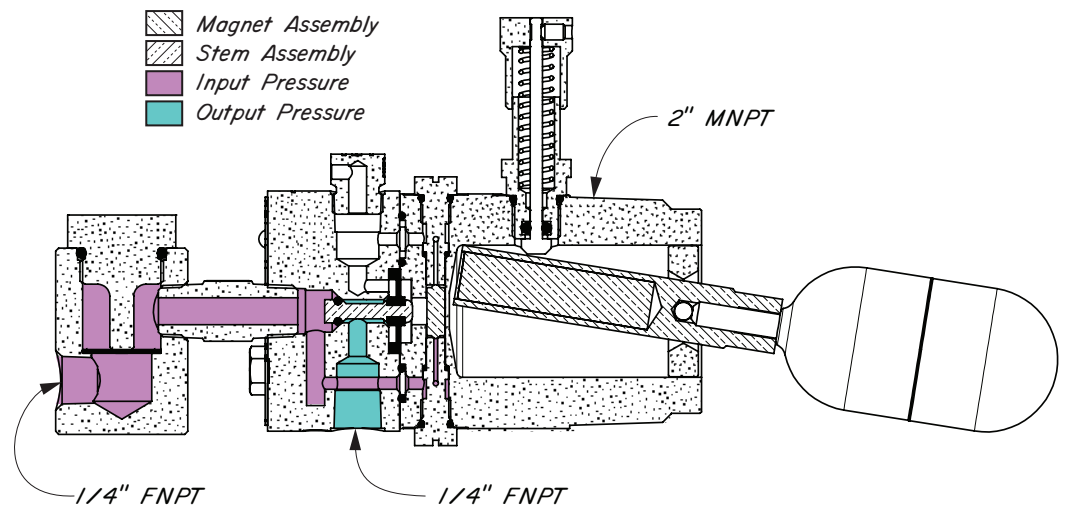
Liquid level switch for oil and gas separators, water knock-outs, gas scrubbers and accumulators.

#### FEATURES:

- Manual override for testing
- Standard and extended float options operate in 0.5 specific gravity
- Designed for harsh gas compressor scrubber applications
- Snap acting
- Direct acting (Field reversible to Indirect acting)
- Flow Rate 420 SCFH @ 30psig

#### CERTIFICATIONS:

- Canadian Registration Number (CRN):  
0H13594.2134567890NTY
  - NACE MR0175 process standard
  - NACE MR0175 compliant wetted parts
  - Certification documents available upon request, specify when ordering
- Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Supply Press. psig	Max. W.P. psig ††
FPS2S4WSAS	CUA	2"	NPT	15-75	2000
FPX2S4WSAS	CUAEXT				

#### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:I - 08:VII

† For Corrosive service remove last "S" & replace with "C"

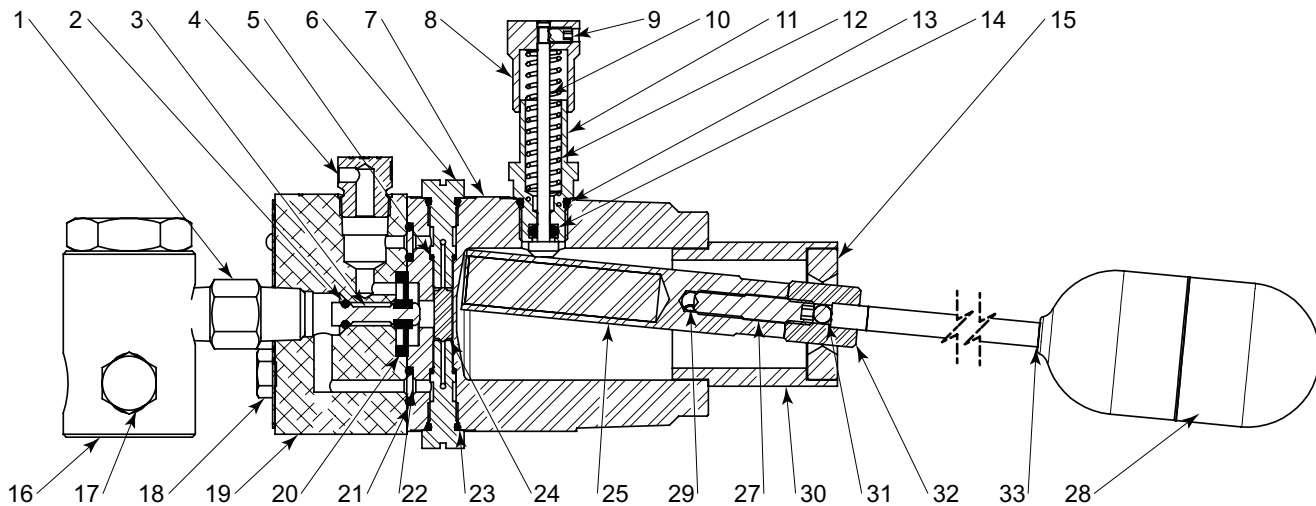
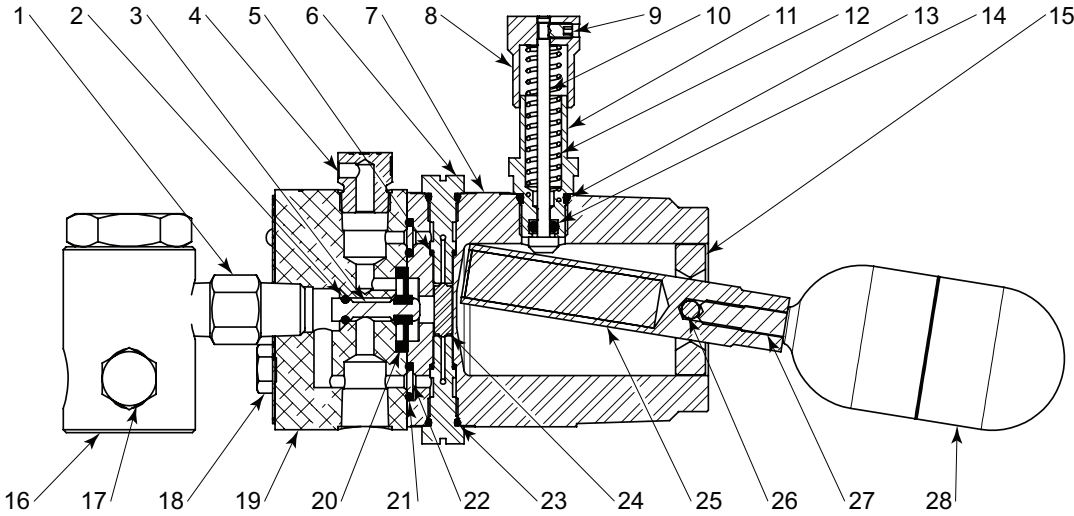
† For code builder see page 08:00.3

†† Max W.P. values based on -20°F to 100°F.

# FLOAT OPERATED CONTROLLERS



## PNEUMATIC LEVEL SWITCH MODEL PS & PX PARTS DRAWING & LIST



ITEM	QTY.	DESCRIPTION	PART NO.		ITEM	QTY.	DESCRIPTION	PART NO.	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	1	Nipple	648	648SS6	19	1	Pilot Body	6984	6984
2	1	O-Ring *	7016V	7016V	20	1	Diaphragm *	6994V	6994V
3	1	Stem	6986	6986	21	2	O-Ring *	7524V	7524V
4	1	Breather Plug	147	147SS6	22	2	Disc Filter *	7012	7012
5	2	O-Ring *	7015V	7015V	23	2	O-Ring *	7019V	7019V
6	2	Seat	6990	6990	24	1	Shuttle	6996	6996
7	1	Housing	7549	7549	25	1	Float Lever	7017S6	7017S6
8	1	Push Cap	5417	5417	26	1	Pivot Pin	7020	7020
9	1	Set Screw	5426	5426	27	1	Set Screw	6851	6851
10	1	Stem	5419	5419	28	1	SS6 Float	3216	3216
11	1	Override Fitting	7548	7548			Poly Float	5431	5431
12	1	Spring	5429	5429	29	2	Roll Pin	7469	7469
13	1	O-Ring *	7584V	7584V	30	1	Housing	7470S6	7470S6
14	1	O-Ring *	5410V	5410V	31	1	Pivot Pin	7468	7468
15	1	Annulus Plug	7145	7145	32	1	Coupler	7471S6	7471S6
16	1	Filter 1/4 F30	YAS	YASSS6	33	1	Float Extension	7482S6	7482S6
17	1	Plug	699	699SS6			Repair Kits	RZX	RZX
18	2	Screw	7024	7024					

\* These parts are recommended spare parts and are stocked as repair kits.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### APPLICATION:

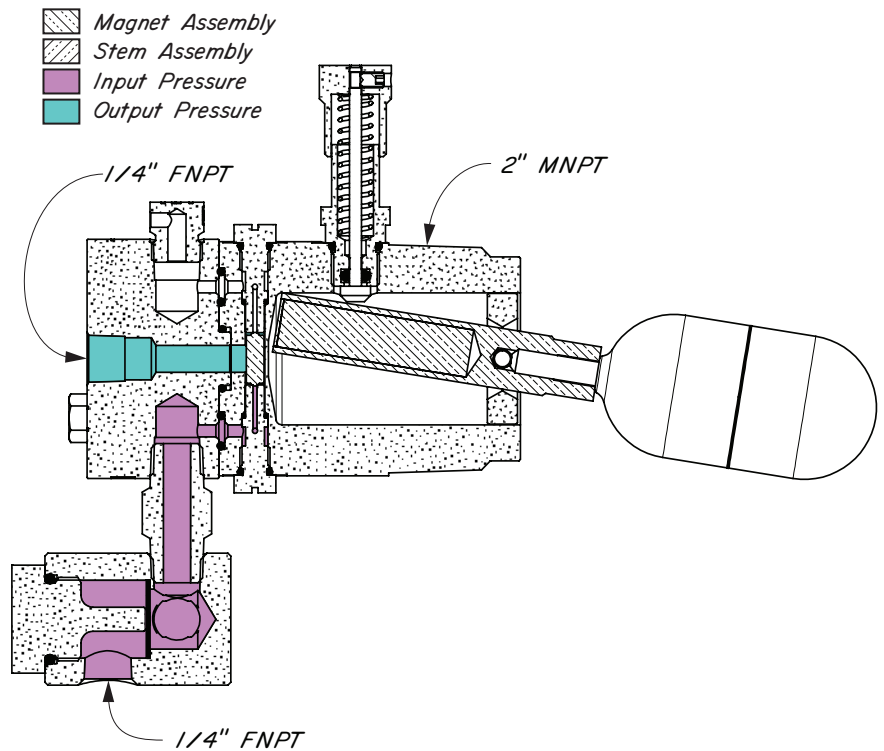
Liquid level switch for oil and gas separators, water knock-outs, gas scrubbers and accumulators.

#### FEATURES:

- Manual override for testing
- Float operates in 0.5 specific gravity
- Designed for harsh gas compressor scrubber applications
- Snap Acting
- Flow Rate 17 SCFH @ 30psig
- 36 SCFH @ 75psig

#### CERTIFICATIONS:

- Canadian Registration Number (CRN):  
0H13594.2134567890NTY
  - NACE MR0175 compliant wetted parts
  - Certification documents available upon request, specify when ordering
- Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Supply Press. psig	Max. W.P. psig ††
FPK2S4WSAS	CUB	2"	NPT	0-75	2000

#### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:I - 08:VII

† For Corrosive service remove last "S" & replace with "C"

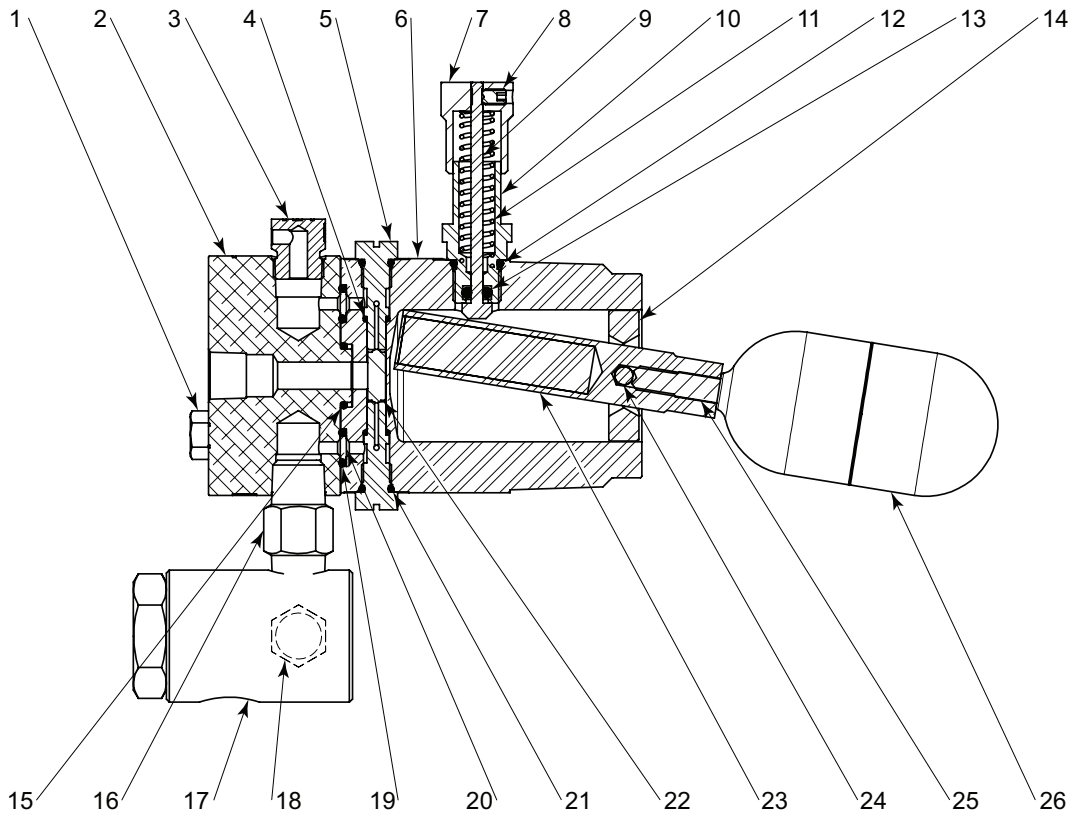
† For code builder see page 08:00.3

†† Max W.P. values based on -20°F to 100°F.

# FLOAT OPERATED CONTROLLERS



## PNEUMATIC LEVEL SWITCH NO RELAY MODEL PK PARTS DRAWING & LIST



ITEM	QTY.	DESCRIPTION	PART NO.		ITEM	QTY.	DESCRIPTION	PART NO.	
			STANDARD	CORROSIVE				STANDARD	CORROSIVE
1	2	Screw	7024	7024	15	1	O-Ring *	3026V	3026V
2	1	Pilot Body	7248	7248	16	1	Nipple	648	648SS6
3	1	Breather Plug	147	147SS6	17	1	Filter 1/4 F30	YAS	YASSS6
4	2	O-Ring *	7015V	7015V	18	1	Plug	699	699SS6
5	2	Seat	6990	6990	19	2	O-Ring *	7524V	7524V
6	1	Housing	7549	7549	20	2	Disc Filter *	7012	7012
7	1	Push Cap	5417	5417	21	2	O-Ring *	7019V	7019V
8	1	Set Screw	5426	5426	22	1	Shuttle	6996	6996
9	1	Stem	5419	5419	23	1	Float Lever	7017S6	7017S6
10	1	Override Fitting	7548	7548	24	1	Pivot Pin	7020	7020
11	1	Spring	5429	5429	25	1	Set Screw	6851	6851
12	1	O-Ring *	7584V	7584V	26	1	SS6 Float	3216	3216
13	1	O-Ring *	5410V	5410V			Poly Float	5431	5431
14	1	Annulus Plug	7145	7145			Repair Kits	RZX	RZX

\* These parts are recommended spare parts and are stocked as repair kits.



### ELECTRONIC LEVEL SWITCH MODEL ES, EL & EV

#### APPLICATIONS:

Senses a specific liquid level and produces electric output.  
High or low level control.  
Electric output can activate alarms, solenoid valves or other electrically switched devices.

#### FEATURES:

316 SS Wetted Parts  
Sealed Hermetic Reed Switch  
SPDT Reed Switch  
CSA Certificate #1662451, USA and Canada  
Expl. Proof – Class I, Div 1, Groups A,B,C,D  
• Class II, Groups E,F,G, Class III  
• Class I, Zone 1, AExdIIC, ExdIIC  
• (Stainless steel float only)  
• Additional seal not required  
NEMA4X  
Available with manual override for testing.  
Minimum Specific Gravity 0.4.

#### CERTIFICATIONS:

NACE MR0175 compliant Wetted Parts  
• documents available upon request, specify when ordering  
Canadian Registration Number (CRN):  
0H11305.2134567890NTY  
Kimray is an ISO 9001- certified manufacturer.

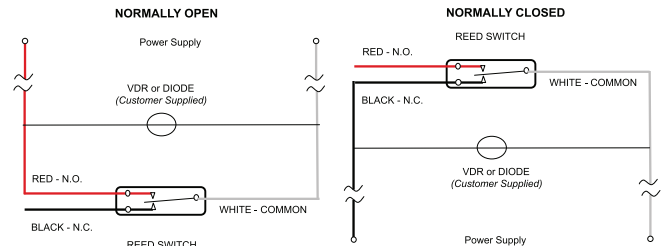
#### ELECTRICAL RATINGS:

STD POWER: 3W MIN, 100W MAX  
0.83A @ 120VAC  
2A @ 50VDC  
3A MAXIMUM  
LOW POWER : 25W MAX  
0.2A @ 120VAC  
1A @ 25VDC  
1A MAXIMUM

#### WIRING INSTRUCTIONS:

Do not exceed the amperage and voltage for the switch.  
Switch contacts may experience damage in applications using relays, motors, etc. where a power surge or voltage spike may occur during relay engagement or motor startups. For these conditions a shunt path for over-voltage should be installed.

- For DC applications:  
use an (1N4001) or similar diode wired in parallel as shown.
- For AC applications:  
use a 110 VAC Varistor (Digi-Key BC1408-ND) or similar wired in parallel as shown.



**RED** - Normally Open  
**BLACK** - Normally Closed  
**WHITE** - Common



Standard Configuration Code †	Order Code	Line Size	Connection Type	Max. W.P. †† psig	Float	Override	Power
FES1S4NSAS	CEB1	1 1/2"	NPT	2000	SS6	No	Standard
FES2S4NSAS	CEC1	2"				No	
FES1S4WSAS	CEB2	1 1/2"				Yes	
FES2S4WSAS	CEC2	2"				Yes	
FES1S4NPAS	CEB1PP	1 1/2"		5000	HDPE	No	
FES2S4NPAS	CEC1PP	2"				No	
FES1S4WPAS	CEB2PP	1 1/2"				Yes	
FES2S4WPAS	CEC2PP	2"				Yes	
FEV2S4NSAS	CEC1VRT	2"		2000	SS6	No	Low PWR
FEV2S4WSAS	CEC2VRT	2"				Yes	
FEL1S4NSAS	CEB1LPW	1 1/2"				No	
FEL2S4NSAS	CEC1LPW	2"				No	
FEL1S4WSAS	CEB2LPW	1 1/2"		5000	HDPE	Yes	
FEL2S4WSAS	CEC2LPW	2"				Yes	
FEL1S4NPAS	CEB1LPWPP	1 1/2"				No	
FEL2S4NPAS	CEC1LPWPP	2"				No	
FEL1S4WPAS	CEB2LPWPP	1 1/2"	2000	HDPE	Yes		
FEL2S4WPAS	CEC2LPWPP	2"			Yes		

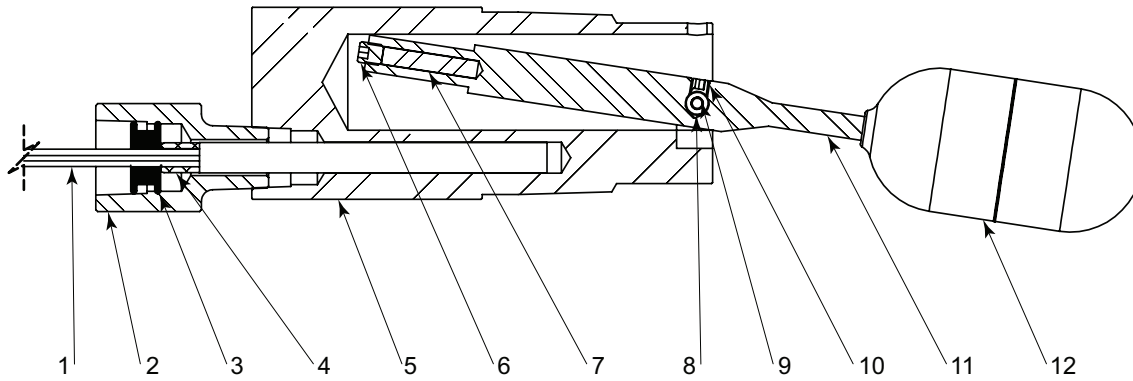
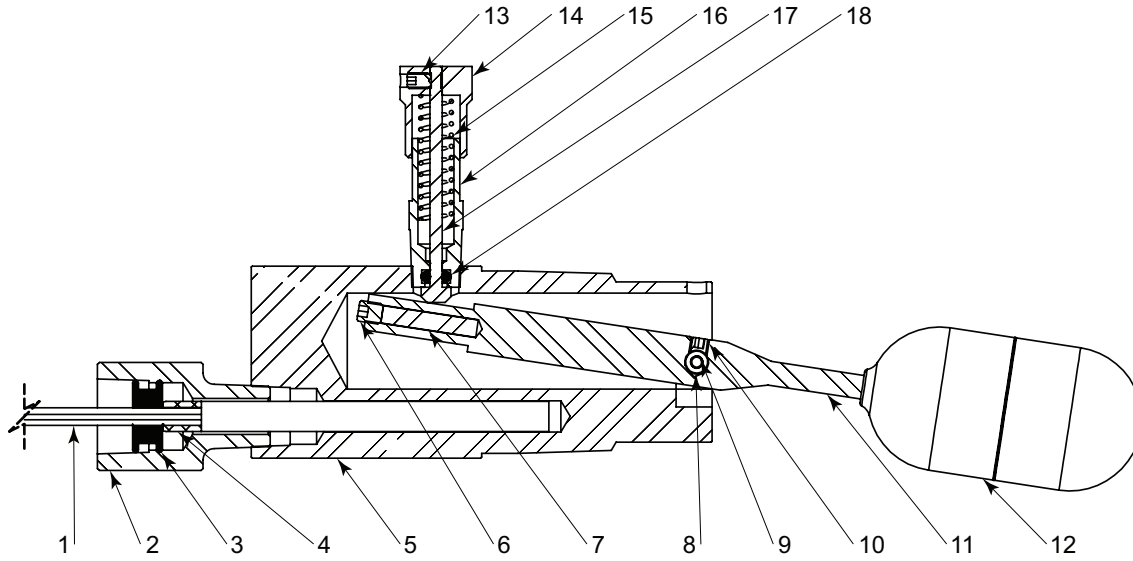
#### NOTES:

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:I - 08:VII  
† For code builder see page 08:00.3  
†† Max W.P. values based on -20°F to 100°F.

# FLOAT OPERATED CONTROLLERS



## ELECTRIC LEVEL SWITCH (HORIZONTAL) MODEL ES & EL PARTS DRAWING & LIST



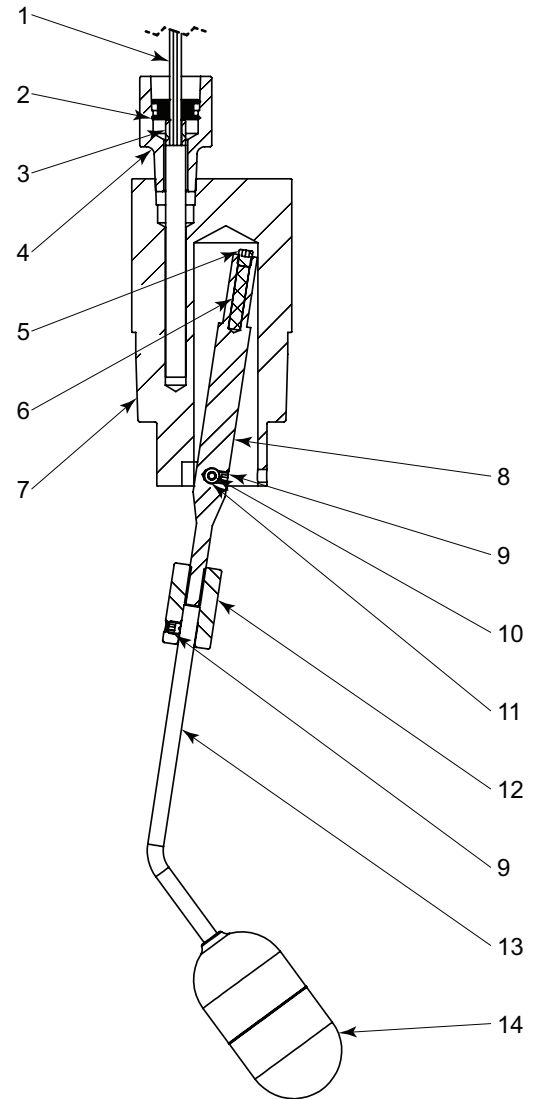
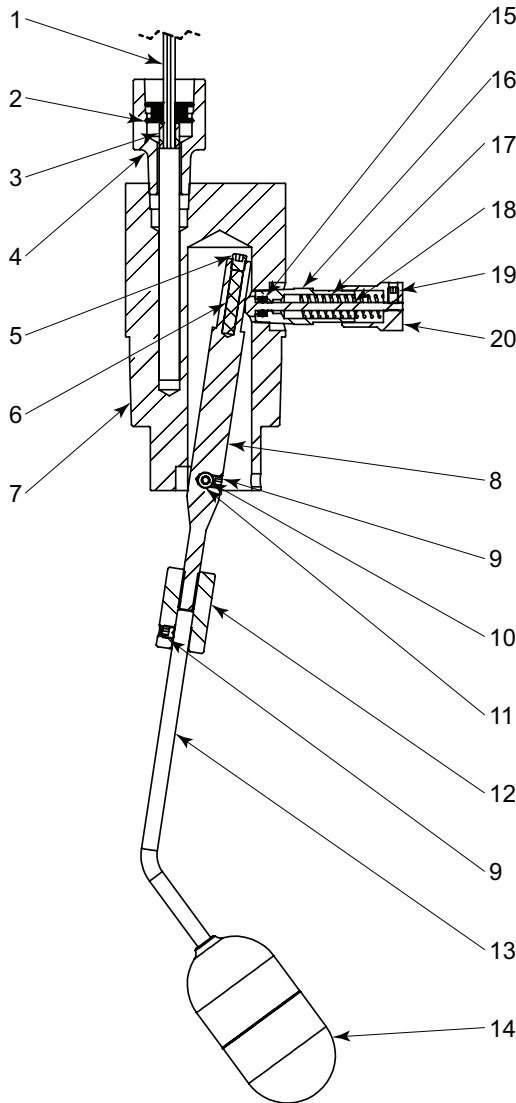
ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Switch Cartridge Standard	5413
		Switch Cartridge Low Power	5413R
2	1	Conduit Adaptor	5414
3	1	Grommet	5424
4	1	Grommet Insert	5423
5	1	1 1/2" Body (with override)	5421
		2" Body (with override)	5433
		1 1/2" Body (no override)	5425
		2" Body (no override)	5434
6	1	Set Screw	5593
7	1	Magnet	3206
8	2	Lever Spacer	5416
		Lever Pin (1 1/2" Body)	5415
9	1	Lever Pin (2" Body)	5432
		Lever Pin (2" Body)	5432
10	1	Set Screw	2446
11	1	Float Lever	5420
12	1	SS6 Float	3216
		Poly Float	5431

OPTIONAL MANUAL OVERRIDE			
ITEM	QTY.	DESCRIPTION	PART NO.
13	1	Set Screw	5426
14	1	Push Cap	5417
15	1	Spring	5429
16	1	Override Fitting	5418
17	1	Stem	5419
18	1	O-Ring	5410V

ACCESSORIES	
DESCRIPTION	PART NO.
Manual Override Assembly	5418A
Pull Assembly w/20' Cable	5587A
Annulus Plug	5594

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

### ELECTRIC LEVEL SWITCH (VERTICAL) MODEL EV PARTS DRAWING & LIST



ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Switch Cartridge	5413
4	1	Conduit Adaptor	5414
2	1	Grommet	5424
3	1	Grommet Insert	5423
7	1	1 1/2" Body (with override)	5421
		2" Body (with override)	5433
		1 1/2" Body (no override)	5425
		2" Body (no override)	5434
5	1	Set Screw	5593
6	1	Magnet	3206
11	2	Lever Spacer	5416
		Lever Pin (1 1/2" Body)	5415
10	1	Lever Pin (2" Body)	5432
		Lever Pin (1 1/2" Body)	5415
9	2	Set Screw	2446
8	1	Float Lever	5420
12	1	Coupling	7467
13	1	Extension	7466
14	1	SS6 Float	3216
		Poly Float	5431

OPTIONAL MANUAL OVERRIDE			
ITEM	QTY.	DESCRIPTION	PART NO.
15	1	O-Ring	5410V
16	1	Override Fitting	5418
17	1	Spring	5429
18	1	Stem	5419
19	1	Set Screw	5426
20	1	Push Cap	5417

ACCESSORIES	
DESCRIPTION	PART NO.
Manual Override Assembly	5418A
Annulus Plug	5594

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

**NOTES:**

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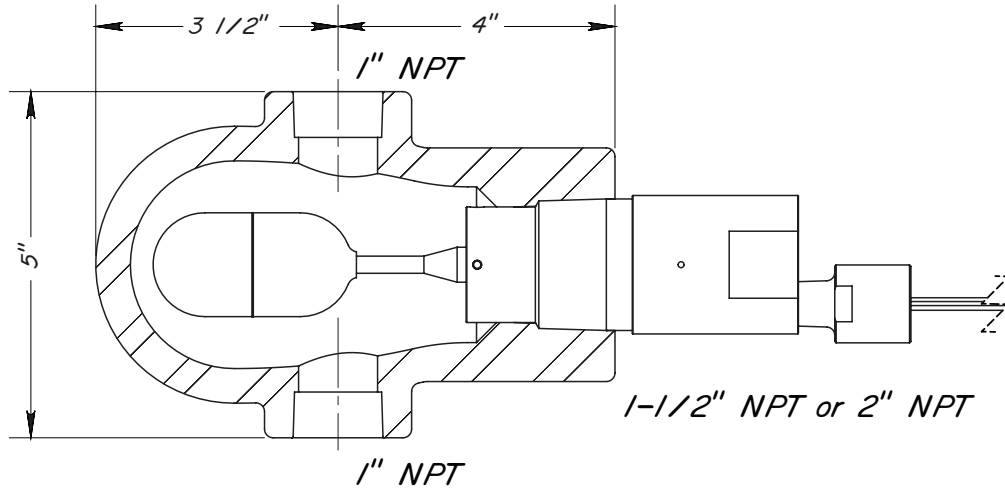


Kimray is an ISO 9001- certified manufacturer.

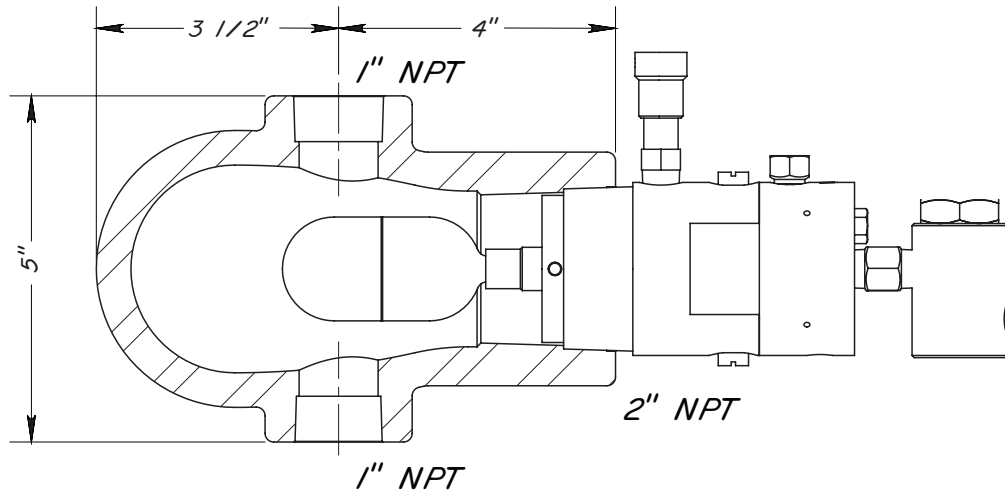
**CERTIFICATIONS:**

Canadian Registration Number (CRN):  
 0F05370.2134567890NTY (External Float Cage)  
 0H13594.2134567890NTY (Pneumatic Level Switch)  
 NACE MR0175 compliant material: ASME SA-352-LCB  
 Kimray is an ISO 9001- certified manufacturer.

**ELECTRONIC**



**PNEUMATIC**



Part No.	Line Size	Connection Type	Temp Range	Max. W.P. ††
5522	1 1/2"	NPT	-50F - 500F	4000
5523	2"	NPT	-50F - 500F	4000

**NOTES:**

For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:1 - 08:VII

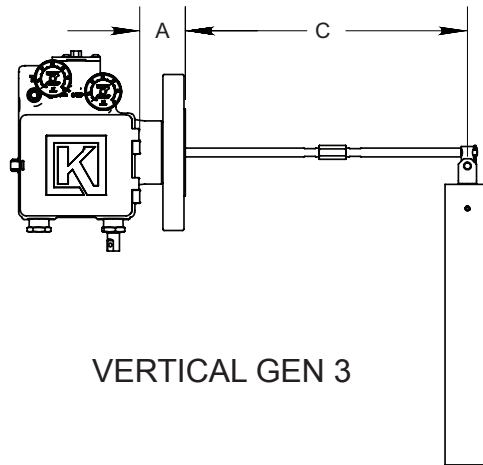
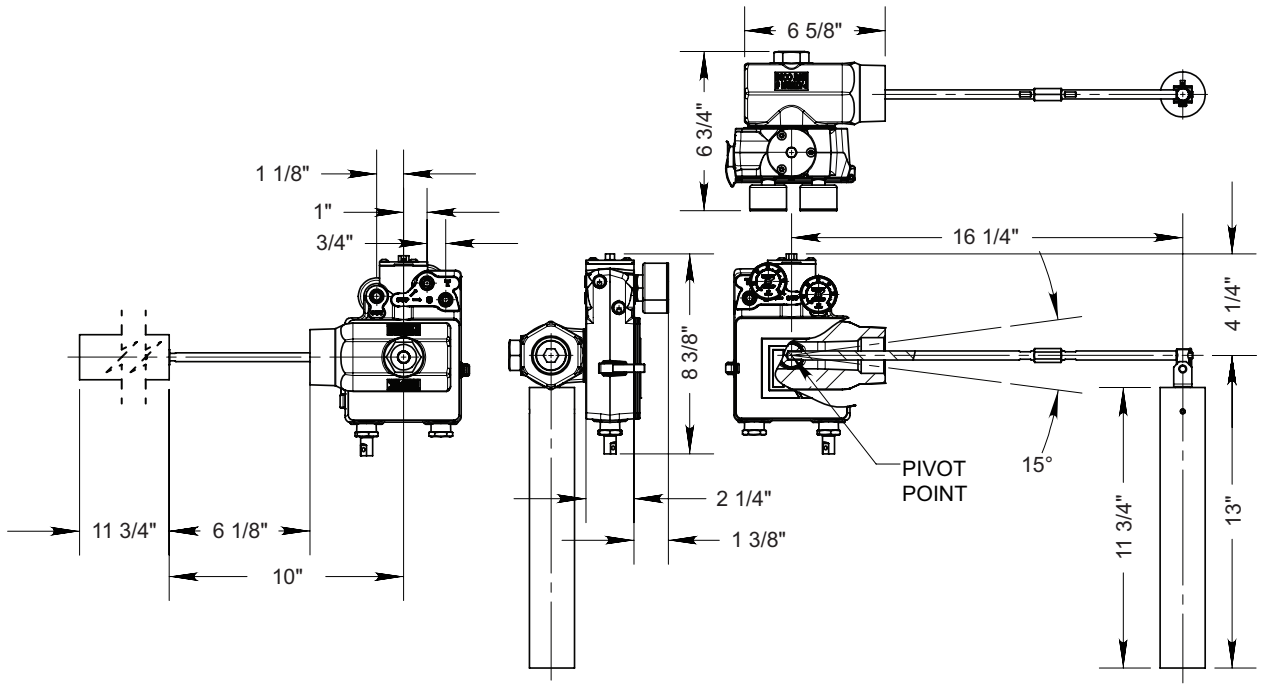
†† Max W.P. values based on -20°F to 100°F.

**NOTES:**

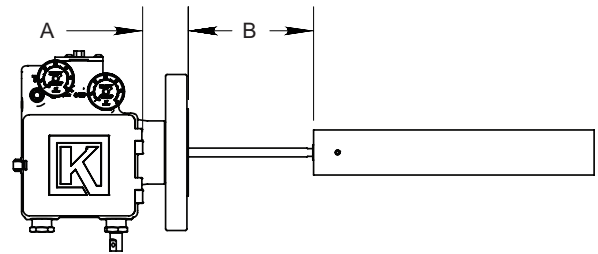
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VERTICAL GEN 3



HORIZONTAL GEN 3

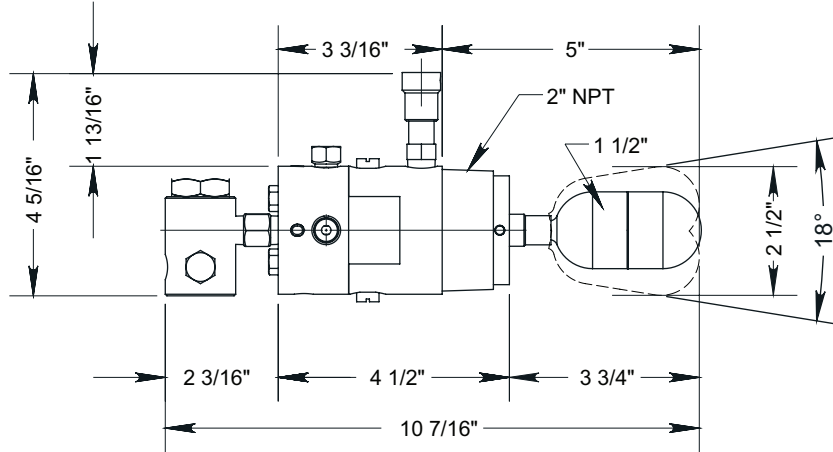
FLANGES		150#			300#			600#			900#			1500#		
TYPE	SIZE	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
GEN 3 Raised Face	2"	1 31/32	5 1/2	11 11/16	2 5/32	5 5/16	11 1/2	2 15/32	5	11 3/16	---	---	---	2 31/32	4 1/2	10 11/16
	3"	1 31/32	5 1/2	11 11/16	2 11/32	5 1/8	11 5/16	2 23/32	4 3/4	10 15/16	3 11/32	4 1/8	10 5/16	4 3/32	3 3/8	9 9/16
	4"	2 5/32	5 5/16	11 1/2	2 15/32	5	11 3/16	2 31/32	4 1/2	10 11/16	2 29/32	4 9/16	10 3/4	3 17/32	3 15/16	10 1/8
	6"	---	---	---	---	---	---	---	---	---	---	---	---	4 13/32	3 1/16	9 3/32
GEN 3 Ring Joint	2"	---	---	---	---	---	---	2 17/32	4 15/16	11 1/8	---	---	---	2 23/32	4 3/4	10 15/16
	3"	---	---	---	---	---	---	2 15/32	5	11 3/16	3 1/32	4 7/16	10 5/8	---	---	---
	4"	---	---	---	---	---	---	3 1/32	4 7/16	10 5/8	---	---	---	---	---	---

# FLOAT OPERATED CONTROLLERS

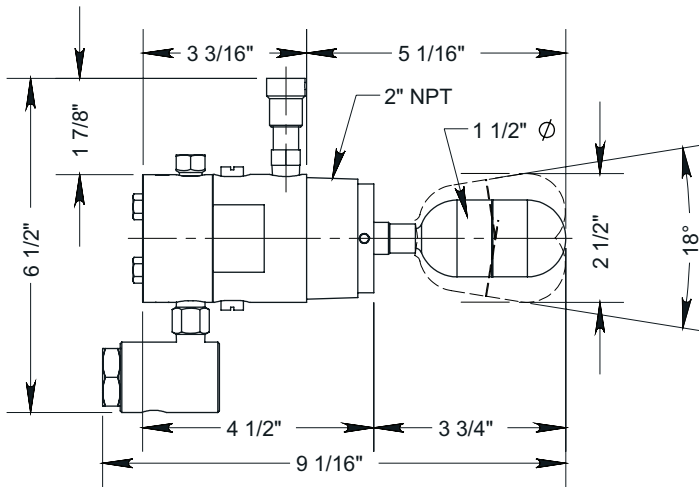


## DIMENSIONS PNEUMATIC LEVEL SWITCH

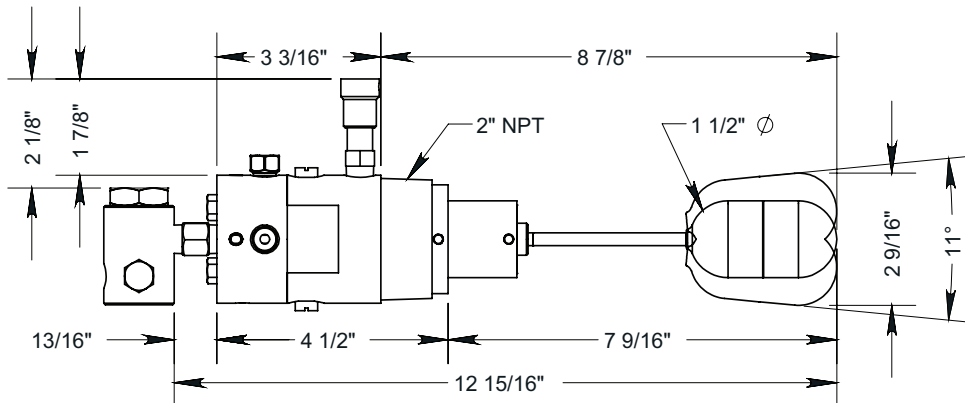
### WITH RELAY



### WITH OUT RELAY



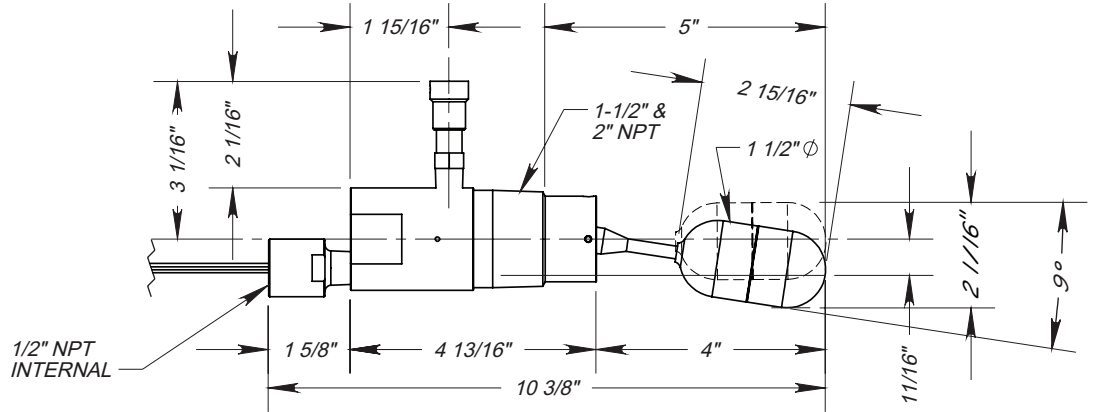
### WITH FLOAT EXTENSION



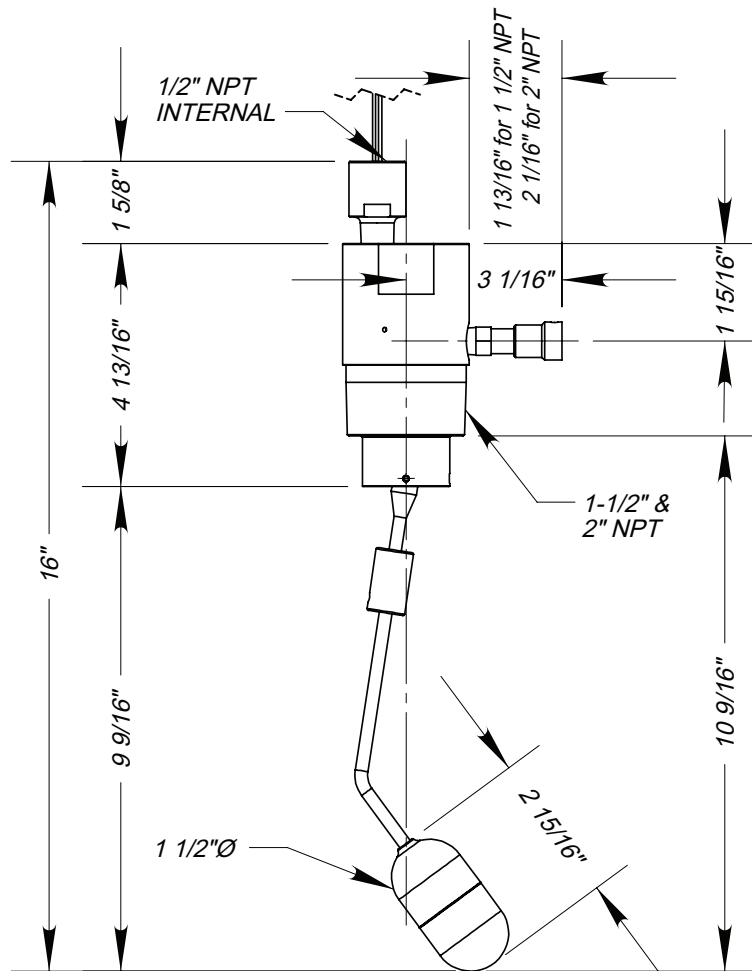
All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.



#### HORIZONTAL



#### VERTICAL



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

Table 1 - GEN 3 Seal Options			
Product Type	Part	Standard Material	Optional Material
Pneumatic	Mounting Piece	FKM	AFLAS®, HSN,
	Pilot Seals	FKM	N/A

Table 2 - Level Switch Seal Options			
Product Type	Part	Standard Material	Optional Material
Electric Switch	O-rings	FKM	AFLAS®, HSN, Nitrile
Pneumatic Switch	O-rings	FKM	N/A
	Diaphragm	FKM	LTN

Table 3 - Seal Specifications						
		NITRILE	LOW TEMP NITRILE	HIGHLY SATURATED NITRILE	FKM	AFLAS®
	Kimray Suffix	-	LTN	HSN	V	AF
Resistance	Abrasion	G	G	G-E	G	G
	Acid	F	F	G-E	G-E	E
	Chemical	F	F	F	E	E
	Cold	G	E	G	P	P
	Flame	P	P	P	E	E
	Heat	G	G	E	E	E
	Oil	G-E	G-E	E	E	E
	Ozone	P	P	G	G-E	E
	Set	G	G	G	G-E	P
	Tear	F	F	F	F	P
	Water/Steam	F	F	E	P	G
	Weather	F	F	G	E	E
	CO2	F-G	F-G	G	G	G
	H2S	P	P	F	P	E
	Methanol	F	P	E	P	P
Properties	Dynamic	G	G	G	G	G
	Electrical	F	F	F	F	G-E
	Impermeability	G	G	G	G	G
	Tensile Strength	G	G	G-E	G	F
Temp. Range		-20° to +250°F	-65° to +225°F	-20° to +300°F	-15° to +400°F	+15° to +450°F
		-29° to +121°C	-53° to +107°C	-29° to +149°C	-26° to +204°C	-9° to +232°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT						

<b>Table 4 - Material Options</b>			
	<b>Component</b>	<b>Standard Material</b>	<b>Optional Material</b>
<b>Pneumatic GEN3 Level Controllers</b>	Body	Steel (ASTM SA352LCB)	316SS (ASTM A351 CF8M)
	Pilot	Aluminum (ASTM B221 6061-T6)	N/A
	Shaft & Bearing Hubs	Steel (ASTM)	316SS (ASTM A240)
	Bearings	Polyimide filled PTFE	N/A
	Levers	Steel (FLN2C-4005)	N/A
	Displacer	PVC	316SS (ASTM A 240)
	Spring	17-7SS (ASTM A313)	N/A
<b>Pneumatic Level Switches</b>	Body	Aluminum (ASTM B221 6061-T6)	N/A
	Float	316SS (ASTM A 240)	HDPE (ASTM D4976)
<b>External Float Cages</b>	Electronic & Pneumatic Level Switch Float Cage	Steel (ASTM SA352LCB)	316SS (ASTM A351 CF8M)
	Horizontal GEN II Float Cage	ASTM A-106 GR. B	N/A
	Vertical External GEN II Float Cage	SA-106B, SA-234 WPB, SA-516-70	N/A

**NOTES:**

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