



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 (see Model selection above)

Service Type:

S = Standard



F	PS	2	S4	W	P	A	S	
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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
 3 = MTR (Shell Components)
 A = AFLAS Elastomers
 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



*PNEUMATIC LEVEL SWITCH
MODEL PS & PX*

APPLICATION:

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

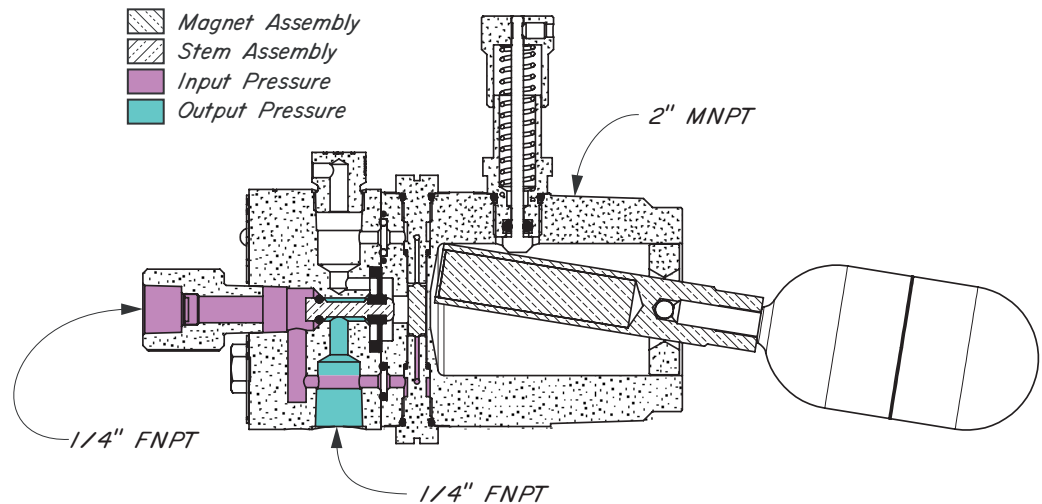
FEATURES:

- 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
- Optional seals for process fluids up to 450F
- 40 micron supply gas filter

CERTIFICATIONS:

- Canadian Registration Number (CRN): 0H13594.2134567890NTY
- NACE MR0175 compliant standard
- Certification documents available upon request, specify when ordering

Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Temp Range	Supply Press. psig	Max. W.P. psig ††
FPS2S4WSAS	CUA	2"	NPT	-30F - 250F	15-75	2000
FPX2S4WSAS	CUAEXT					

NOTES:

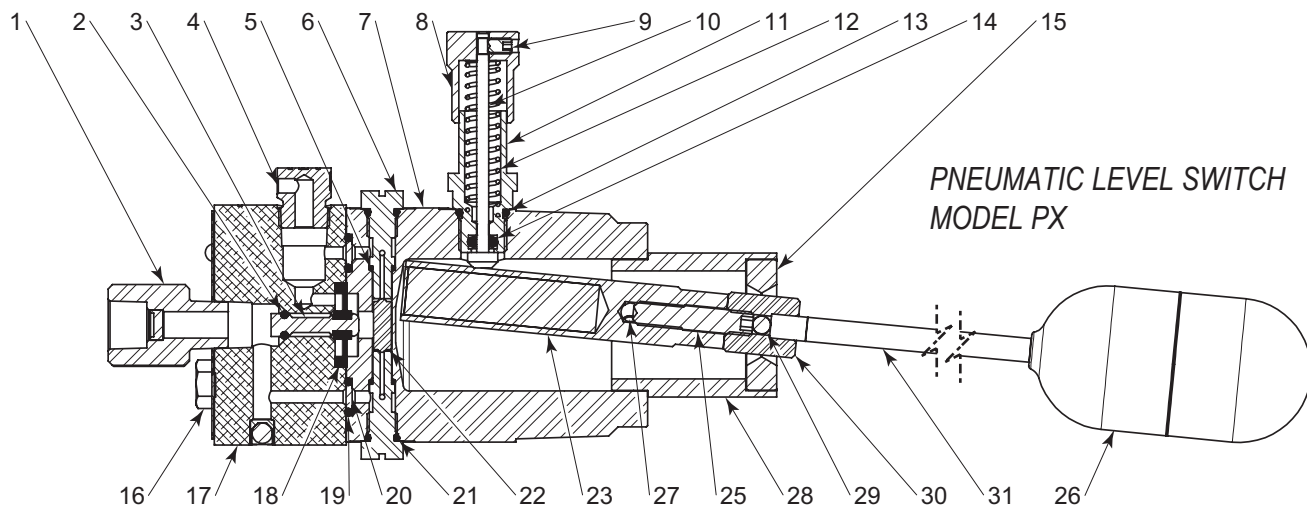
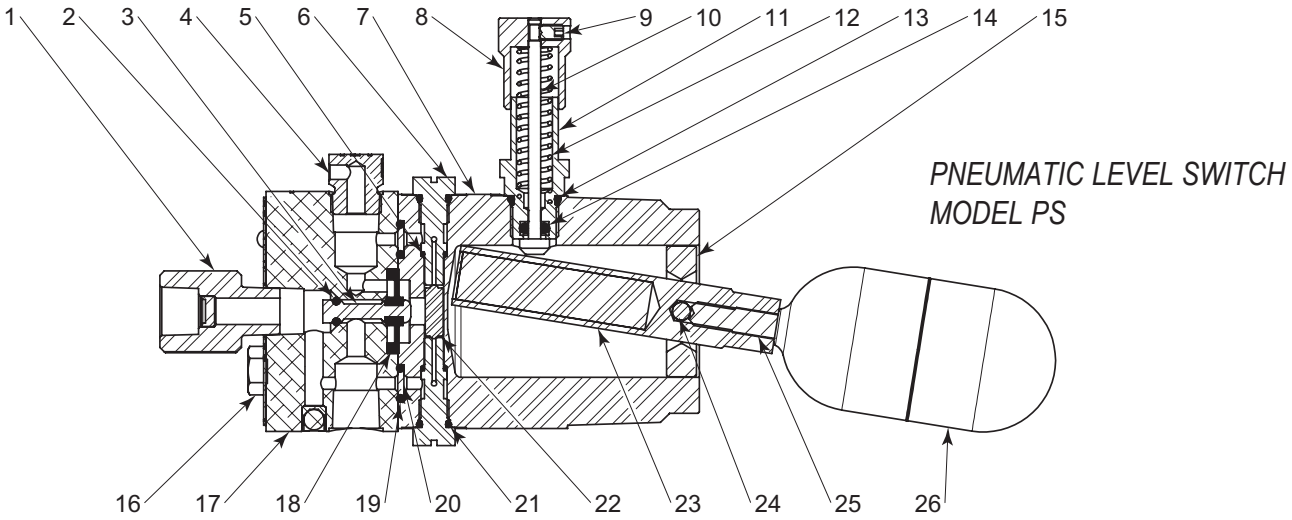
For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:I - 08:VII

† 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.

PNEUMATIC LEVEL SWITCH
MODEL PS & PX PARTS DRAWING & LIST



ITEM	QTY.	DESCRIPTION	PART NO.	ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Filter 1/4 F40 *	7847	17	1	Pilot Body *	6984
2	1	O-Ring	7016V	18	1	Diaphragm *	6994V
3	1	Stem	6986	19	2	O-Ring *	7524V
4	1	Breather Plug *	147	20	2	Disc Filter *	7012
5	2	O-Ring	7015V	21	2	O-Ring	7019V
6	2	Seat	6990	22	1	Shuttle	6996
7	1	Housing	7549	23	1	Float Lever	7017S6
8	1	Push Cap	5417	24	1	Pivot Pin	7020
9	1	Set Screw	5426	25	1	Set Screw	6851
10	1	Stem	5419	26	1	Float	3216
11	1	Override Fitting	7548	27	2	Roll Pin	7469
12	1	Spring *	5429	28	1	Housing	7470S6
13	1	O-Ring *	7584V	29	1	Pivot Pin	7468
14	1	O-Ring	5410V	30	1	Coupler	7471S6
15	1	Annulus Plug	7145	31	1	Float Extension	7482S6
16	2	Screw	7024			Repair Kits	RZX



APPLICATION:

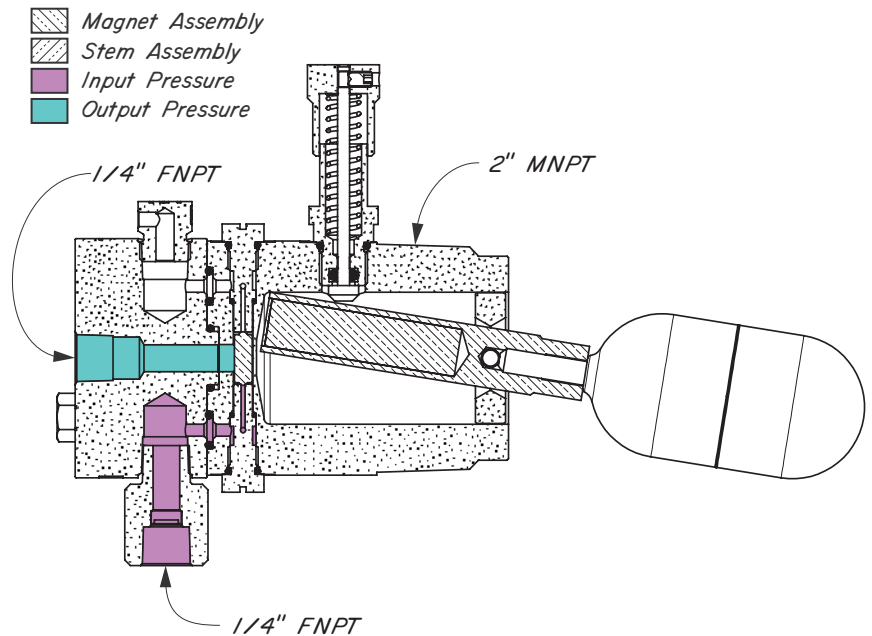
Liquid level switch for oil and gas separators, water knockouts, gas scrubbers and accumulators.

FEATURES:

- Operates in wide range of supply pressures (Ounces up to 75 psi).
- Ideal in extremely cold weather (no diaphragm)
- Manual override for testing
- Float operates in 0.5 specific gravity
- Designed for harsh gas compressor scrubber applications
- Snap Acting
- Direct acting (Field reversible to Indirect acting)
- Flow Rate 17 SCFH @ 30psig
36 SCFH @ 75psig
- 40 micron supply gas filter

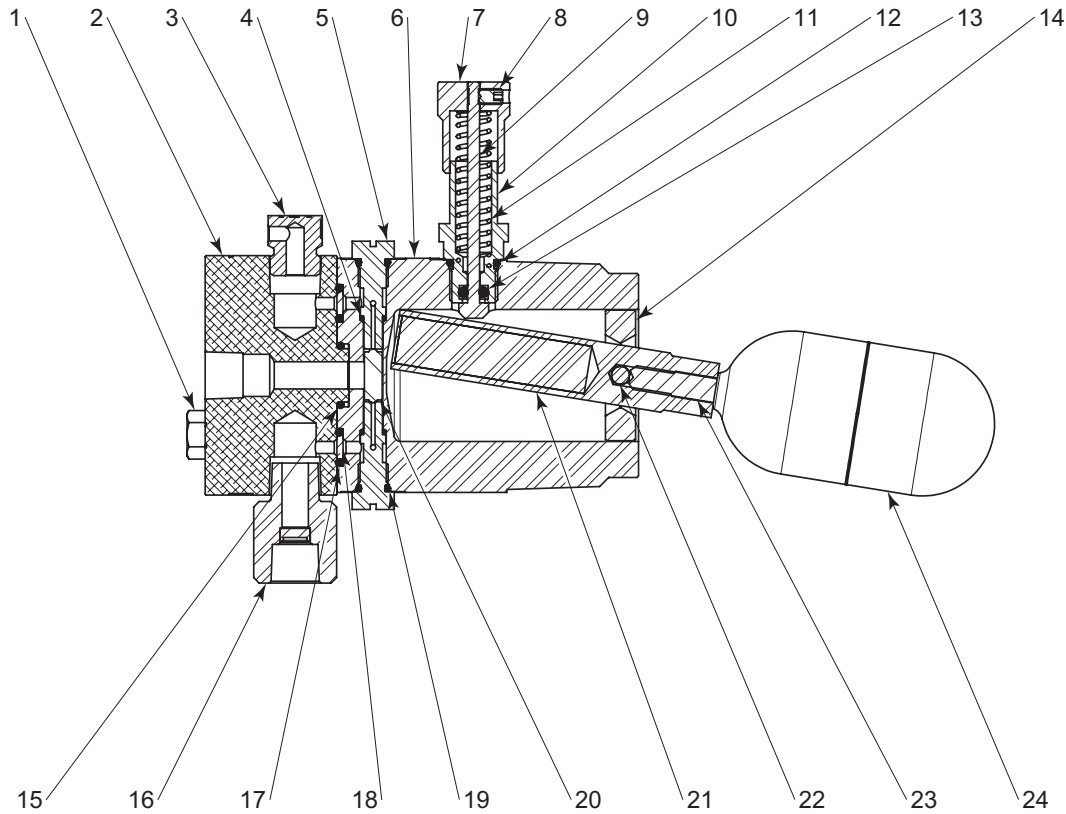
CERTIFICATIONS:

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



Standard Configuration Code †	Order Code	Line Size	Connection Type	Temp Range	Supply Press. psig	Max. W.P. †† psig
FPK2S4WSAS	CUB	2"	NPT	-30F - 250F	0-75	2000
NOTES:						
For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:1 - 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.						

PNEUMATIC LEVEL SWITCH NO RELAY
 MODEL PK PARTS DRAWING & LIST



ITEM	QTY.	DESCRIPTION	PART NO.	ITEM	QTY.	DESCRIPTION	PART NO.
1	2	Screw	7024	14	1	Annulus Plug	7145
2	1	Pilot Body	7248	15	1	O-Ring *	3026V
3	1	Breather Plug	147	16	1	Filter 1/4 F40	7847
4	2	O-Ring *	7015V	17	2	O-Ring *	7524V
5	2	Seat	6990	18	2	Disc Filter *	7012
6	1	Housing	7549	19	2	O-Ring *	7019V
7	1	Push Cap	5417	20	1	Shuttle	6996
8	1	Set Screw	5426	21	1	Float Lever	7017S6
9	1	Stem	5419	22	1	Pivot Pin	7020
10	1	Override Fitting	7548	23	1	Set Screw	6851
11	1	Spring	5429	24	1	SS6 Float	3216
12	1	O-Ring *	7584V	Repair Kits			RZX
13	1	O-Ring *	5410V	* 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
- 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
 CSA Certificate #1662451, USA and Canada
 Kimray is an ISO 9001- certified manufacturer.

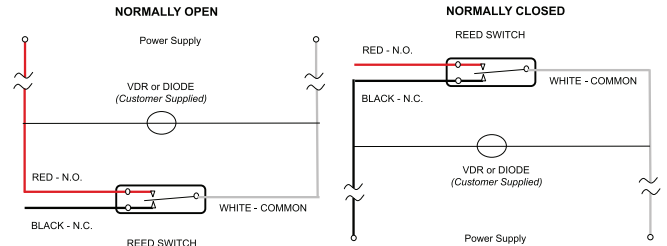
ELECTRICAL RATINGS:

- 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



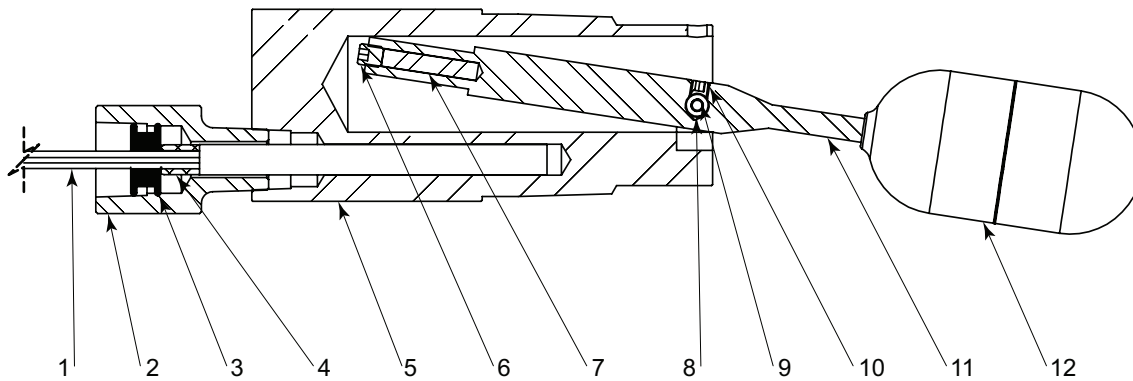
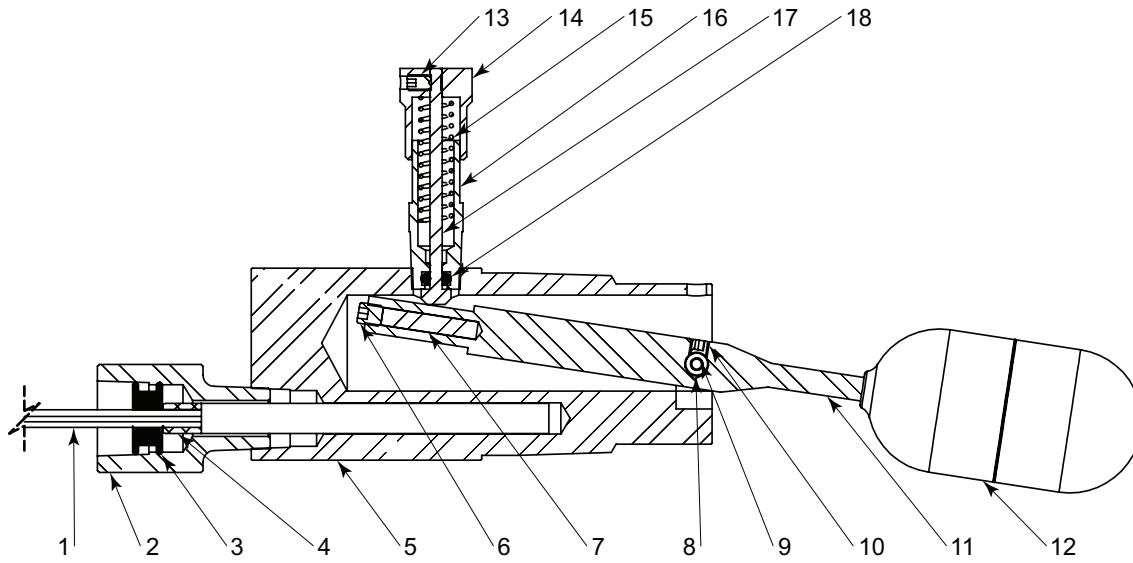
Standard Configuration Code †	Order Code	Line Size	Connection Type	Temp Range †††	Max. W.P. †† psig	Float	Override	Power	
FES1S4NSAS	CEB1	1 1/2"	NPT	-40F - 350F	2000	SS6	No	Standard	
FES2S4NSAS	CEC1	2"					No		
FES1S4WSAS	CEB2	1 1/2"					Yes		
FES2S4WSAS	CEC2	2"					Yes		
FES1S4NPAS	CEB1PP	1 1/2"		-40F - 200F	5000	HDPE	No		
FES2S4NPAS	CEC1PP	2"					No		
FES1S4WPAS	CEB2PP	1 1/2"					Yes		
FES2S4WPAS	CEC2PP	2"					Yes		
FEV2S4NSAS	CEC1VRT	2"		-40F - 350F	2000	SS6	No		Low PWR
FEV2S4WSAS	CEC2VRT	2"					Yes		
FEL1S4NSAS	CEB1LPW	1 1/2"					No		
FEL2S4NSAS	CEC1LPW	2"					No		
FEL1S4WSAS	CEB2LPW	1 1/2"		Yes					
FEL2S4WSAS	CEC2LPW	2"		Yes					
FEL1S4NPAS	CEB1LPWPP	1 1/2"		-40F - 200F	5000	HDPE	No		
FEL2S4NPAS	CEC1LPWPP	2"					No		
FEL1S4WPAS	CEB2LPWPP	1 1/2"					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.

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

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



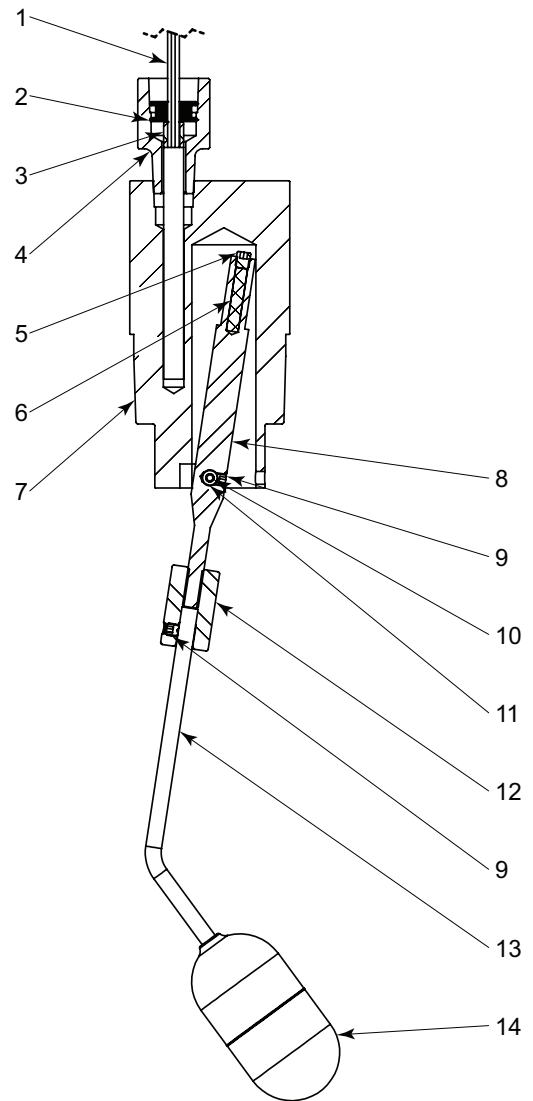
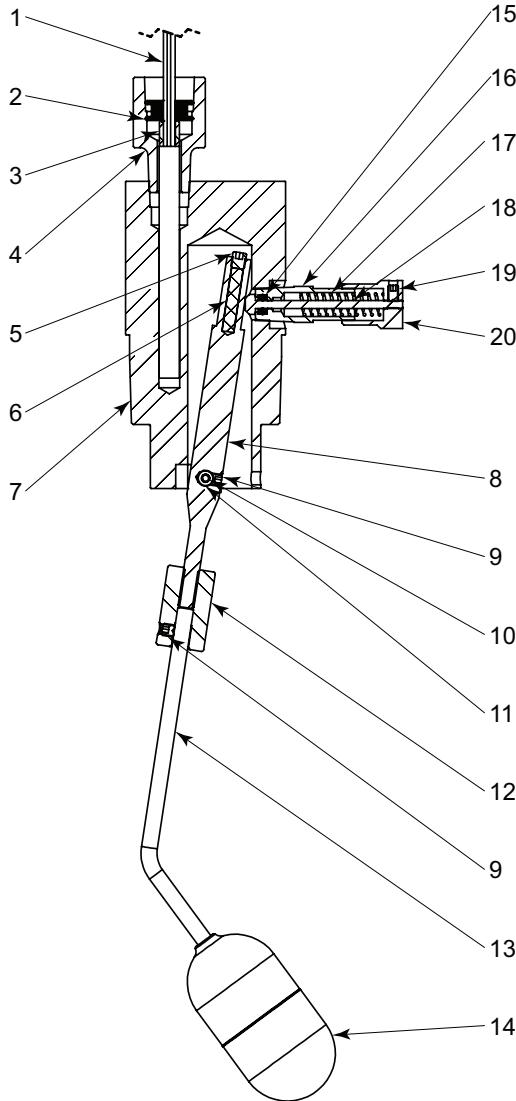
ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Switch Standard	5413
		Cartridge Low Power	5413R
2	1	Conduit Adaptor	5414
3	1	Grommet	5424
4	1	Grommet Insert	5423
5	1	1 1/2" Body (with override)	5421
		2" Body (with override)	5433
		1 1/2" Body (no override)	5425
		2" Body (no override)	5434
6	1	Set Screw	5593
7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

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



*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

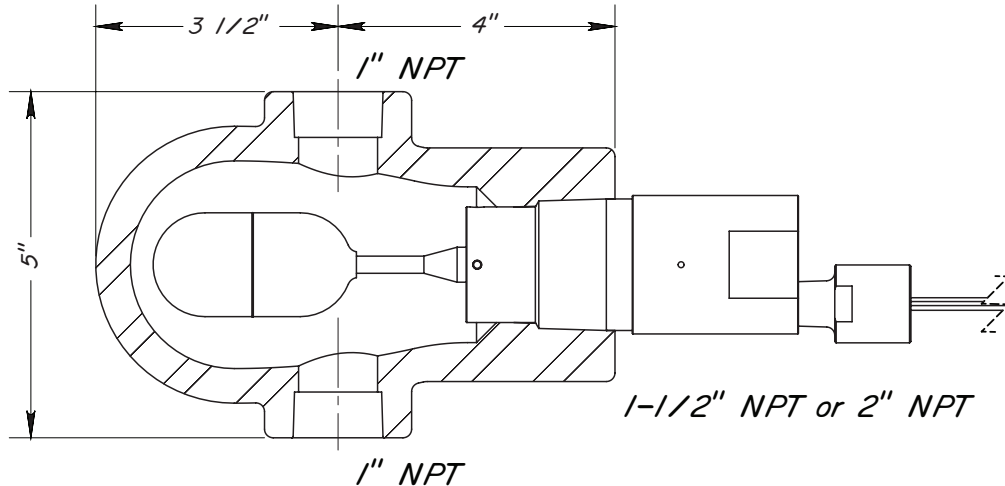
OPTIONAL MANUAL OVERRIDE			
ITEM	QTY.	DESCRIPTION	PART NO.
15	1	O-Ring	5410V
16	1	Override Fitting	5418
17	1	Spring	5429
18	1	Stem	5419
19	1	Set Screw	5426
20	1	Push Cap	5417

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

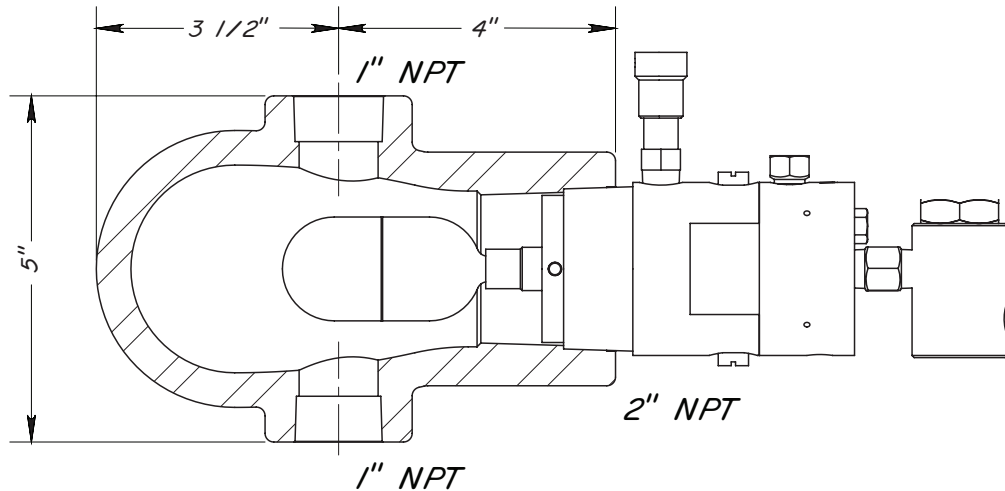
CERTIFICATIONS:

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



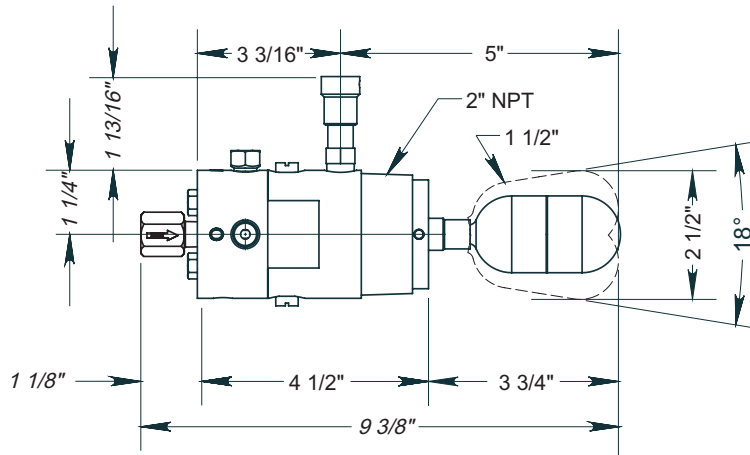
Part No.	Line Size	Connection Type	Temp Range	Max. W.P. ††
5522	1 1/2"	NPT	-50F - 500F	4000
5523	2"	NPT	-50F - 500F	4000

NOTES:

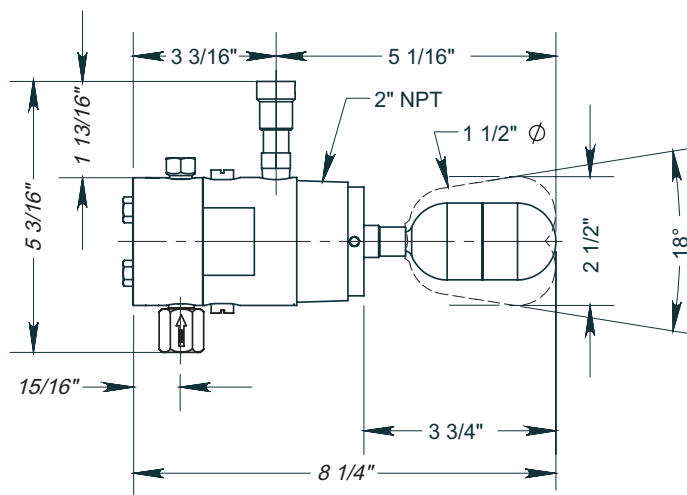
For standard & optional seals, metals, material specifications & dimensions see technical data on pages 08:I - 08:VII
 †† Max W.P. values based on -20°F to 100°F.

DIMENSIONS
PNEUMATIC LEVEL SWITCH

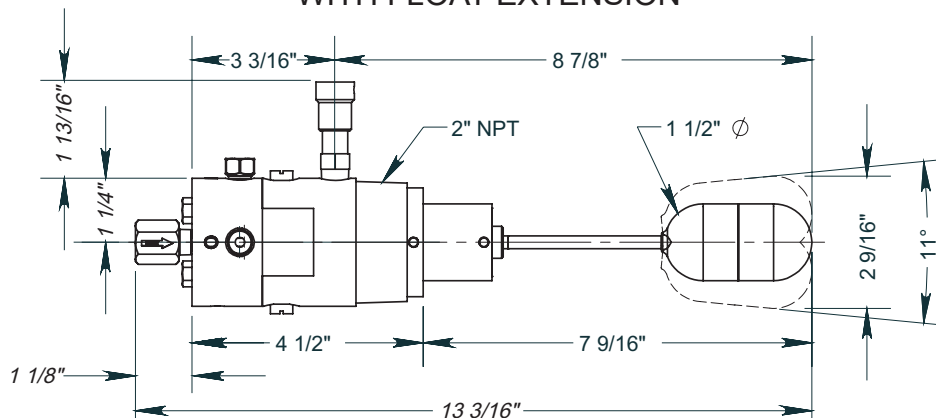
WITH RELAY



WITH OUT RELAY



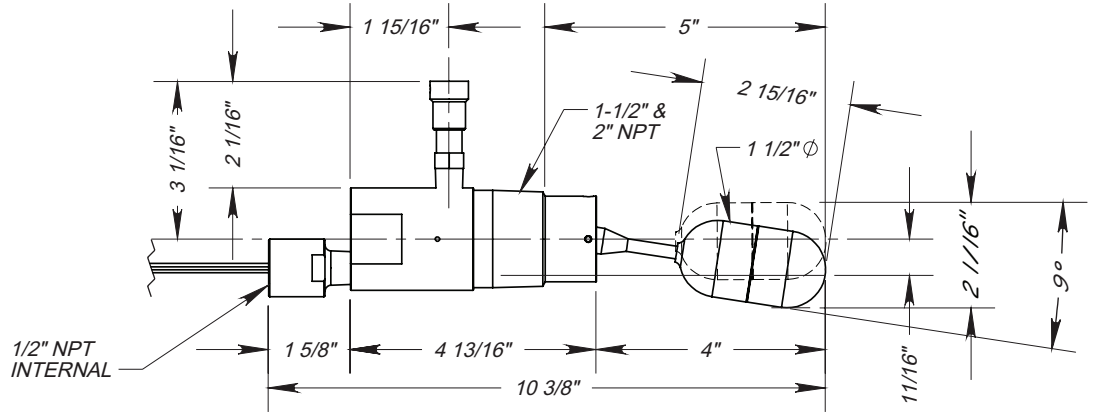
WITH FLOAT EXTENSION





DIMENSIONS
 ELECTRIC LEVEL SWITCH

HORIZONTAL



VERTICAL

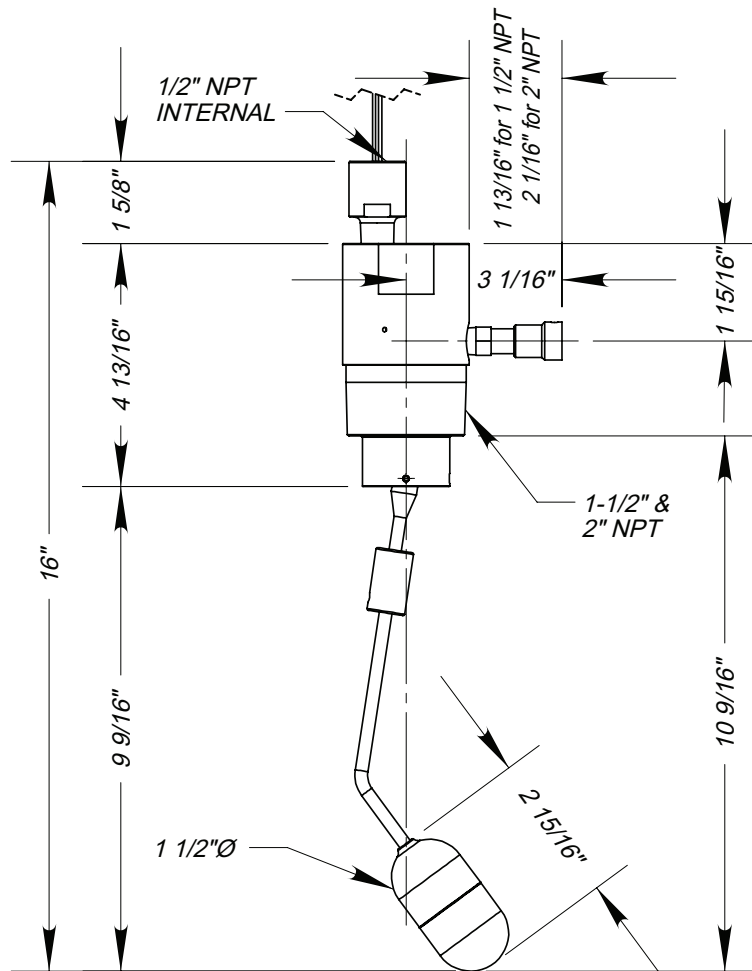


Table 1 - Controller / Sensor Seal Options			
Product Type	Part	Standard Material	Optional Material
Electric	Mounting Piece	FKM	AFLAS®, HSN,
Pneumatic	Mounting Piece	FKM	AFLAS®, HSN,
	Pilot Seals	FKM	N/A

Table 2 - Level Switch Seal Options			
Product Type	Part	Standard Material	Optional Material
Electric Switch	O-rings	FKM	AFLAS®, HSN
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	-30° to +250°F	-20° to +300°F	-15° to +400°F	+15° to +450°F
		-29° to +121°C	-34° to +121°C	-29° to +149°C	-26° to +204°C	-9° to +232°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT						



Table 4 - Material Options			
	Component	Standard Material	Optional Material
Pneumatic GEN3 Level Controllers	Body	Steel (ASTM SA352LCB)	N/A
	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
Pneumatic Level Switches	Body	Aluminum (ASTM B221 6061-T6)	N/A
	Float	316SS (ASTM A 240)	HDPE (ASTM D4976)
External Float Cages	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