

# FLOAT OPERATED CONTROLLERS

F



**KIMRAY**  
INC.®

[www.kimray.com](http://www.kimray.com)

NOTE: We reserve the right to modify or change, without prior notice, any statement or information contained herein.  
© Copyright 2020, Kimray, Inc.

**GEN II SIDE MOUNT:** . . . . . **08:10.1 - 08:10.3**  
 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 II BACK MOUNT:** . . . . . **08:20.1 - 08:20.3**  
 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 II ELECTRONIC BACK MOUNT:** . . . . . **08:30.1 - 08:30.3**  
 APPLICATIONS: Liquid level controller for oil and gas separators, water knockouts, gas scrubbers and accumulators.  
 OPERATING PRESSURE RANGES: 0 psig to 4000 psig

**GEN II 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 II SIDE MOUNT DIMENSIONS** . . . . . **08:I**

**GEN II BACK MOUNT DIMENSIONS** . . . . . **08:II**

**GEN II FLANGE DIMENSIONS** . . . . . **08:III**

**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:

PC = GEN II Pneumatic Level Controller  
 EC = Electric Level Controller (Back Mount only)  
 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 LCC body**  
 C = Corrosive (S6 body)

F PC 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  
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

**NOTES:**

---



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, 350°F)
- 40 micron supply gas filter
- Paraffin cleanout port

#### CERTIFICATIONS:

- NACE MR0175 compliant Wetted Parts option available
- Certification documents available upon request, specify when ordering

Kimray is an ISO 9001- certified manufacturer.

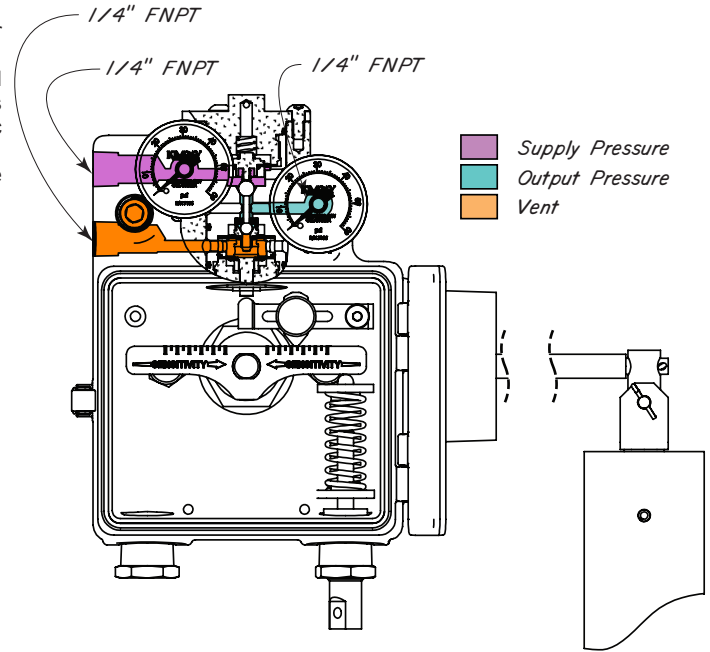


Image above shown in left mount

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		3"			150RF
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	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	LDF		3"			150RF
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	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"

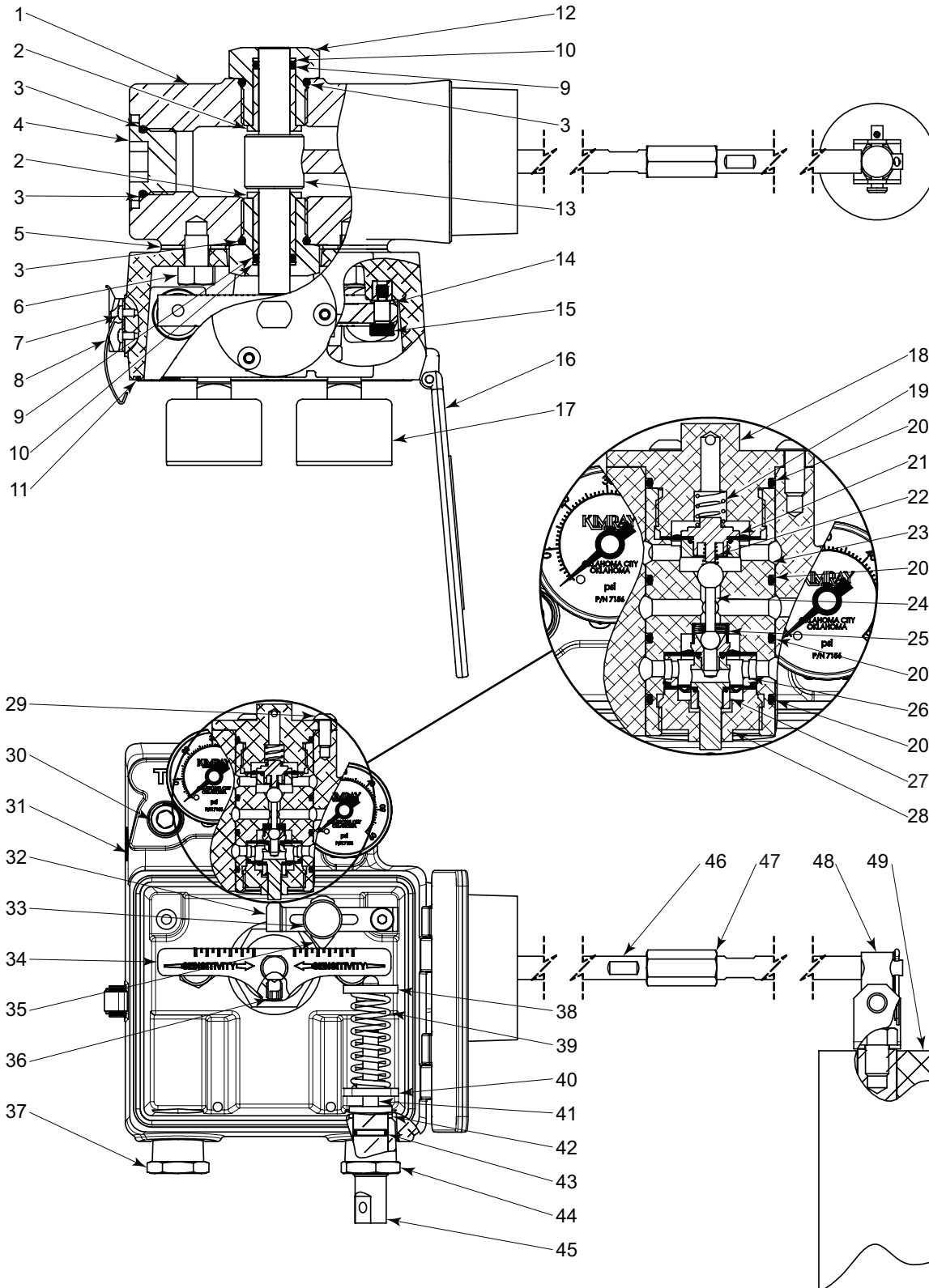
†† For code builder see page 08:00.2

†† 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	
		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
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	38	1	Upper Spring Plate	7675
13	1	Torque Shaft	7668	39	1	Spring Light	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	Waggle 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										
		1 7/8" x 12" Lg	7637A	1lb 15oz	180°F	4000	>0.20	PVC	7725	7725	7725	7725
		2 1/2" x 12" Lg	7639A	3lb 0.5oz	180°F	4000	>0.15	PVC	7725	7725	7726	7726
		1 7/8" x 20" Lg	7638A	3lb 5oz	180°F	4000	>0.15	PVC	7725	7725	7726	7726
		2 3/4" x 14 1/4" Lg	7640A	4lb 5oz	180°F	4000	>0.1	PVC	7725	7726	7726	7726
		1 3/4" x 12" Lg	5461SS6	1lb 15oz	500°F	2000	>0.20	316SS	7725	7725	7725	7725
		1 3/4" x 20" Lg	5461SS6L20	3lb 0oz	500°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.

### SIDE MOUNT PNEUMATIC LEVEL CONTROLLER MODEL PC

#### 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 motor valve requiring not more than 30 psig diaphragm pressure.

#### FEATURES:

- Compact design
- Snap or throttle control in one pilot
- Intermittent vent pilot (Preferred EPA Natural Gas Star BMP)
- Low Temp Process Seal (Std.) (-50°F to 300°F) LTV
- Powder coated enclosure
- Vibration tough
- No vent gas in enclosure
- PVC Displacer (Std.) (4000 psi, 175°F);
- 316 SS Displacer (1500 psi, 350°F)
- 40 micron supply gas filter
- 1/4" NPT vented pilot
- Simple pilot removal

#### CERTIFICATIONS:

- NACE MR0175 compliant Wetted Parts
- Certification documents available upon request, specify when ordering

Kimray is an ISO 9001- certified manufacturer.

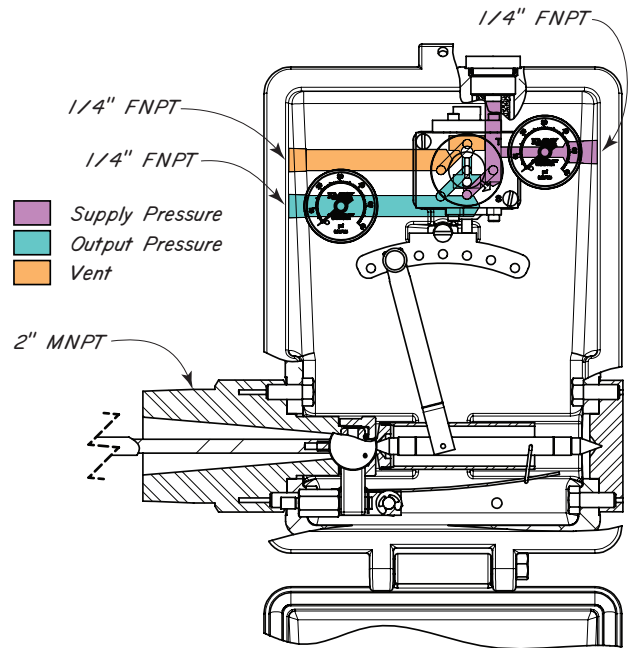


Image above shown in Right Hand configuration

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Supply Press. psig	Max. W.P. †† psig
FPC2S4L1AS	CML	2"	NPT	Left Hand	5 - 30	4000
FPC2ARL1AS	CNB		150RF			285
FPC2BRL1AS	CNF		300RF			740
FPC2DRL1AS	CNJ		600RF			1480
FPC2FRL1AS	CNN		1500RF			3705
FPC2DJL1AS	CRT		600RTJ			1480
FPC2FJL1AS	CRX		1500RTJ			3705
FPC3ARL1AS	CNR		3"			150RF
FPC3BRL1AS	CNV	300RF		740		
FPC3DRL1AS	CNZ	600RF		1480		
FPC3ERL1AS	COE	900RF		2220		
FPC3FRL1AS	CPR	1500RF		3705		
FPC3DJL1AS	CSB	600RTJ		1480		
FPC3EJL1AS	CSF	900RTJ		2220		
FPC3HUL1AS	CWE	H.U.		3000		
FPC4ARL1AS	COI	4"	150RF	Left Hand	5 - 30	285
FPC4BRL1AS	COM		300RF			740
FPC4DRL1AS	COQ		600RF			1480
FPC4ERL1AS	CTY		900RF			2220
FPC4FRL1AS	CPV		1500RF			3705
FPC4DJL1AS	CSJ		600RTJ			1480
FPC4HUL1AS	CQZ		H.U.			1500
FPC5HUL1AS	CWB		5"			H.U.
FPC6FRL1AS	CPZ	6"	1500RF	3705		

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Supply Press. psig	Max. W.P. †† psig
FPC2S4R1AS	CMK	2"	NPT	Right Hand	5 - 30	4000
FPC2ARR1AS	CNA		150RF			285
FPC2BRR1AS	CNE		300RF			740
FPC2DRR1AS	CNI		600RF			1480
FPC2FRR1AS	CNM		1500RF			3705
FPC2DJR1AS	CRS		600RTJ			1480
FPC2FJR1AS	CRW		1500RTJ			3705
FPC3ARR1AS	CNQ		3"			150RF
FPC3BRR1AS	CNU	300RF		740		
FPC3DRR1AS	CNY	600RF		1480		
FPC3ERR1AS	COD	900RF		2220		
FPC3FRR1AS	CPQ	1500RF		3705		
FPC3DJR1AS	COD	600RTJ		1480		
FPC3EJR1AS	CSE	900RTJ		2220		
FPC3HUR1AS	CQJ	H.U.		3000		
FPC4ARR1AS	COH	4"	150RF	Right Hand	5 - 30	285
FPC4BRR1AS	COL		300RF			740
FPC4DRR1AS	COP		600RF			1480
FPC4ERR1AS	CWG		900RF			2220
FPC4FRR1AS	COU		1500RF			3705
FPC4DJR1AS	CSI		600RTJ			1480
FPC4HUR1AS	CQY		H.U.			1500
FPC5HUR1AS	CWC		5"			H.U.
FPC6FRR1AS	CPY	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

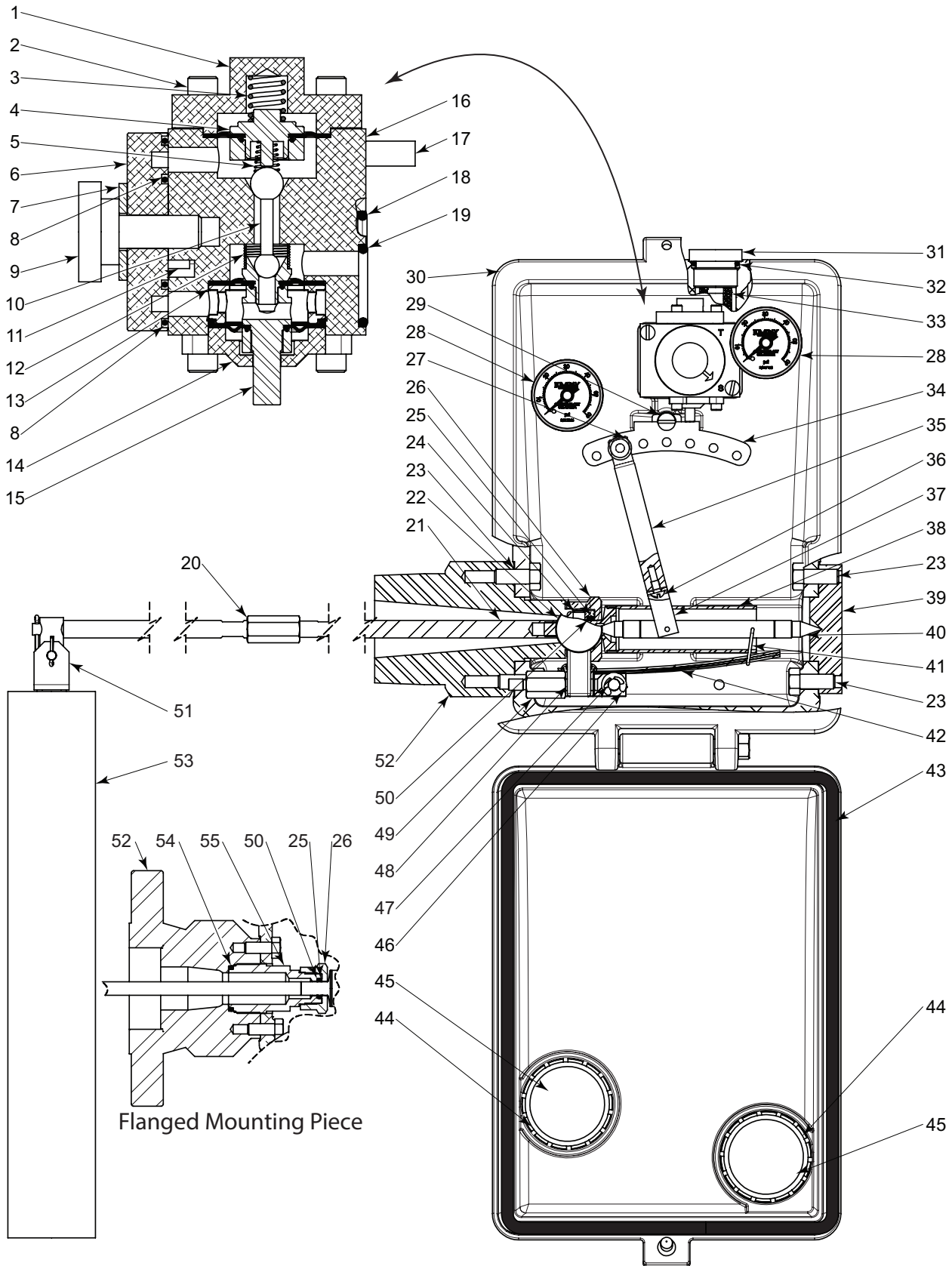
†† Max W.P. values based on -20°F to 100°F.

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

# FLOAT OPERATED CONTROLLERS



## SIDE MOUNT PNEUMATIC LEVEL CONTROLLER MODEL PC PARTS DRAWING



Images shown in Right Hand configuration

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



# FLOAT OPERATED CONTROLLERS

## SIDE MOUNT PNEUMATIC LEVEL CONTROLLER MODEL PC PARTS LIST

ITEM	QTY.	DESCRIPTION	PART NO	ITEM	QTY.	DESCRIPTION	PART NO
1	1	Upper Cap	◇ 5449	30	1	Case & Cover Assembly	5444AS
2	6	Screw	◇ 7189	31	1	Filter Cap	5502
3	1	Spring	◇ * 585L	32	1	O-Ring	* 5500V
4	1	Diaphragm Assembly	◇ * 7102AS	33	1	Filter	5486
5	1	Throttle Spring	◇ * 5469	34	1	Tangent Arm	5466
6	1	Switch Plate	◇ 6799	35	1	Link	6607
7	1	Lock Washer	◇ 4543	36	1	Screw	2426
8	2	O-Ring	◇ * 5540V	37	1	Yoke	5491
9	1	Thumb Screw	◇ 6780	38	1	Ext. Housing	5455
10	1	Pilot Plug	◇ * 112	39	1	Pivot Plate	5442
11	1	Selector Pin	◇ 5483	40	1	Pivot Rod	5460
12	1	Spring	◇ 5541	41	1	Wire	5458
13	1	Spacer	◇ * 5475	42	1	Spring Assembly	No Rod Extension 5467A with Rod Extension 5557A
14	1	Bottom Cap	◇ 5450	43	1	Gasket	5446
15	1	Actuator Assembly	◇ * 7096AS	44	2	Retaining Ring	5509
16	1	Pilot Block	◇ 7346	45	2	Lens	5447
17	2	Screw	◇ 4918	46	2	Snap Ring	941
18	2	O-Ring	◇ * 647V	47	1	Pivot Post	5505
19	1	O-Ring	◇ * 920V	48	1	Adjustment Lever	5465
20	1	Coupling	5454	49	1	Arm Post	5504
21	1	Waggle Arm	7078S6AS	50	1	Teflon Seal Ring	* 5545
22	1	Adjusting Screw	5481		3	Plug (not shown)	699
23	4	Screw	5484		1	Breather Plug (not shown)	147
24	1	Set Screw	5595		1	Rod Assembly	7723A
25	1	O-Ring	* 855LTN		1	Optional 3" Rod Assy	7723AL3
26	1	Retainer	5459		1	Optional Arm Extensions 6"	5543L6
27	1	Pull Pin Assembly	6549		1	Optional Arm Extensions 12"	5543L12
28	2	Gauge	7156		1	Optional Arm Extensions 18"	5543L18
29	1	Screw	5485				
Repair Kits			RMD	* These parts are recommended spare parts and stocked as repair kits.			
Pilot Assembly			YBT	◇ These parts are stocked as Pilot Assembly			

ITEM	QTY.	DESCRIPTION	PART NUMBER											
			STANDARD						CORROSIVE					
			2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
52	1	Body	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
		MNPT	5528	----	----	----	----	5528S6 ‡	----	----	----	----		
		150RF	5562	5570	5575	----	----	----	----	----	----	----		
		300RF	5563	5555	5576	----	----	----	----	----	----	----		
		600RF	5564	5571	5577	----	----	----	----	----	----	----		
		900RF	----	5572	7184	----	----	----	----	----	----	----		
		1500RF	5565	6414	5579	----	5580	----	----	----	----	----		
		600RTJ	5568	5573	5578	----	----	----	----	----	----	----		
		900RTJ	----	5574	----	----	----	----	----	----	----	----		
		1500RTJ	5569	----	----	----	----	----	----	----	----	----		
		Hammer Union	----	5558	5551	5552	----	----	----	----	----			
		Grooved	----	----	5548 + 2174	----	----	----	----	----	----			

‡ Coated Parts available with "K" service type

ITEM	QTY.	DESCRIPTION	PART NO	WEIGHT	MAX TEMP	MAX PSI	MIN DIFFERENTIAL SP.GR.	MATERIAL
53	1	Displacers						
		1 7/8" x 12" Lg	7637A	1lb 15oz	180°F	4000	>0.20	PVC
		1 7/8" x 20" Lg	7638A	3lb 5oz	180°F	4000	>0.15	PVC
		2 3/4" x 14 1/4" Lg	7640A	4lb 5oz	180°F	4000	>0.1	PVC
		2 1/2" x 12" Lg	7639A	3lb 0.5oz	180°F	4000	>0.15	PVC
		1 3/4" x 12" Lg	5461SS6	1lb 15oz	500°F	2000	>0.20	316SS
		1 3/4" x 20" Lg	5461SS6L20	3lb 0oz	500°F	2000	>0.17	316SS

Flanged Mounting Piece Assembly			
ITEM	QTY.	DESCRIPTION	PART NO
54	1	O-Ring *	5482LTV
55	1	Housing	5456

EXTENSION RODS KITS			
Length	6"	12"	18"
Extension Kit	CMOL6	CMOL12	CMOL18

SPRING ASSEMBLIES			
Assembly	Screw	Toggle	Spring
5467A	1085	5664	5467
5557A			5557

**NOTES:**

---



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.

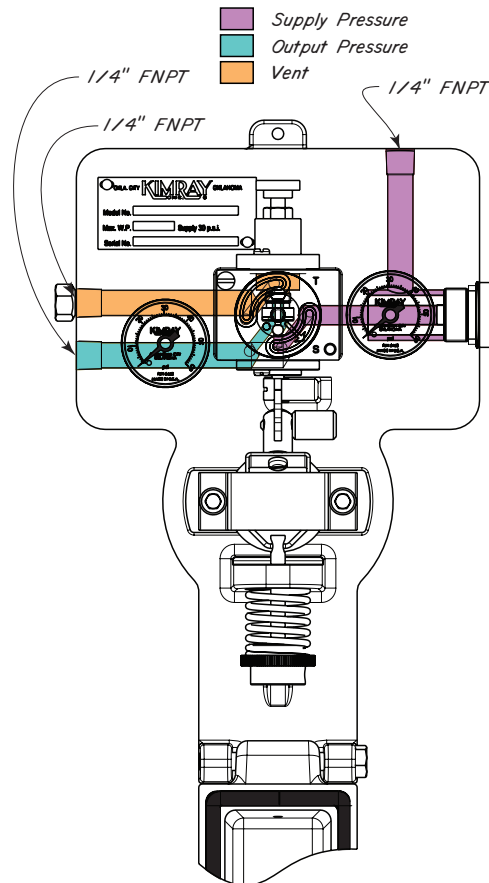
Operates any diaphragm motor valve requiring not more than 30 psig diaphragm pressure.

#### FEATURES:

- Compact design
- Snap or throttle control in one pilot
- Intermittent vent pilot (Preferred EPA Natural Gas Star BMP)
- NACE MR0175 compliant Wetted Parts
  - Certification documents available upon request, specify when ordering
- Low Temp Process Seal (Std.) (-50°F to 300°F) LTV
- Powder coated enclosure
- Vibration tough
- No vent gas in enclosure
- PVC Displacer (Std.) (4000 psi, 175°F);
- 316 SS Displacer (1500 psi, 350°F)
- 40 micron supply gas filter
- 1/4" NPT vented pilot
- Adjustment knob snap range (Patent Pending)
- Simple pilot removal

#### CERTIFICATIONS:

Canadian Registration Number (CRN):  
0H11522.2134567890NTY  
Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Supply Pressure	Max. W.P. ††
FPC2S4B1AS	CMM	2"	NPT	Back Mount	5 - 30	4000
FPC2ARB1AS	COT		150RF			285
FPC2BRB1AS	COV		300RF			740
FPC2DRB1AS	COX		600RF			1480
FPC2FRB1AS	COZ		1500RF			3705
FPC2DJB1AS	CSY		600RTJ			1480
FPC2FJB1AS	CTA		1500RTJ			3705
FPC3ARB1AS	CPB	3"	150RF			285
FPC3BRB1AS	CPD		300RF			740
FPC3DRB1AS	CPF		600RF			1480
FPC3ERB1AS	CPH		900RF			2220
FPC3FRB1AS	CRC		1500RF			3705
FPC3DJB1AS	CTC		600RTJ			1480
FPC3EJB1AS	CTE		900RTJ			2220
FPC3HUB1AS	CST	H.U.	3000			
FPC4ARB1AS	CPJ	4"	150RF	285		
FPC4BRB1AS	CPL		300RF	740		
FPC4DRB1AS	CPN		600RF	1480		
FPC4FJB1AS	CRE		1500RF	3705		
FPC4DJB1AS	CTG		600RTJ	1480		
FPC4EJB1AS	CTI		900RTJ	2220		
FPC4FJB1AS	CTK		1500RTJ	3705		
FPC4HUB1AS	CPP	H.U.	1500			
FPC5HUB1AS	CTO	5"	H.U.	1500		
FPC6ERB1AS	CRG	6"	600RF	1480		
FPC6FRB1AS	CRI		1500RF	3705		

#### 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 KimCoat option remove last "S" & replace with "K"

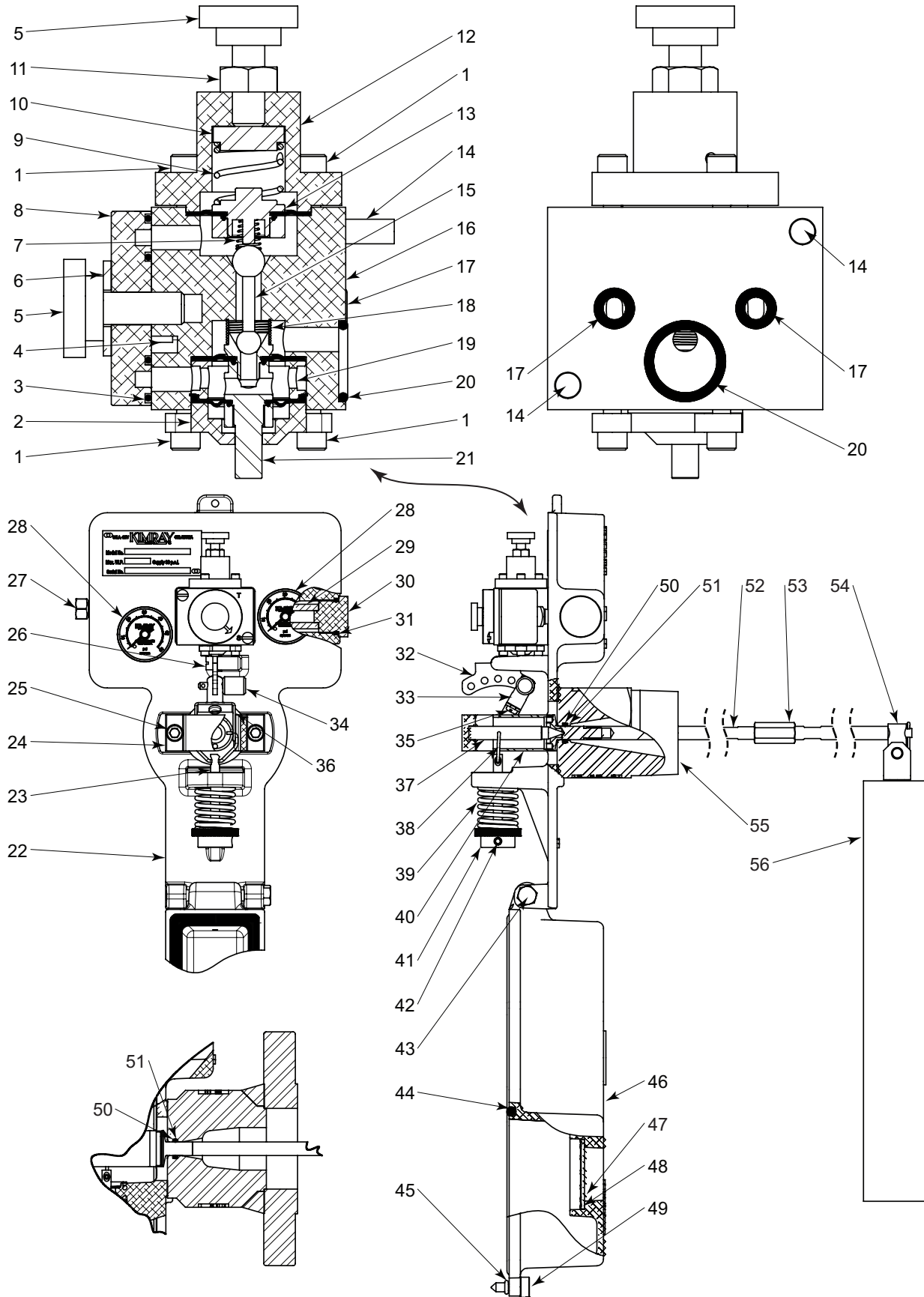
† For code builder see page 08:00.2

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

# FLOAT OPERATED CONTROLLERS



## BACK MOUNT PNEUMATIC LEVEL CONTROLLER MODEL PC PARTS DRAWING



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





# FLOAT OPERATED CONTROLLERS

## BACK MOUNT PNEUMATIC LEVEL CONTROLLER MODEL PC PARTS LIST

ITEM	QTY.	DESCRIPTION	PART NO	ITEM	QTY.	DESCRIPTION	PART NO
1	6	Screw	◇ 7189	31	1	O-Ring *	5500V
2	1	Bottom Cap	◇ 5450	32	1	Tangent Arm	6535
3	2	O-Ring	◇ * 5540V	33	1	Link Body	6546
4	1	Selector Pin	◇ 5483	34	1	Pull Pin Assembly	6549
5	2	Thumb Screw	◇ 6780	35	1	Screw	2426
6	1	Lock Washer	◇ 4543	36	1	Yoke	6538
7	1	Throttle Spring	◇ * 5469	37	1	Pivot Rod	6534
8	1	Switch Plate	◇ 6799	38	1	Wire	6533
9	1	Spring	◇ * 7108	39	1	Spring Assembly	
10	1	Spring Plate	◇ 6551			No Rod Extension	6547
11	1	Nut	◇ 6555	with Rod Extension	6547L		
12	1	Upper Cap	◇ 6531	40	1	Waggle Arm Housing	6532
13	1	Diaphragm Assembly	◇ * 7102AS	41	1	Adjusting Knob	6544
14	2	Screw	◇ 4918	42	1	Set Screw	5595
15	1	Pilot Plug	◇ * 112	43	1	Screw	6539
16	1	Pilot Block	◇ 7346	44	1	Gasket	6530
17	2	O-Ring	◇ * 647V	45	1	O-Ring *	6552NP
18	1	Spring	◇ * 5541	46	1	Cover	6511
19	1	Spacer	◇ 5475	47	2	Lens	5447
20	1	O-Ring	◇ * 920V	48	2	Retaining Ring	5509
21	1	Actuator Assembly	◇ * 7096AS	49	1	Cover Screw	6548
22	1	Back Plate	6510	50	1	Teflon Seal Ring *	5545
23	1	Adjusting Screw	6556	51	1	O-Ring *	855LTV
24	1	Retainer	6542	52	1	Waggle Arm	7078S6AS
25	2	Screw	6537	53	1	Coupling	5454
26	1	Screw	5485	54	1	Rod Assembly	7723A
27	1	Breather Plug	147			Optional 6" Arm Extension	5543L6
28	2	Gauge	7156			Optional 12" Arm Extension	5543L12
29	1	Filter	5486	Optional 18" Arm Extension	5543L18		
30	1	Filter Cap	5502				
Repair Kits			RMG	* These parts are recommended spare parts and stocked as repair kits.			
Pilot Assembly			YBU	◇ These parts are stocked as Pilot Assembly			

ITEM	QTY.	DESCRIPTION	PART NUMBER											
			STANDARD						CORROSIVE					
			2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
55	1	Body	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
		MNPT	6559	----	----	----	----	6559SS6 ‡	----	----	----	----		
		150RF	5562BM	5570BM	5575BM	----	----	----	----	----	----	----		
		300RF	5563BM	5555BM	5576BM	----	----	----	----	----	----	----		
		600RF	5564BM	5571BM	5577BM	----	----	----	----	----	----	----		
		900RF	----	5572BM	----	----	----	----	----	----	----	----		
		1500RF	5565BM	6414BM	5579BM	----	----	----	----	----	----	----		
		600RTJ	5568BM	5573BM	5578BM	----	----	----	----	----	----	----		
		900RTJ	----	5574BM	----	----	----	----	----	----	----	----		
		1500RTJ	5569BM	----	----	----	----	----	----	----	----	----		
		Hammer Union	----	5558BM	5551BM	5552BM	----	----	----	----	----			

‡ Coated Parts available with "K" service type

ITEM	QTY.	DESCRIPTION	PART NO	WEIGHT	MAX TEMP	MAX PSI	MIN DIFFERENTIAL SP.GR.	MATERIAL
56	1	Displacers						
		1 7/8" x 12" Lg	7637A	1lb 15oz	180°F	4000	>0.20	PVC
		1 7/8" x 20" Lg	7638A	3lb 5oz	180°F	4000	>0.15	PVC
		2 3/4" x 14 1/4" Lg	7640A	4lb 5oz	180°F	4000	>0.1	PVC
		2 1/2" x 12" Lg	7639A	3lb 0.5oz	180°F	4000	>0.15	PVC
		1 3/4" x 12" Lg	5461SS6	1lb 15oz	500°F	2000	>0.20	316SS
		1 3/4" x 20" Lg	5461SS6L20	3lb 0oz	500°F	2000	>0.17	316SS

EXTENSION RODS KITS				
Extension Kit	Length	Spring	Coupling	Arm Ext.
CMUL6	6"	6547L	5454	5543L6
CMUL12	12"	6547L	5454	5543L12
CMUL18	18"	6547L	5454	5543L18

**NOTES:**

---



Kimray is an ISO 9001- certified manufacturer.

#### APPLICATIONS:

Liquid level controller for oil and gas separators, water knock-outs, 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.

#### FEATURES:

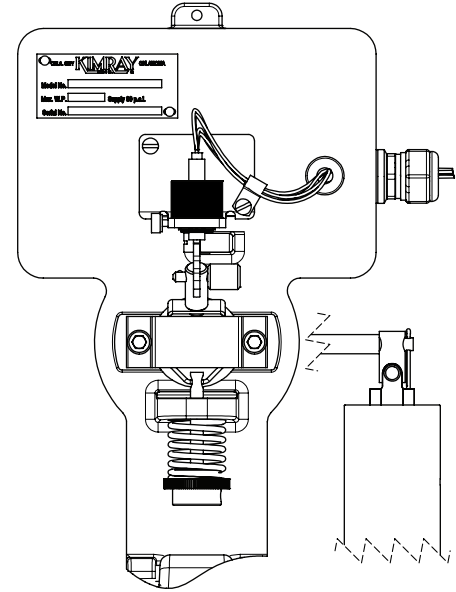
- Compact design
- Snap action
- Low Temp Process Seal (Std.) (-50°F to 300°F)
- Powder coated enclosure
- Vibration tough
- PVC Displacer (Std.) (4000 psi, 175°F);
- 316 SS Displacer (1500 psi, 350°F)
- Adjustment knob snap range (Patent Pending)
- 2 NAMURs Sensor (Intrinsically Safe, Class I Div 1)
- Type 3r Enclosure

#### POWER SPECS (6841 I.S. BARRIER):

- 10-30 VDC, ≤ 1.5W (Intrinsically Safe Barrier, Class I Div 2)
- Barrier output Relay Contacts: ≤ 2A @ 250 VAC / 120 VDC

#### CERTIFICATIONS:

- NACE MR0175 compliant Wetted Parts
  - Certification documents Available upon request, specify when ordering
- Kimray is an ISO 9001- certified manufacturer.



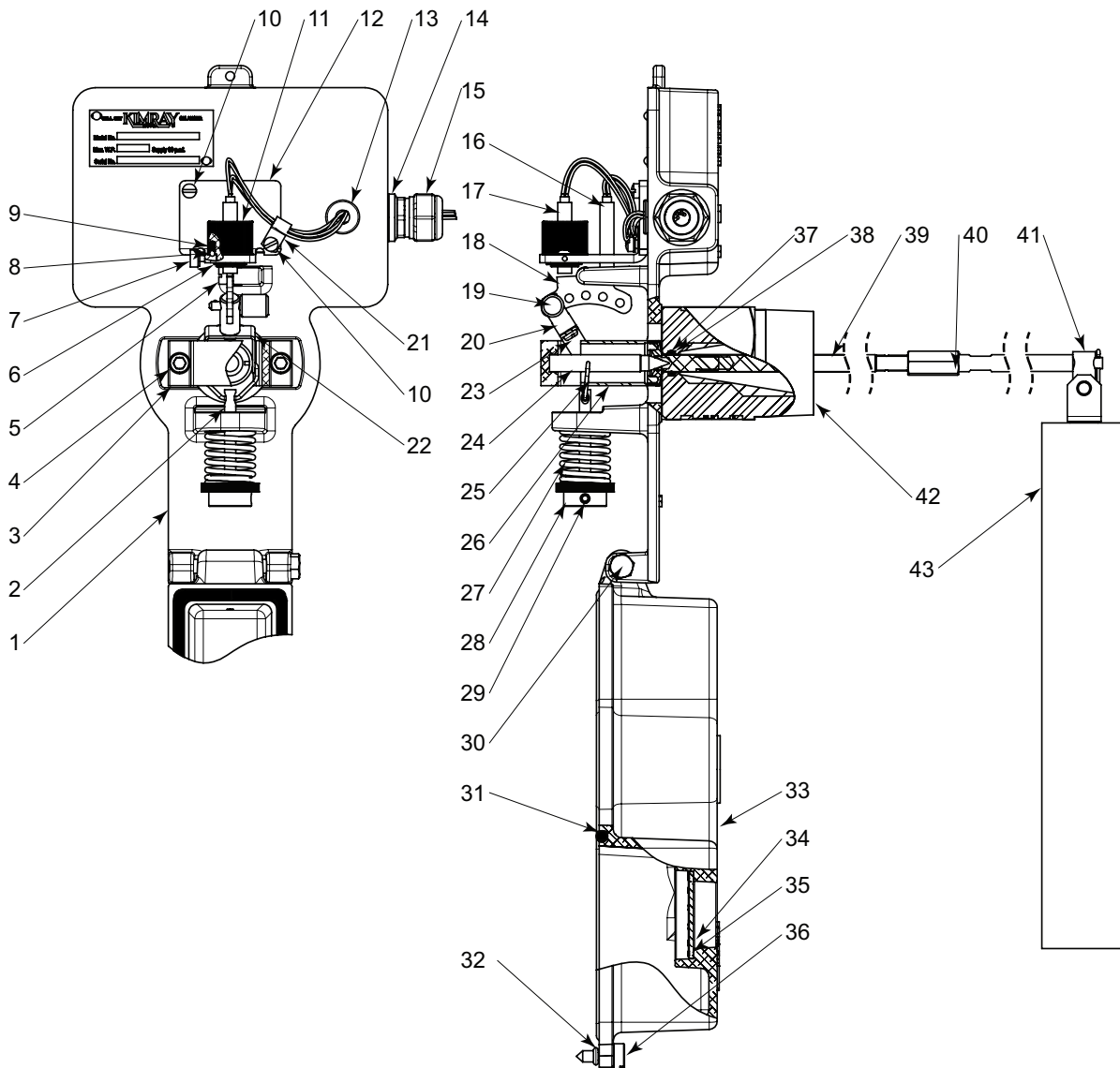
Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Max. W.P. ††
FEC2S4B1AS	CMME	2"	NPT	Back Mount	4000
FEC2ARB1AS	COTE		150RF		285
FEC3ARB1AS	CPBE	3"	150RF		285
FEC4ARB1AS	CPJE	4"	150RF		285
FEC5HUB1AS	CTOE	5"	H.U.		1500

#### 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 KimCoat option remove last "S" & replace with "K"
- † For code builder see page 08:00.2
- †† Max W.P. values based on -20°F to 100°F.

# FLOAT OPERATED CONTROLLERS

## ELECTRONIC BACK MOUNT PNEUMATIC LEVEL CONTROLLER MODEL EC PARTS DRAWING



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



# FLOAT OPERATED CONTROLLERS

## ELECTRONIC BACK MOUNT PNEUMATIC LEVEL CONTROLLER MODEL EC PARTS LIST

ITEM	QTY.	DESCRIPTION	PART NO	ITEM	QTY.	DESCRIPTION	PART NO	
1	1	Back Plate	6806	25	1	Wire	6533	
2	1	Adjusting Screw	6556	26	1	Waggle Arm Housing	6532	
3	1	Retainer	6542	27	1	Spring		
4	2	Screw	6537			No Rod Extension	6547	
5	1	Screw	5485			with Rod Extension	6547L	
6	1	Snap Ring	6803	28	1	Adjusting Knob	6544	
7	1	Thumb Screw	6847	29	1	Set Screw	5595	
8	1	Detent Ball	2202B	30	1	Screw	6539	
9	1	Spring	4203	31	1	Gasket	6530	
10	2	Screw	1081	32	1	O-Ring	6552NP	
11	1	Adjustment Knob	6807	33	1	Cover	6511	
12	1	Mounting Plate	6809	34	2	Lens	5447	
13	1	Grommet	6804	35	2	Retaining Ring	5509	
14	1	Bushing	6849	36	1	Cover Screw	6548	
15	1	Cord Grip	6850	37	1	Teflon Seal Ring	* 5545	
16	1	Rear Sensor (black)	6805	38	1	O-Ring	* 855LTV	
17	1	Front Sensor (red)	6808	39	1	Waggle Arm	7078S6AS	
18	1	Tangent Arm	6535	40	1	Coupling	5454	
19	1	Pull Pin Assy	6549	41	1	Rod Assembly	PVC 7723A	
20	1	Link Body	6546					SS6 5453V
21	1	Cord Clamp	6846		1		Optional 6" Arm Extension	5543L6
22	1	Yoke	6538					Optional 12" Arm Extension
23	1	Screw	2426			Optional 18" Arm Extension	5543L18	
24	1	Pivot Rod	6534					* These parts are recommended spare parts

ITEM	QTY.	DESCRIPTION	PART NUMBER											
			STANDARD						CORROSIVE					
			2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
42	1	Body	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH	2 INCH	3 INCH	4 INCH	5 INCH	6 INCH		
		MNPT	6559	----	----	----	----	6559SS6 ‡	----	----	----	----	----	
		150RF	5562BM	5570BM	5575BM	----	----	----	----	----	----	----	----	
		300RF	5563BM	5555BM	5576BM	----	----	----	----	----	----	----	----	
		600RF	5564BM	5571BM	5577BM	----	----	----	----	----	----	----	----	
		900RF	----	5572BM	----	----	----	----	----	----	----	----	----	
		1500RF	5565BM	6414BM	5579BM	----	----	----	----	----	----	----	----	
		600RTJ	5568BM	5573BM	5578BM	----	----	----	----	----	----	----	----	
		900RTJ	----	5574BM	----	----	----	----	----	----	----	----	----	
		1500RTJ	5569BM	----	----	----	----	----	----	----	----	----	----	
		Hammer Union	----	5558BM	5551BM	5552BM	----	----	----	----	----	----		

‡ Coated Parts available with "K" service type

ITEM	QTY.	DESCRIPTION	PART NO	WEIGHT	MAX TEMP	MAX PSI	MIN DIFFERENTIAL SP.GR.	MATERIAL
43	1	Displacers						
		1 7/8" x 12" Lg	7637A	1lb 15oz	180°F	4000	>0.20	PVC
		1 7/8" x 20" Lg	7638A	3lb 5oz	180°F	4000	>0.15	PVC
		2 3/4" x 14 1/4" Lg	7640A	4lb 5oz	180°F	4000	>0.1	PVC
		2 1/2" x 12" Lg	7639A	3lb 0.5oz	180°F	4000	>0.15	PVC
		1 3/4" x 12" Lg	5461SS6	1lb 15oz	500°F	2000	>0.20	316SS
		1 3/4" x 20" Lg	5461SS6L20	3lb 0oz	500°F	2000	>0.17	316SS

EXTENSION RODS KITS				
Extension Kit	Length	Spring	Coupling	Arm Ext.
CMUL6	6"	6547L	5454	5543L6
CMUL12	12"	6547L	5454	5543L12
CMUL18	18"	6547L	5454	5543L18

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

**NOTES:**

---

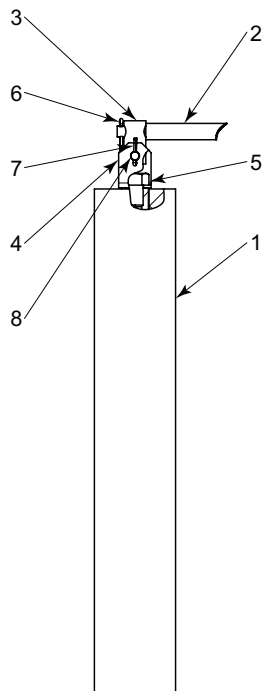


Kimray is an ISO 9001- certified manufacturer.

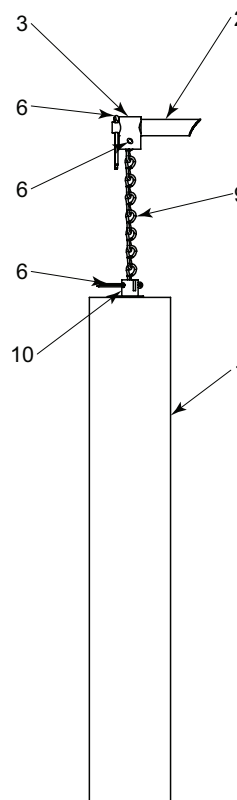
HORIZONTAL (STD.)



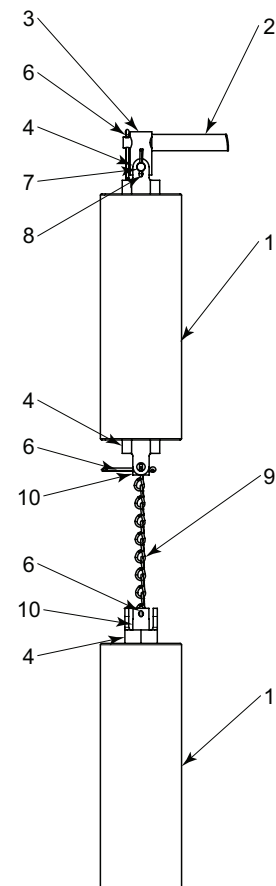
VERTICAL (STD.)



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	6562	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:**

---



Kimray is an ISO 9001- certified manufacturer.



#### APPLICATION:

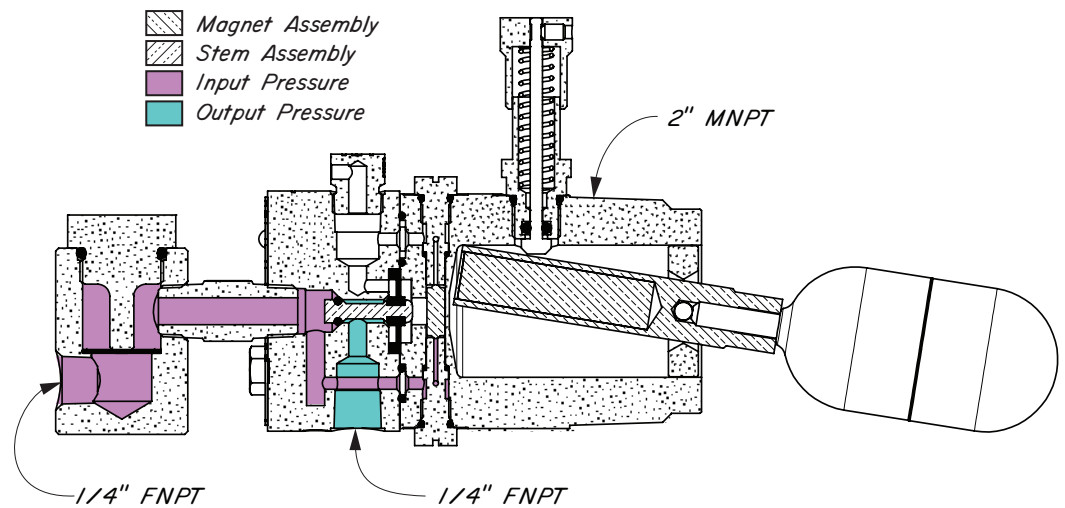
Liquid level switch for oil and gas separators, water knock-outs, gas scrubbers and accumulators.

#### 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"

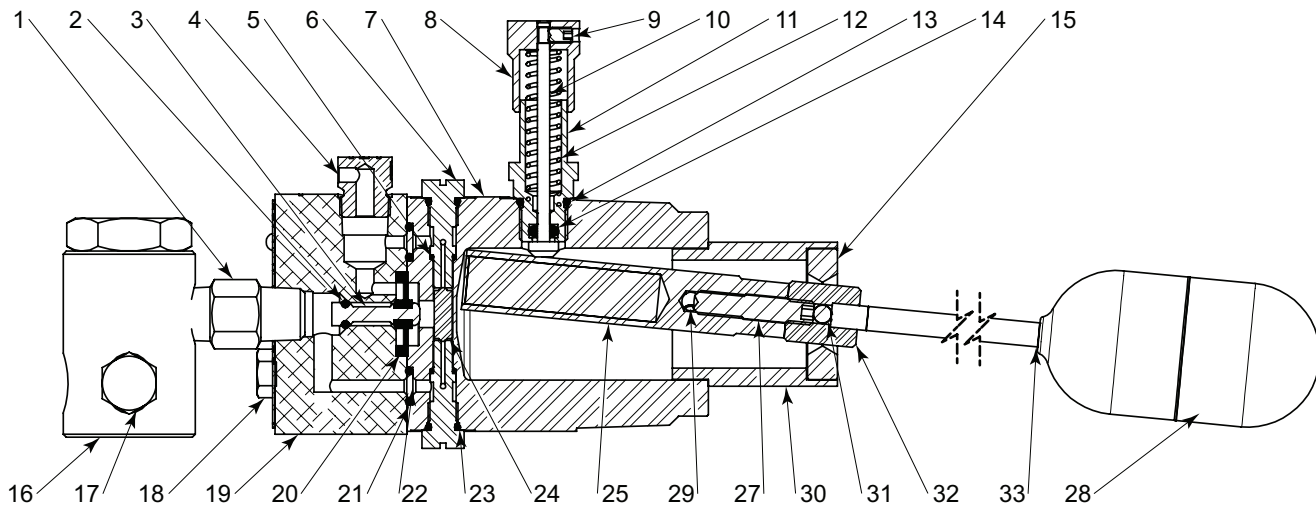
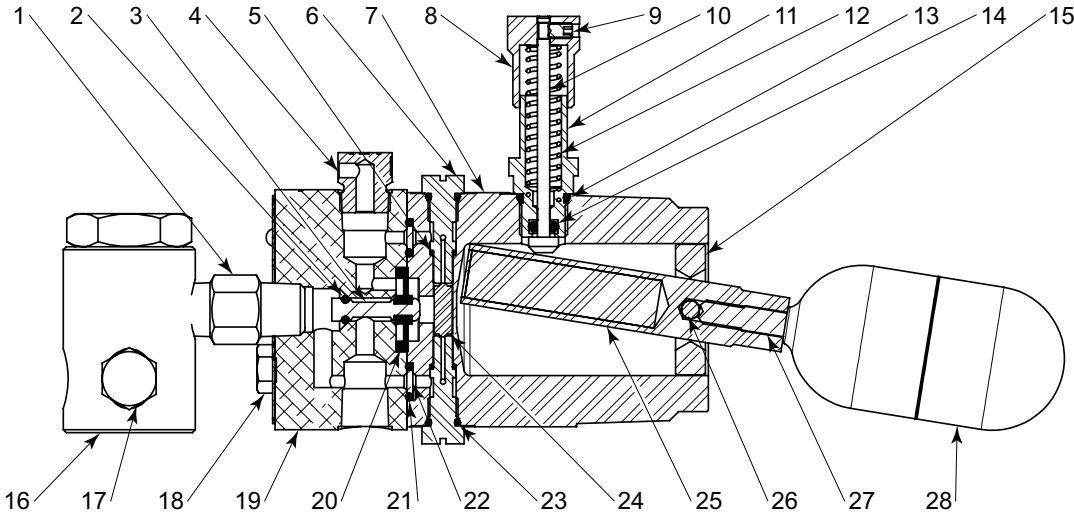
† For code builder see page 08:00.3

†† 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:

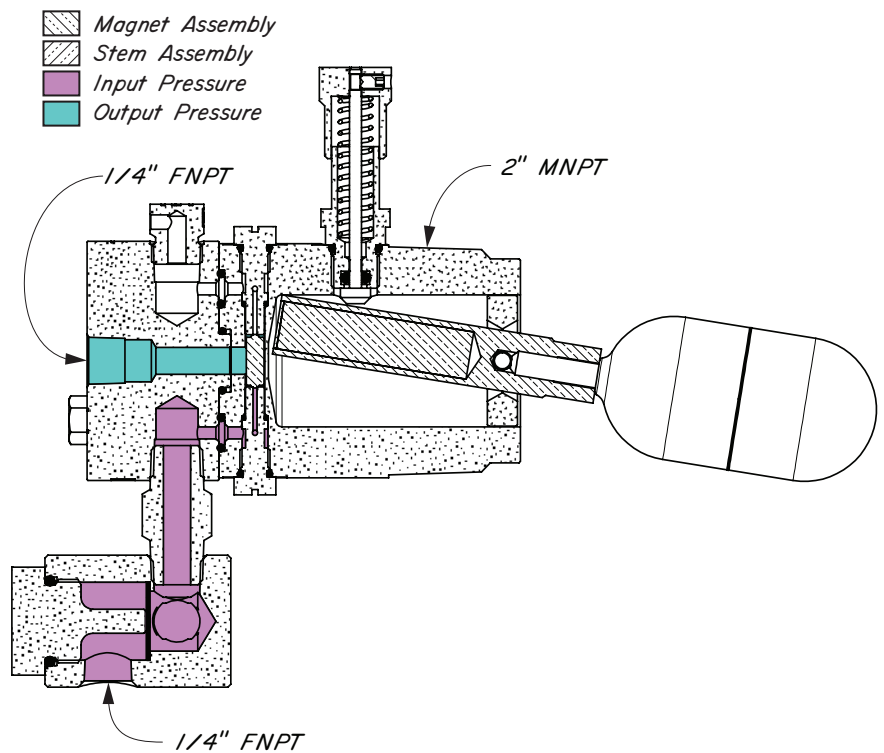
Liquid level switch for oil and gas separators, water knock-outs, gas scrubbers and accumulators.

#### 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"

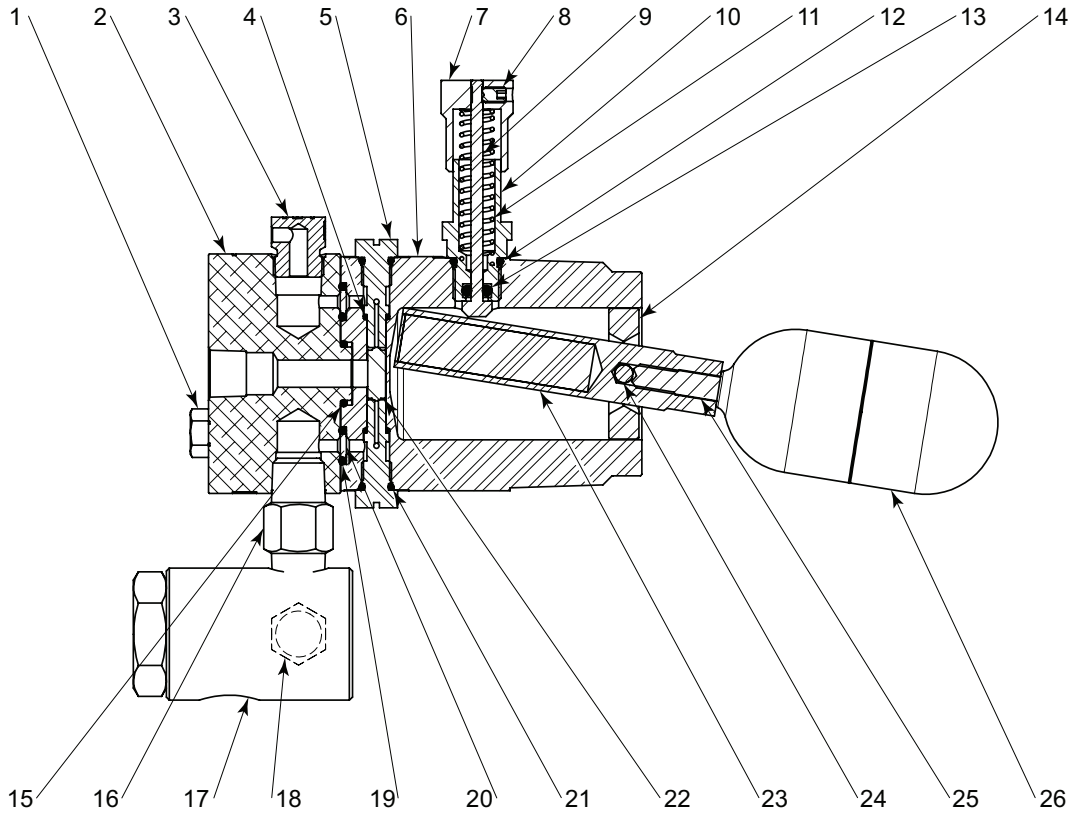
† For code builder see page 08:00.3

†† 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.

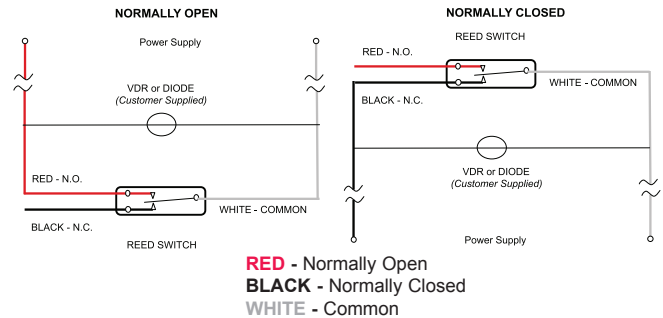
#### ELECTRICAL RATINGS:

- 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.



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		

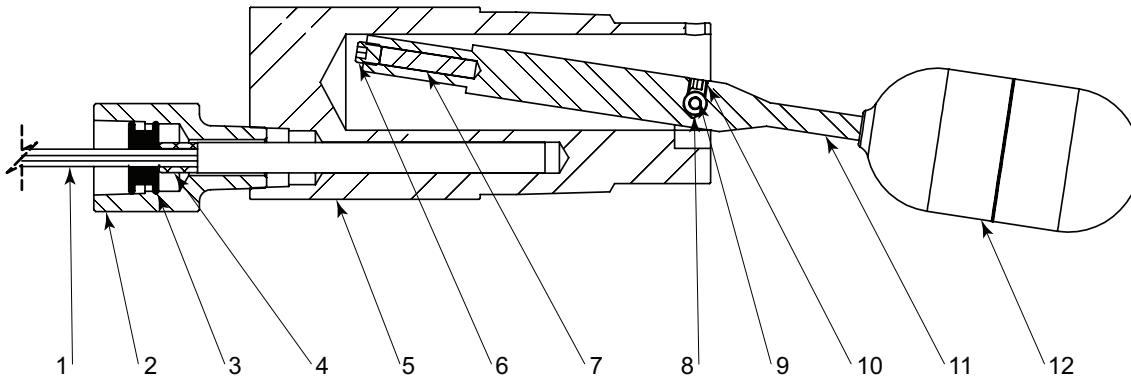
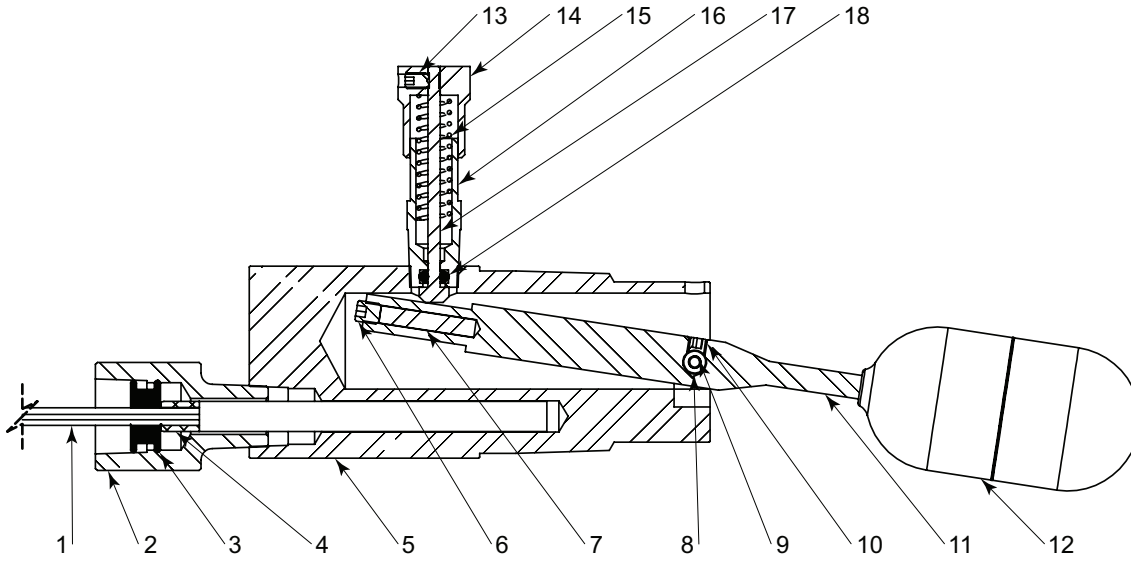
#### NOTES:

- 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



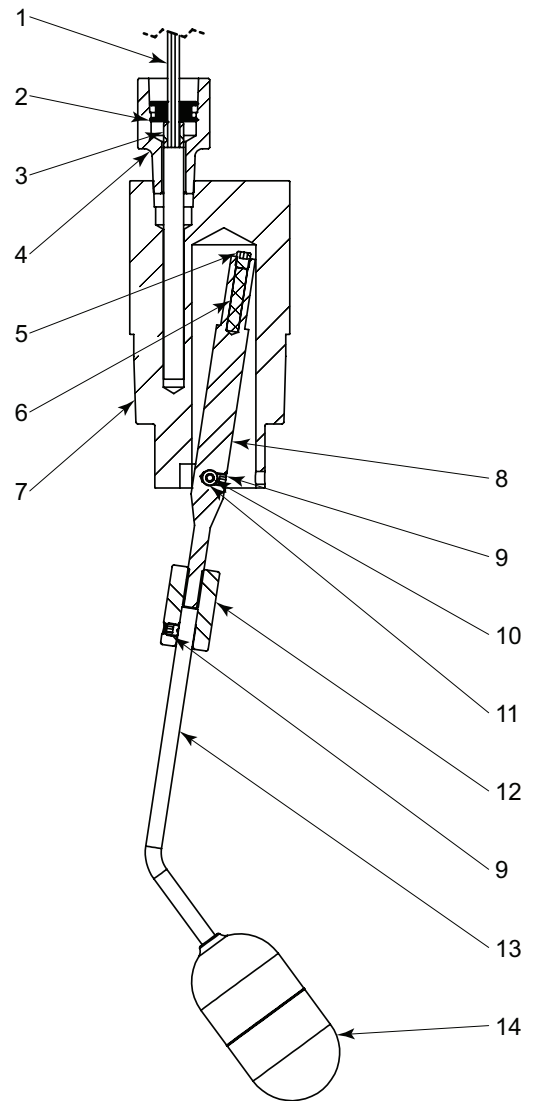
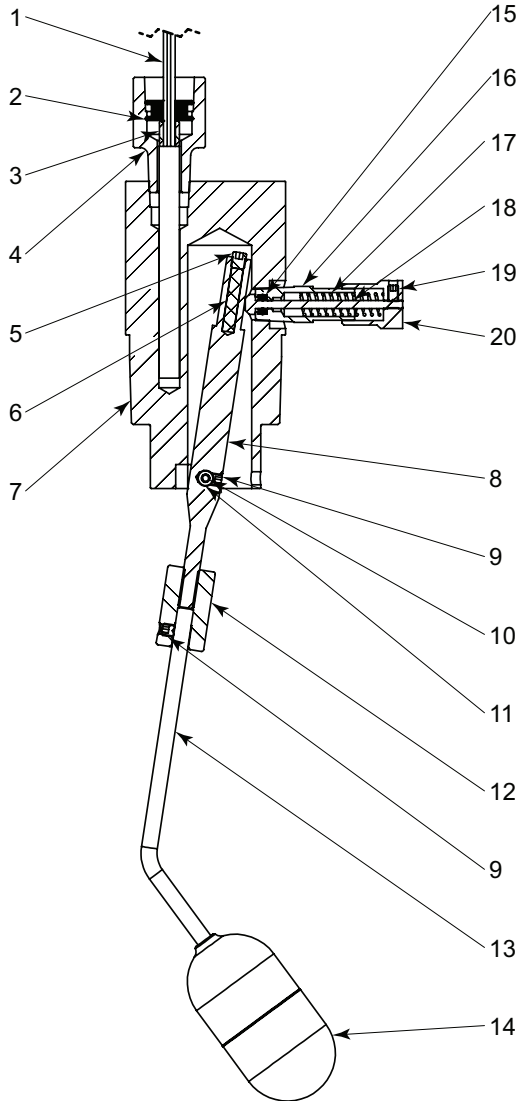
ITEM	QTY.	DESCRIPTION	PART NO.
1	1	Switch Cartridge Standard	5413
		Switch Cartridge Low Power	5413R
2	1	Conduit Adaptor	5414
3	1	Grommet	5424
4	1	Grommet Insert	5423
5	1	1 1/2" Body (with override)	5421
		2" Body (with override)	5433
		1 1/2" Body (no override)	5425
		2" Body (no override)	5434
6	1	Set Screw	5593
7	1	Magnet	3206
8	2	Lever Spacer	5416
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
		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:**

---



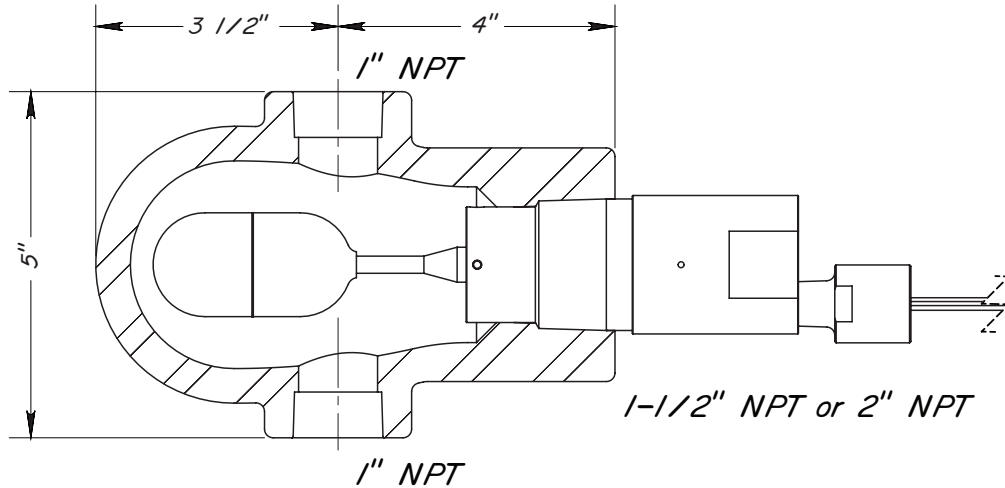
Kimray is an ISO 9001- certified manufacturer.



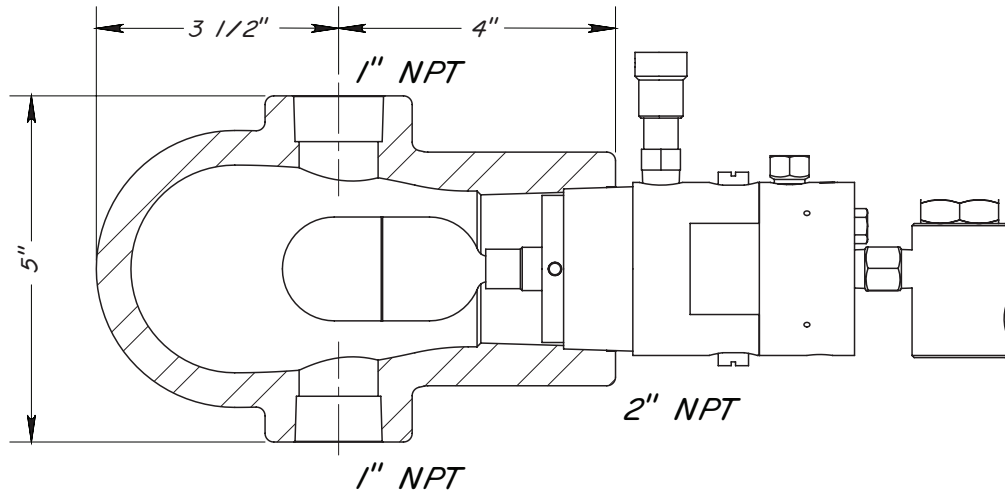
**CERTIFICATIONS:**

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.

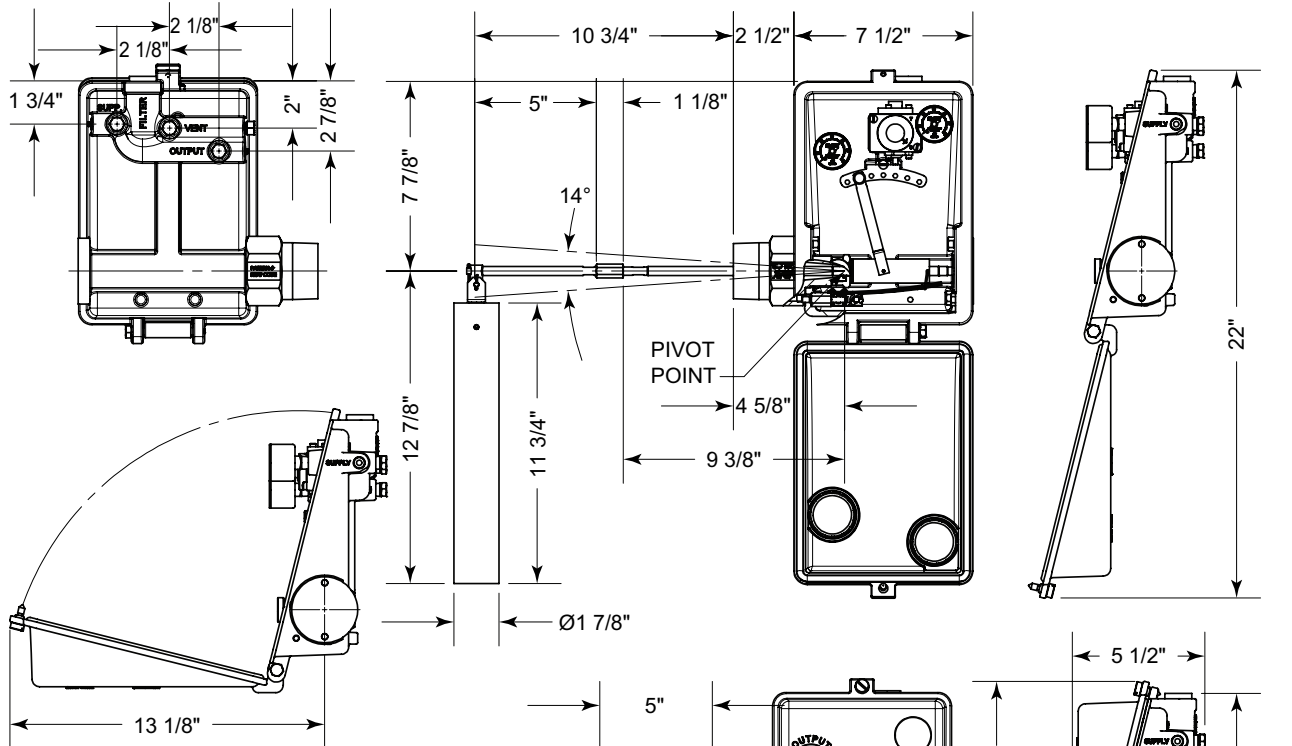
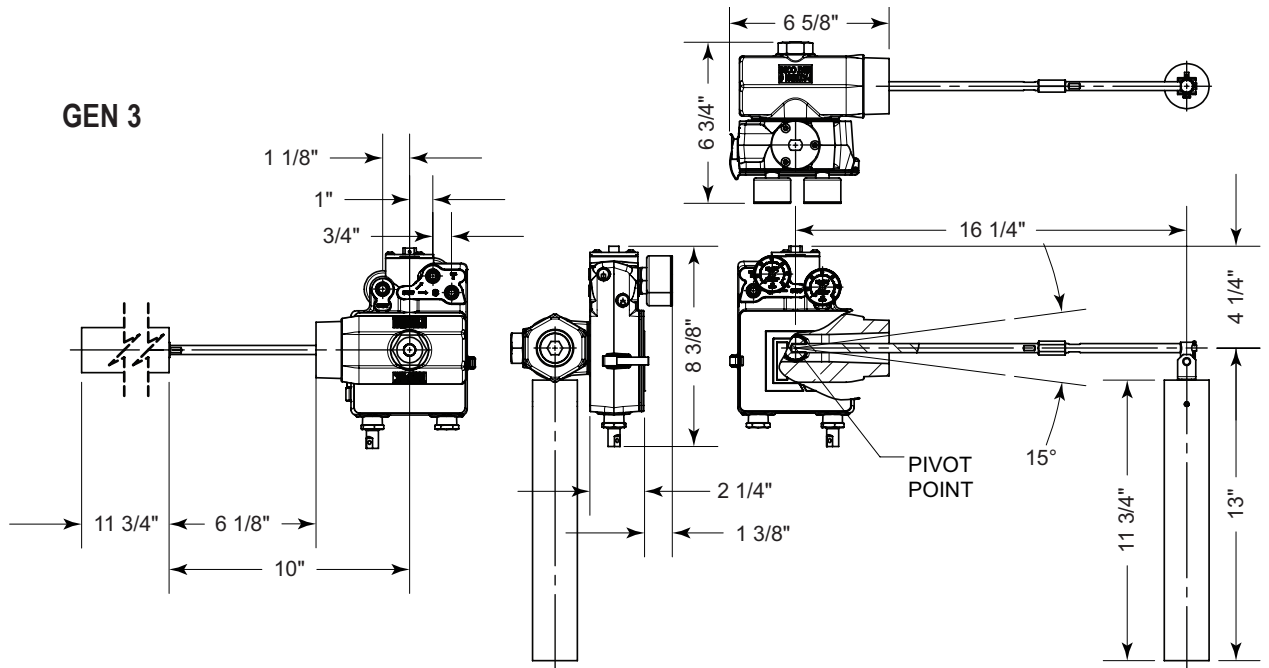
**NOTES:**

---

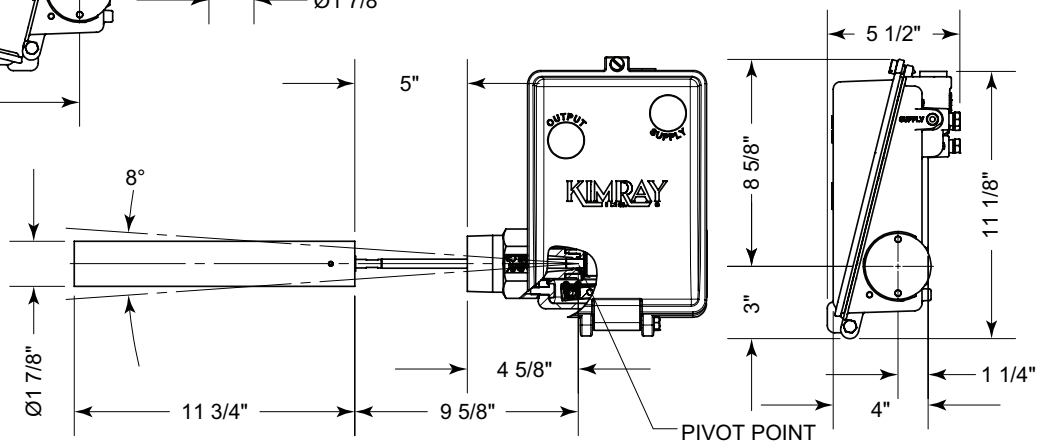


Kimray is an ISO 9001- certified manufacturer.

#### GEN 3



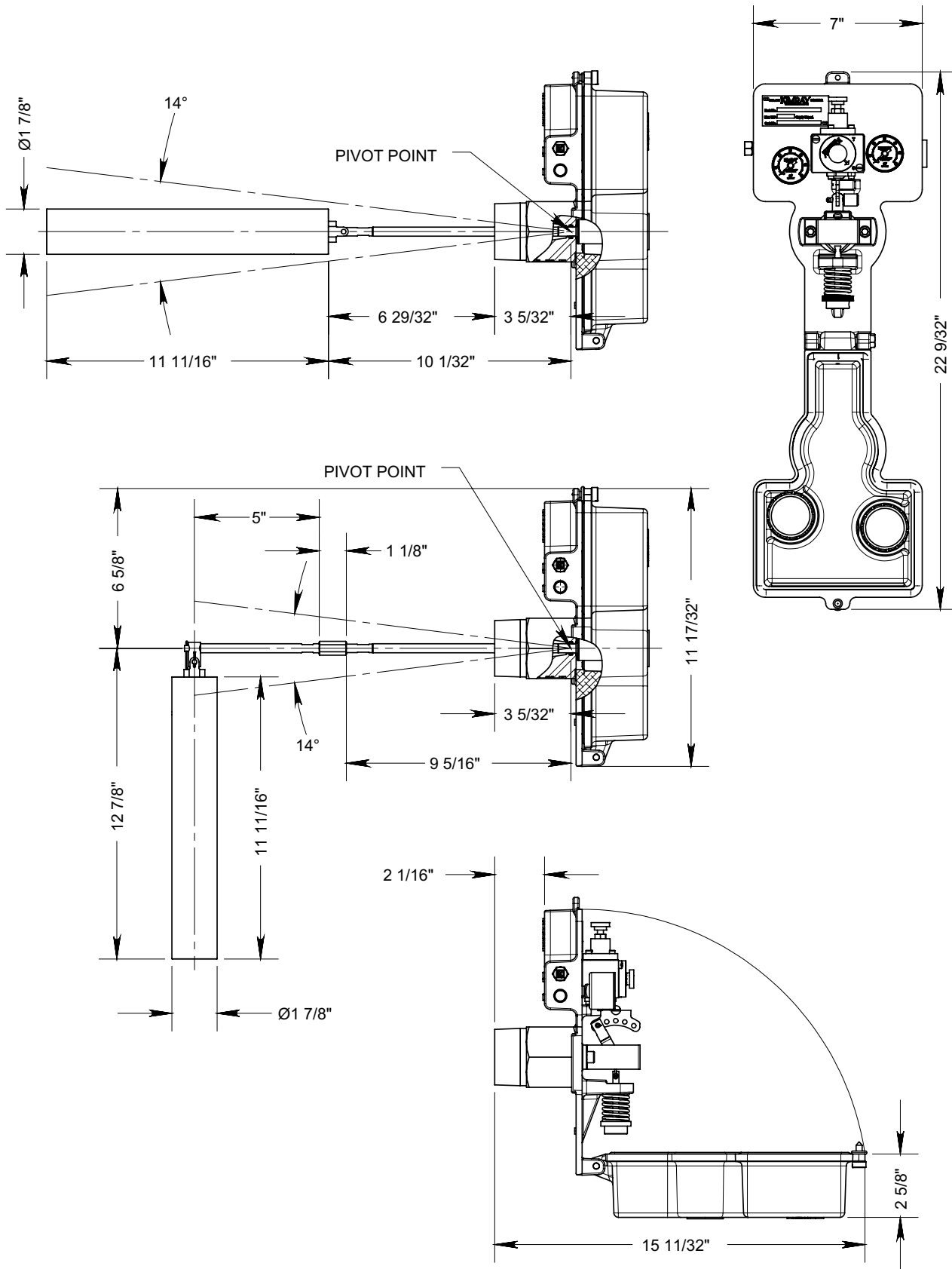
#### GEN II



# FLOAT OPERATED CONTROLLERS

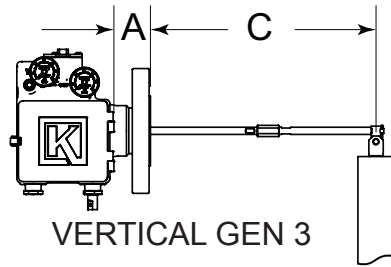


## DIMENSIONS CONTROLLER BACK MOUNT

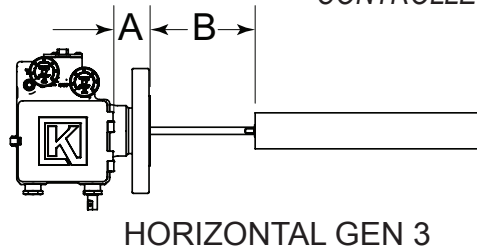


All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

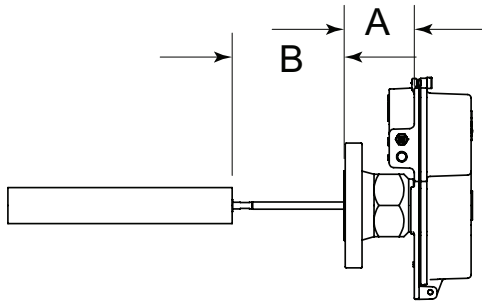
### DIMENSIONS CONTROLLER FLANGES



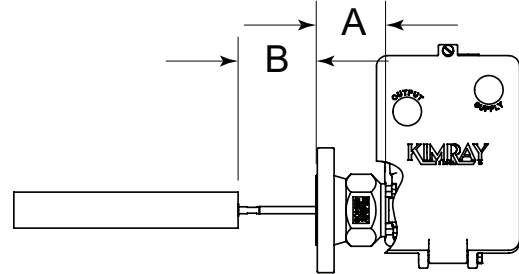
VERTICAL GEN 3



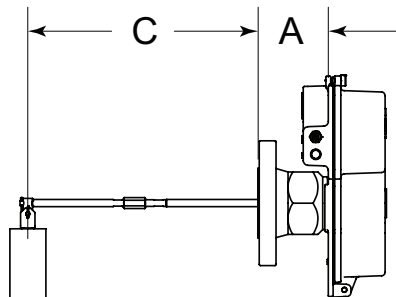
HORIZONTAL GEN 3



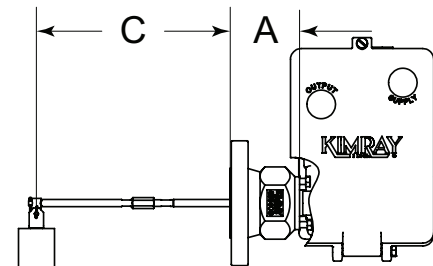
HORIZONTAL BACK MOUNT



HORIZONTAL SIDE MOUNT GEN II



VERTICAL BACK MOUNT



VERTICAL SIDE MOUNT GEN II

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 11/16	5 3/4	11 15/16	1 29/32	5 15/32	11 3/4	2 3/16	5 1/4	11 7/16	---	---	---	2 41/16	4 3/4	10 15/16
		3"	1 11/16	5 3/4	11 15/16	2 1/16	5 21/16	11 9/16	2 7/16	5	11 3/16	3 3/32	4 3/8	10 9/16	3 13/16	3 4	9 13/16
		4"	1 7/8	5 9/16	11 3/4	2 3/16	5 9/16	11 7/16	2 41/16	4 3/4	10 15/16	2 21/32	4 13/16	11	3 9/32	4 3/16	10 3/8
		6"	---	---	---	---	---	---	---	---	---	---	---	---	4 5/32	3 5/16	9 1/2
	Ring Joint	2"	---	---	---	---	---	---	2 1/4	5 3/16	11 3/8	---	---	---	2 7/16	5	11 3/16
		3"	---	---	---	---	---	---	2 3/16	5 1/4	11 7/16	2 7/16	4 41/16	10 7/8	---	---	---
4"		---	---	---	---	---	---	2 7/16	4 41/16	10 7/8	---	---	---	---	---	---	
GEN II SIDE MOUNT	Raised Face	2"	3 7/16	4 5/8	10 3/4	3 5/8	4 1/16	10 9/16	3 15/16	3 5/8	10 1/4	---	---	---	4 7/16	3 3/16	9 3/4
		3"	3 7/16	4 1/4	10 3/4	3 15/16	3 3/4	10 1/4	4 3/16	3 3/16	10	4 13/16	3 1/16	9 3/8	6 5/16	1 3/8	7 7/8
		4"	3 11/16	3 15/16	10 1/2	3 15/16	3 3/4	10 1/4	4 7/16	3 1/4	9 3/4	5 1/8	2 9/16	9 1/16	5 3/4	1 15/16	8 7/16
		6"	---	---	---	---	---	---	---	---	---	---	---	---	5 7/8	1 13/16	8 5/16
	Ring Joint	2"	---	---	---	---	---	---	4	3 1/2	10 3/16	---	---	---	4 3/16	3 1/2	10
		3"	---	---	---	---	---	---	3 15/16	3 3/4	10 1/4	4 1/2	3 3/16	9 11/16	---	---	---
4"		---	---	---	---	---	---	4 1/2	3 3/16	9 11/16	---	---	---	---	---	---	
BACK MOUNT	Raised Face	2"	3 1/2	6 16/13	12 3/8	5 9/16	3 11/16	12	4	5 7/16	11 7/8	4 1/2	5 13/16	11 3/8	---	---	---
		3"	3 1/2	6 13/16	12 3/8	3 13/16	6 7/16	12	4 1/4	1/16	11 5/8	4 7/8	5 7/16	11	9 1/2	3 15/16	6 5/16
		4"	3 11/16	6 5/8	12 3/16	4	6 5/16	11 7/8	4 1/2	5 13/16	11 3/8	---	---	---	5 1/8	5 3/16	10 3/4
		6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	Ring Joint	2"	---	---	---	---	---	---	4 1/16	6 1/4	11 13/16	---	---	---	4 1/4	6 1/16	11 5/8
		3"	---	---	---	---	---	---	4	6 5/16	11 7/8	4 9/16	5 3/4	11 5/16	---	---	---
4"		---	---	---	---	---	---	4 9/16	5 3/4	11 5/16	---	---	---	---	---	---	

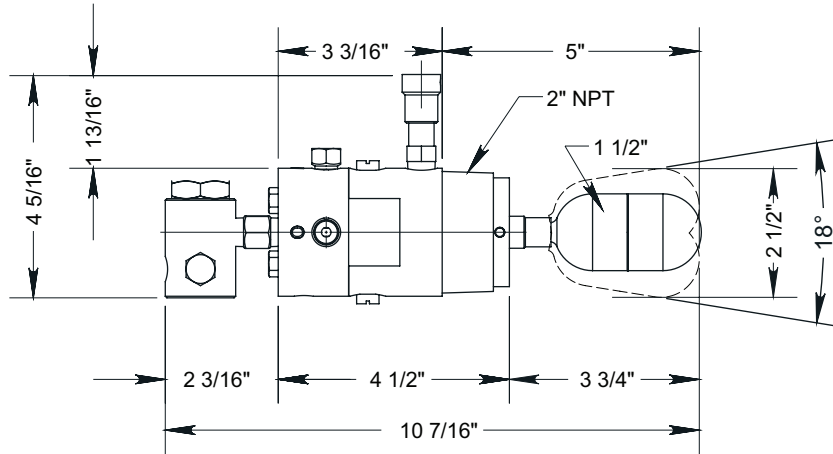
All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

# FLOAT OPERATED CONTROLLERS

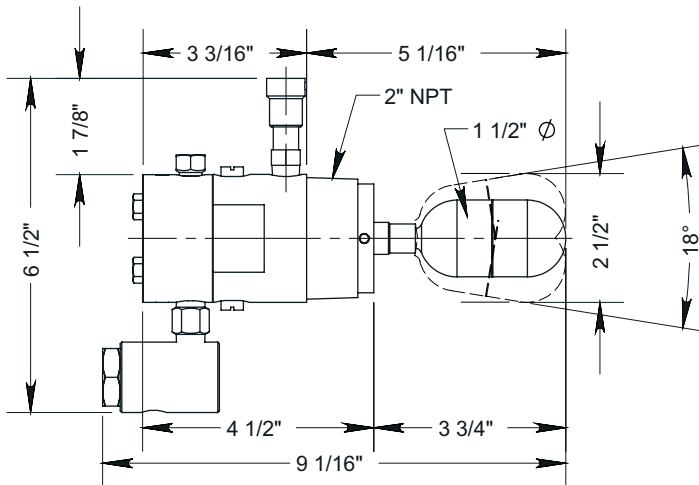


## DIMENSIONS PNEUMATIC LEVEL SWITCH

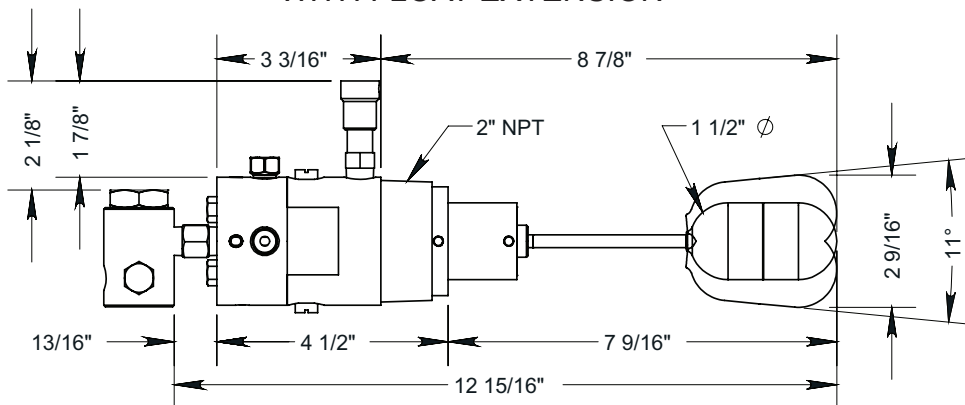
### WITH RELAY



### WITH OUT RELAY

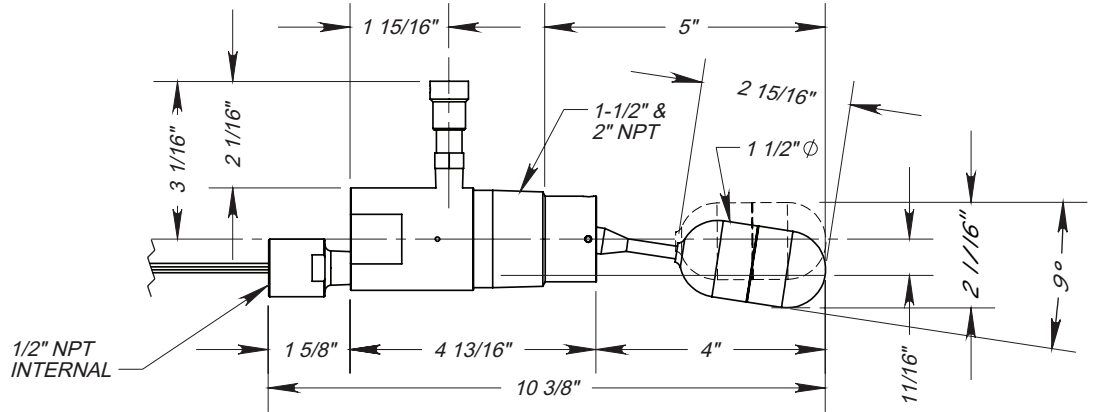


### WITH FLOAT EXTENSION

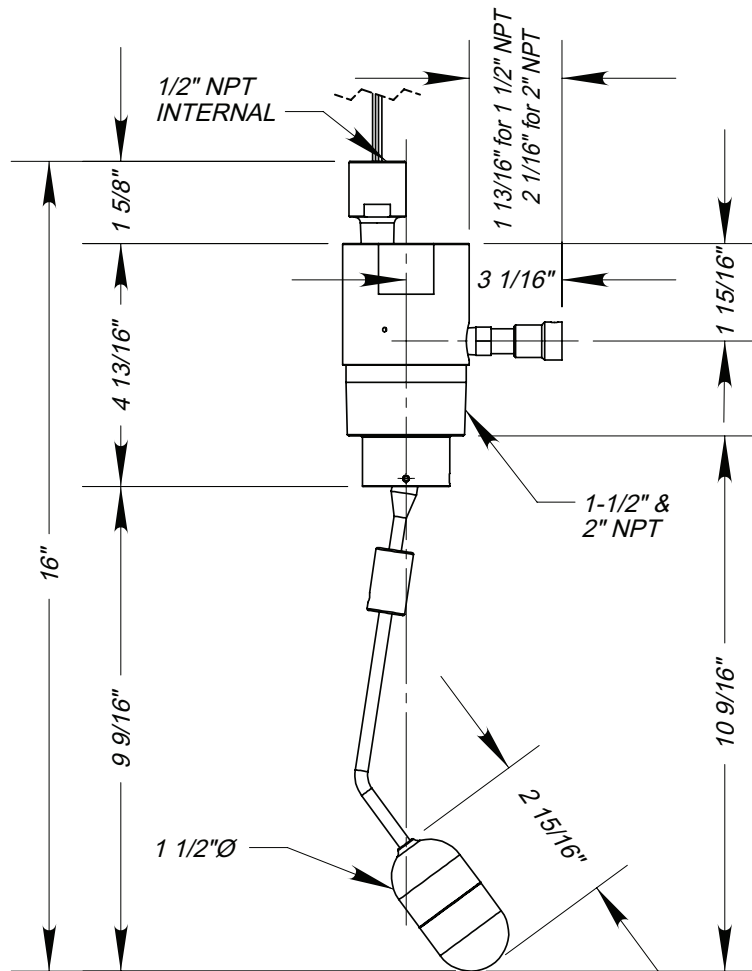


All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

#### 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 - GEN II Seal Options			
Product Type	Part	Standard Material	Optional Material
Pneumatic & Electric	Mounting Piece	LTV	AFLAS®, HSN, PTFE
Pneumatic	Pilot Seals	FKM	N/A

Table 3 - Level Switch Seal Options			
Product Type	Part	Standard Material	Optional Material
Electric Switch	O-rings	FKM	AFLAS®, HSN, Nitrile
Pneumatic Switch	O-rings	FKM	AFLAS®, HSN, Nitrile
	Diaphragm	FKM	LTN

Table 4 - 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 5 - 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 &amp; Electric GEN II Level Controllers</b>	Body	Steel (ASTM SA352LCB)	316SS (ASTM A351 CF8M)
	Pilot	Aluminum (ASTM B221 6061-T6)	N/A
	Link	303SS (ASTM A582)	N/A
	Tangent Arm	316SS (ASTM A240)	N/A
	Waggle Arm	316SS (ASTM A479)	N/A
	Displacer	PVC	316SS (ASTM A 240)
	Spring	17-7PH Condition C 302SS (ASTM A313)	N/A
<b>Pneumatic Level Switches</b>	Body	Aluminum (ASTM B221 6061-T6)	N/A
	Float	316SS (ASTM A 240)	N/A
<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:**



Kimray is an ISO 9001- certified manufacturer.