

APPLICATIONS:

Liquid level sensor for oil and gas separators, water knockouts, gas scrubbers and accumulators. Liquid interface sensing in fluids of 0.20 minimum differential specific gravities.

FEATURES:

- Compact design
- Easy commissioning - ready for gas over water out of the box
- Easy to calibrate for interfacing applications
- Zero emissions
- Proportional analog output
- Easily convert between Left & Right mounting configurations
- Paraffin cleanout port (patented)
- Tool-free wiring connections

CERTIFICATIONS:

- Explosion protection:
 - U.S.: Class I, Zone 1, AEx db IIC T5 Gb
 - North America: Class I, Division 1, Groups B, C, D, T5
 - International: Ex db IIC T5 Gb
- 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

**SENSOR ENCLOSURE/TRANSDUCER
ASSEMBLY ONLY ORDER CODE: LKZ**

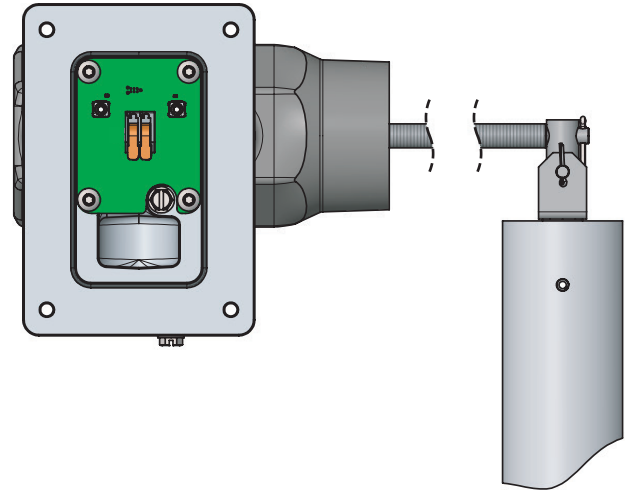


Image above shown in left mount

ENVIRONMENTAL RATINGS:

Type 4 / IP66 enclosure

ELECTRICAL RATINGS:

Input Voltage: 10 to 30 VDC
Ambient Temperature: -40 to 85 °C
Analog Output: 4 to 20 mA (Loop Power Required)

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Max. W.P. †† psig
FLS2S4L1AS	LKL	2"	NPT	Left Hand	4000
FLS2ARL1AS	LKA		150RF		285
FLS2BRL1AS			300RF		740
FLS2DRL1AS			600RF		1480
FLS2FRL1AS			1500RF		3705
FLS2DJL1AS			600RTJ		1480
FLS2FJL1AS			1500RTJ		3705
FLS3ARL1AS		3"	150RF		285
FLS3BRL1AS			300RF		740
FLS3DRL1AS			600RF		1480
FLS3ERL1AS			900RF		2220
FLS3FRL1AS			1500RF		3705
FLS3DJL1AS			600RTJ		1480
FLS3EJL1AS			900RTJ		2220
FLS3HUL1AS	LLC	4"	H.U.		3000
FLS4ARL1AS			150RF		285
FLS4BRL1AS			300RF		740
FLS4DRL1AS	LLO		600RF		1480
FLS4ERL1AS			900RF		2220
FLS4FRL1AS			1500RF		3705
FLS4DJL1AS			600RTJ		1480
FLS4HUL1AS		5"	H.U.		1500
FLS5HUL1AS			H.U.		1500
FLS6FRL1AS		6"	1500RF		3705

Standard Configuration Code †	Order Code	Line Size	Connection Type	Mounting Type	Max. W.P. †† psig
FLS2S4R1AS	LKR	2"	NPT	Right Hand	4000
FLS2ARR1AS	LKJ		150RF		285
FLS2BRR1AS			300RF		740
FLS2DRR1AS	LKM		600RF		1480
FLS2FRR1AS			1500RF		3705
FLS2DJR1AS			600RTJ		1480
FLS2FJR1AS			1500RTJ		3705
FLS3ARR1AS		3"	150RF		285
FLS3BRR1AS			300RF		740
FLS3DRR1AS			600RF		1480
FLS3ERR1AS			900RF		2220
FLS3FRR1AS			1500RF		3705
FLS3DJR1AS			600RTJ		1480
FLS3EJR1AS			900RTJ		2220
FLS3HUR1AS	LLL	4"	H.U.		3000
FLS4ARR1AS	LLX		150RF		285
FLS4BRR1AS	LLW		300RF		740
FLS4DRR1AS			600RF		1480
FLS4ERR1AS			900RF		2220
FLS4FRR1AS			1500RF		3705
FLS4DJR1AS			600RTJ		1480
FLS4HUR1AS		5"	H.U.		1500
FLS5HUR1AS			H.U.		1500
FLS6FRR1AS		6"	1500RF		3705

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 08:00.2

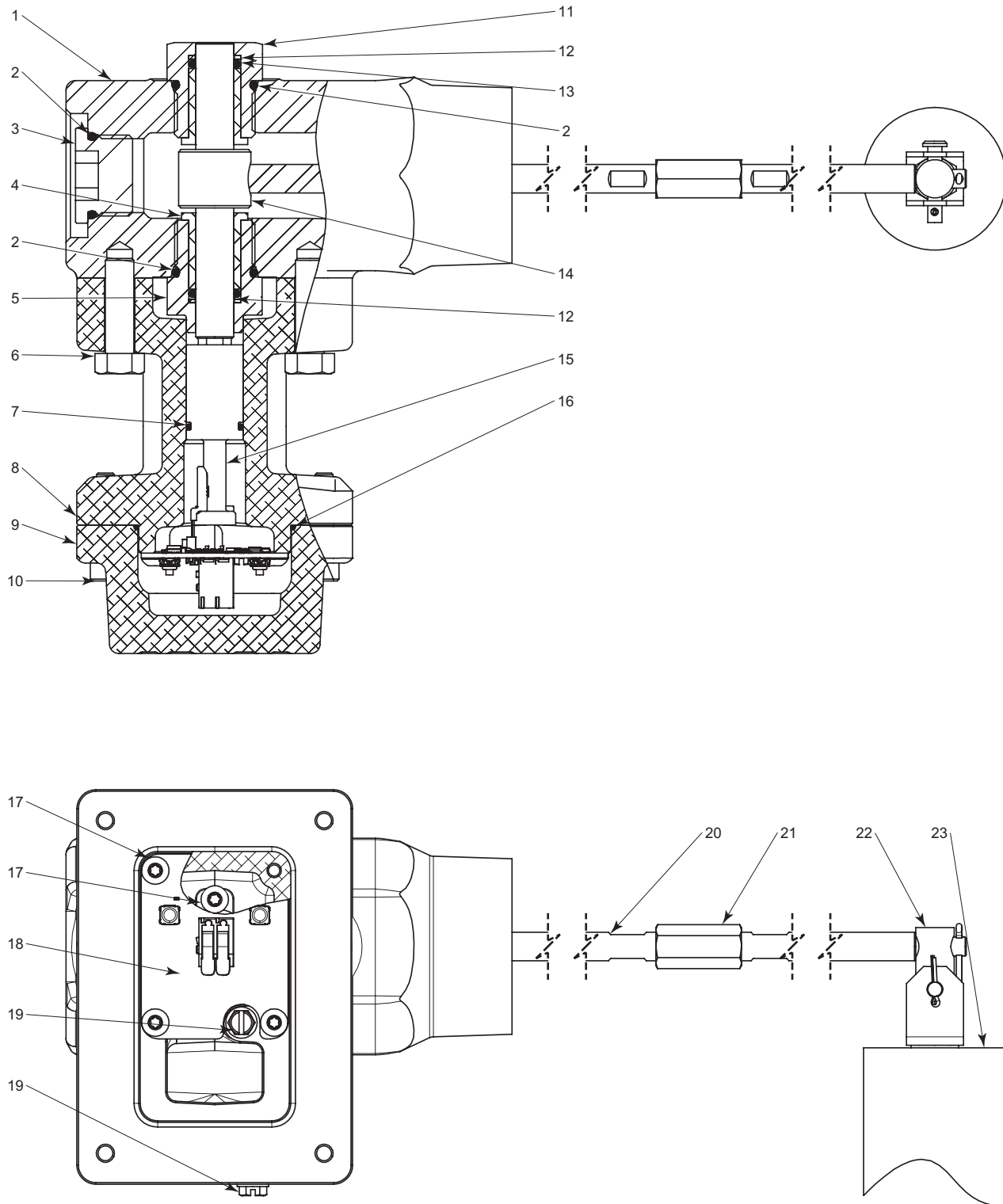
†† Max W.P. values based on -20°F to 100°F.

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

FLOAT OPERATED CONTROLLERS

ELECTRIC LEVEL SENSOR MODEL LS

KIMRAY INC.



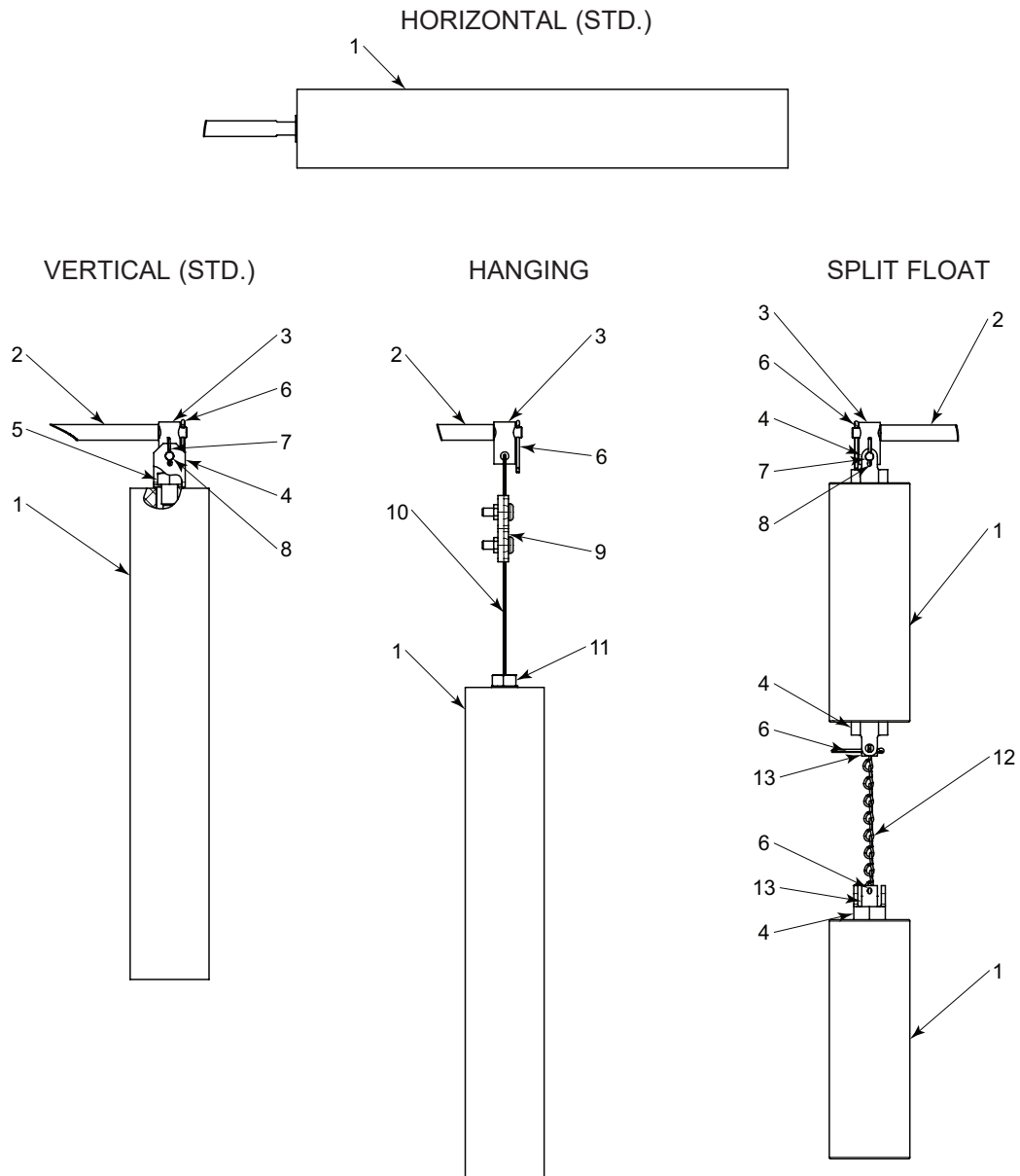
All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

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

ITEM	QTY.	DESCRIPTION	PART NO	
			STANDARD	CORROSIVE
2	3	O-Ring ◇ *	7679V	
3	1	Socket Plug	7667S6	
4	2	Sleeve Bearing *	7678	
5	1	Bearing ◇	7960	7960S6
6	2	Bolt ◇	1672SS6	
7	1	O-Ring ◇ *	7958V	
8	1	Enclosure ◇	7951	
9	1	Cover ◇	7952	
10	4	Screw ◇	7956	
11	1	Bearing Hub	7666	7666S6
12	2	Back up *	7680V	
13	2	O-Ring *	7758V	
14	1	Torque Shaft	7668	7668S6
15	1	Transducer ◇	7953	
16	1	O-Ring ◇ *	7954V	
17	5	Screw ◇	7866	
18	1	PCB ◇	KA7511	
19	2	Ground Screw ◇	7788	
20	1	Displacer Arm	7681	
21	1	Displacer Arm Coupling	5454	
22	1	Rod Assembly	7723A	
		Repair Kits	RYU	* These parts are recommended spare parts and stocked as repair kits.
		Sensor Enclosure/Transducer Assembly	LKZ	◇ These parts are stocked as Sensor 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.
23	1	Displacers										
		1 7/8" x 12" Lg	7637A	1lb 15oz	175°F	4000	>0.20	PVC	7725	7725	7725	7725
		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
		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

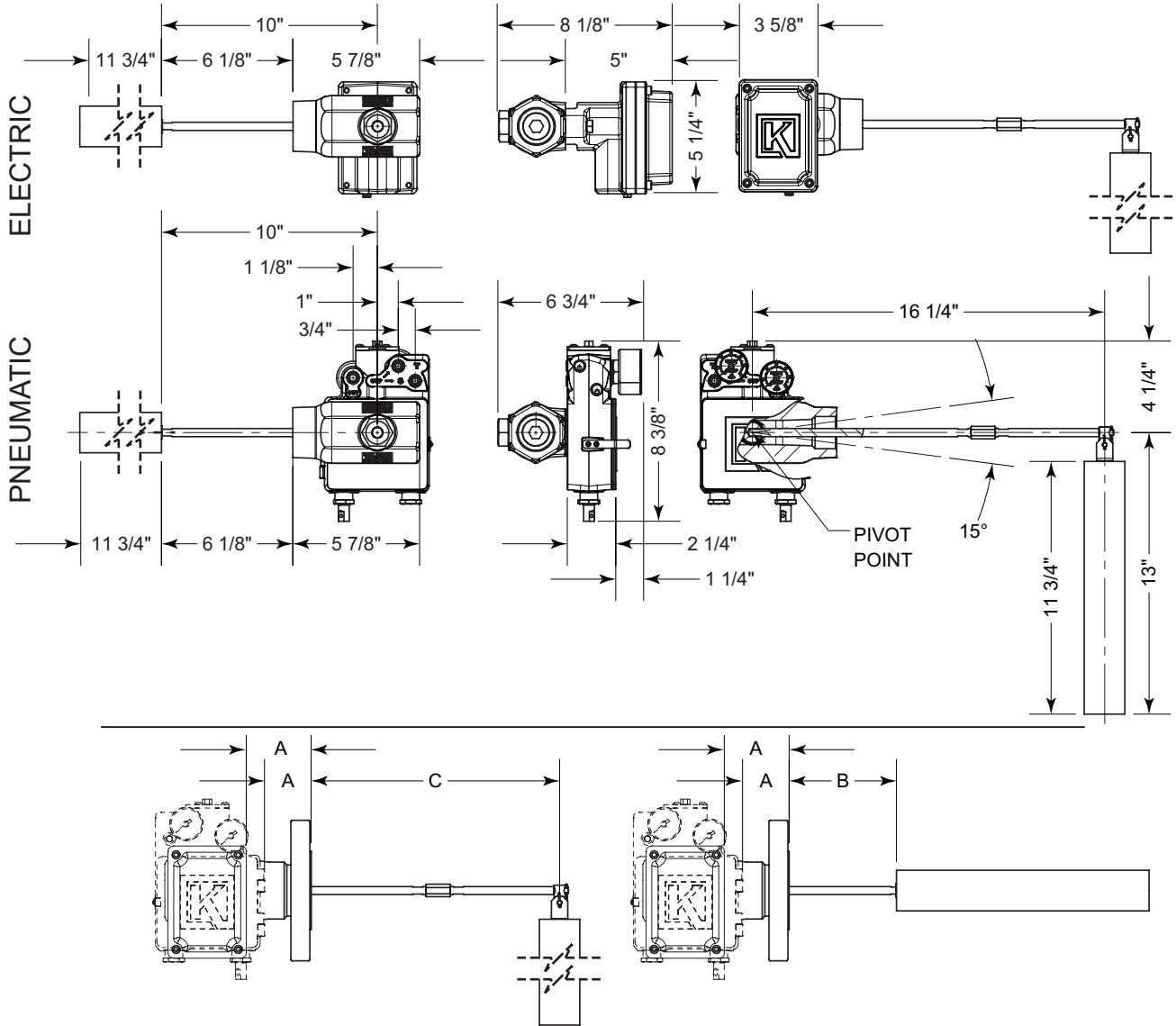
EXTENSION RODS KITS				
Extension Kit	Length	Coupling	Displacer	Arm Ext.
LFW	6"	5454	7637A	5543L6
LFX	6"	5454	5461SS6	5543L6
LFY	10 3/4"	5454	7637A	7681
LFZ	10 3/4"	5454	5461SS6	7681



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	* 6541	1	* 5546SS6	1
4	U Bracket / Bushing			7577	1		1	* 6557SS6	3
5	Bolt			7696S6	1				
6	Cotter Pin			363	1	* 363	1	* 363	3
7	Clevis Pin			7168	1			* 7168	1
8	Cotter Pin			7169	1			* 7169	1
9	Cable Clamp					* 7722S6	1		
10	Cable (10 foot length)					* 7711S6	1		
11	Vented Bolt					* 7943S6	1		
12	Chain (8 foot length)							* 2826	1
	Screw							* 5547SS6	2
	Coupling (not shown)					* 5454	1	* 5454	1
Kit Number						LXX		CMP	

* These parts are stocked as repair kits.

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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 *
PNEUMATIC	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	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	10 1/8
		6"	---	---	---	---	---	---	---	---	---	---	---	---	4 13/32	9 3/32
	Ring Joint	2"	---	---	---	---	---	---	2 17/32	4 15/16	11 1/8	---	---	---	2 23/32	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	---	---	---	---	---
		6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---
ELECTRIC	Raised Face	2"	2 13/16	5 1/2	11 11/16	3	5 5/16	11 1/2	3 5/16	5	11 3/16	---	---	3 13/32	4 1/2	10 11/16
		3"	2 13/16	5 1/2	11 11/16	3 3/16	5 1/8	11 5/16	3 9/16	4 3/4	10 15/16	4 3/16	4 1/8	10 5/16	4 15/16	9 9/16
		4"	3	5 5/16	11 1/2	3 5/16	5	11 3/16	3 13/32	4 1/2	10 11/16	3 3/4	4 9/16	10 3/4	4 3/8	10 1/8
		6"	---	---	---	---	---	---	---	---	---	---	---	---	5 1/4	9 3/32
	Ring Joint	2"	---	---	---	---	---	---	3 3/8	4 15/16	11 1/8	---	---	---	3 9/16	10 15/16
		3"	---	---	---	---	---	---	3 5/16	5	11 3/16	3 7/8	4 7/16	10 5/8	---	---
		4"	---	---	---	---	---	---	3 7/8	4 7/16	10 5/8	---	---	---	---	---
		6"	---	---	---	---	---	---	---	---	---	---	---	---	---	---

* Dimensions shown are with standard float arms. Optional extension rods would add the length of the extension to this dimension

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

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	304SS	316SS
	Bearings	Polyimide filled PTFE	N/A
	Levers	Steel (FLN2C-4005)	N/A
	Displacer	PVC	316SS
	Spring	17-7SS	N/A
Electronic Level Sensors	Shaft & Bearing Hubs	304SS	316SS
	Displacer	PVC	316SS
Pneumatic Level Switches	Body	Aluminum (ASTM B221 6061-T6)	N/A
	Float	316SS	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

FLOAT OPERATED CONTROLLERS



CODE BUILDER

F SERIES (LEVEL CONTROLS)

Series:

F = Float Operated Controllers

Model:

PL = GEN 3 Pneumatic Level Controller

LS = Electric Level Sensor

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

Mounting Type:

L = Left Side Mount

R = Right Side Mount

Displacer Type:

Displacer Extensions:

A = None

B = 6 inch

C = 12 inch

D = 18 inch

1 = 1 7/8 x 12

2 = 1 7/8 x 20

3 = 2 3/4 x 14 1/4 (PL only)

4 = 2 1/2 x 12

5 = 1 7/8 x 5 11/16

6 = 1 3/4 x 12

7 = 1 3/4 x 20

Poly
4000 psi
316SS
2000 psi

Service Type:

S = Standard

C = Corrosive

F

PL

2

S4

L

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 (PL only)

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