



INTERFACE MODEL SELECTION

For Float Operated External Sealed & Flanged Cage
with series 2, 3, A, B, C, D, E, F, J, OR K Switch Mechanism

1. Determine the specific gravities of the two interface liquids at their actual operating temperature and pressure conditions.
2. Locate the chart for the type of construction required (standard sleeve, sheathed sleeve, 304 or 316 SS body).
3. Subtract the specific gravity of the lighter liquid from that of the heavier liquid. Locate the appropriate column for your required switch type (column 1, standard switch, column 2, HS/H1 switch). Within that column, locate the values equal to or less than the difference of your liquid specific gravities. From these values, move across the table to column 4 to identify the possible models for your application.
4. In column 3, locate the specific gravities equal to or less than that of the heavier liquid of your interface. From these values, move to column 4 to identify the possible models for your application.
5. The models suitable for your interface are the models that were identified in both steps 3 & 4 as possible models. Both the minimum specific gravity difference and the minimum specific gravity of the heavier liquid must be suitable for a model to be used for your application.
6. If necessary, refer to column 5 for the maximum pressure rating of the models appropriate for your application. This pressure rating is the maximum for the float and cage only. If the process connections or modifications to standard construction limit the pressure rating to a value below that in column 5, the lowest pressure rating must apply.
7. Refer to the appropriate sales bulletin to complete the model number specification.

NOTE: All interface controls are custom built for each application. Orders must specify the two liquids and their specific gravities at the operating temperature, and pressure conditions. For multiple switch controls or applications not covered in these charts, consult the factory for assistance.

Interface Chart 1 Standard Sleeve (Mat'l Code -1 or -P)

1	2	3	4	5
Minimum Difference Standard Switch	Minimum Difference HS/H1 Switch	Minimum Lower Specific Gravity	Model(s)	Pressure Rating @100° F
0.78	0.84	0.75	B73	300 psig
0.62	0.67	0.88	C29	500 psig
			B3F (150#)	285 psig
0.48	0.52	0.75	D30	250 psig
0.41	0.38	0.70	B3F (600#)	1000 psig
0.40	0.37	0.78	G3F (600#)	
0.38	0.41	0.70	B3F (300#)	740 psig
0.37	0.40	0.76	B35	1000 psig
		0.75	B75	
		0.64	B60	900 psig
		0.63	C35	
		0.62	C60	
0.27	0.30	0.54	J30, J75	400 psig
		0.58	G75	750 psig
0.21	0.22	0.56	G3F (300#)	1000 psig
		0.55	G35	750 psig
		0.45	L30	300 psig
		0.44	L75	
		0.43	L35	285 psig
			G3F (150#)	
		0.39	M30	200 psig
		0.38	M75	
0.11	0.11	0.62	S75	1500 psig
		0.59	K3F (600#)	1480 psig
		0.58	F75	1000 psig
0.08	0.09	0.39	K35, K3F (300#)	600 psig
		0.34	N75	450 psig
		0.33	K3F (150#)	285 psig

Interface Chart 2 Sheathed Sleeve (mat'l code -2 or -N)

1	2	3	4	5
Minimum Difference Standard Switch	Minimum Difference HS/H1	Minimum Lower Specific Gravity	Model(s)	Pressure Rating @ 100° F
0.84	0.78	0.80	B73	300 psig
0.67	0.62	0.92	B3F (150#)	285 psig
		0.94	C29	500 psig
0.52	0.48	0.79	D30	250 psig
0.41	0.38	0.72	B3F (300#)	740 psig
0.4	0.37	0.66	C35, C60, C75	500 psig
		0.79	B35, B75	1000 psig
			B60	900 psig
0.38	N/A	0.72	B3F (600#)	1000 psig
0.37	N/A	0.81	G3F (600#)	
0.3	0.27	0.57	J30, J75	400 psig
0.22	0.21	0.41	M30, M75	200 psig
		0.44	L35	300 psig
		0.45	G3F (150#)	285 psig
		0.47	L30, L75	300 psig
			G35	750 psig
		0.57	G3F (300#)	740 psig
			G75	750 psig
0.11	N/A	0.63	S75	1500 psig
	0.11	0.59	F75	1000 psig
		0.6	K3F (600#)	1480 psig
0.09	0.08	0.33	K3F (150#)	285 psig
		0.35	N75	450 psig
		0.39	K3F (300#), K35	600 psig
		0.42	K75	

Interface Chart 3 304 or 316 SS Bodies (Mat'l code -3 or -4)

1	2	3	4	5
Minimum Difference Standard Switch	Minimum Difference HS/H1Switch	Minimum Lower Specific Gravity	Model(s)	Pressure Rating @ 100° F
0.84	0.78	0.80	B73	300 psig
0.67	0.62	0.94	O75	400 psig
0.52	0.48	0.78	P75	
0.40	0.37	0.66	C75	500 psig
0.30	0.27	0.57	J75	400 psig
0.22	0.21	0.41	M75	200 psig
		0.47	L75	300 psig

EXAMPLE:

Determine which control will operate on the interface between two liquids with specific gravities of 0.55 and 0.85 at operating conditions of 450 psig at 100° F, standard materials of construction with a mercury switch.

1. Because the materials of construction required are standard, reference should be made to Chart 1 for this application.
2. Calculate the difference between the two liquid specific gravities. Example $0.85 - 0.55 = 0.30$.
3. Because a mercury switch is required, the minimum specific gravities difference should be located in column 1. Specific gravity differences equal to or less than 0.30 include all those below and including 0.27. The models that correspond to these values are in column 4.
4. The minimum specific gravity of the heavier liquid should be located in column 3. All the possible models from step 3 have minimum specific gravity less than or equal to that of the heavier liquid, 0.85. So all the possible models from step 3 are still valid for this application.
5. Move across the table to column 5 to determine which models are suited for the operating conditions of 450 psig at 100° F. Models G75, G3F (300#), G35, S75, K3F (600#), F75, K35, K3F (300#) and N75 meet the required pressure rating. Final selection will be based upon specific model attributes (flanged versus sealed cage, commercial versus ASME) and price.



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