

# KOSO HAMMEL DAHL

CONTROL VALVES

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## Actuator Selection Guide

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This document is a basic guide for the selection of KOSO HAMMEL DAHL pneumatic spring and diaphragm actuators. The process of sizing and selecting an actuator is dependent on valve construction and application details. Certain constructions and applications may require the use of an actuator other than those shown in this guide. This guide is intended as a simplified method for the selection of actuators for on/off service or use with positioners only.

### **To select an actuator:**

1. Determine the proper page and table based on the valve model/series.
2. Identify the proper table section based on size of the valve.
  - 2a. Some tables require the valve trim size or Cv rating.
3. Identify the proper side of the table based upon the required action.
  - 3a. Action is shown at the top of each column.
4. Determine the smallest actuator which can provide the required maximum shutoff.
5. In some cases, available thrust may be based on the air supply available to the actuator.

### **General Notes:**

Maximum case pressure for D/R Series is 65 psig.

Maximum case pressure for A46/A47 Series is 45 psig.

\* indicates that a 17-4PH stem is required (force exceeds 316SS material).

Tables are limited based on the ANSI Class rating.

ANSI Class 600: 1500 psig

ANSI Class 1500: 3705 psig

ANSI Class 2500: 6170 psig

Tables are based on TFE packing only.

When applicable, tables are based on TFE plug seals only.

Tables are based on ANSI Class IV shutoff only.

### Series G110 and G111 - ANSI 150/300/600 Balanced Cage Trim

Valve		Direct Acting Actuator						Reverse Acting Actuator			
		Air to Close - Spring to Open						Air to Open - Spring to Close			
		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Code	Size	Model		Supply Pressure			Size	Model		
					35	45	65				
1.5	H	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC2HA	15~39	1500
2	J	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC2HA	15~39	1500
3	L	84	DBE1EA	3~15	1500	1500	1500*	84	RBE2HA	12~36	1025
		140	~	~	~	~	~	140	RCE2HA	12~36	1500
4	N	84	DBE1EA	3~15	1500	1500	1500*	84	RBE2HA	12~36	490
		140	~	~	~	~	~	140	RCE2HA	12~36	1500
6	Q	140	DCH1KA	3~15	1500	1500*	1500*	140	RCH2LA	14~38	1315
		240	~	~	~	~	~	240	RDH2LA	11~35	1500
8	S	200	A46AKF8AB	3~15	1500	1500	~	200	A47AKF8BB	16~40	1500
10	T	200	A46AKF8AB	3~15	900	1500	~	200	A47AKF8BB	16~40	820
12	U	200	A46AKF8AB	3~15	660	1330	~	200	A47AKF8BB	16~40	585
16	W	Consult Factory						Consult factory			

### Series G112 and G113 - ANSI 150/300/600 Unbalanced Cage Trim

Valve		Direct Acting Actuator						Reverse Acting Actuator			
		Air to Close - Spring to Open						Air to Open - Spring to Close			
		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Code	Size	Model		Supply Pressure			Size	Model		
					35	45	65				
1.5	H	56	DAC1JA	3~15	325	530*	935*	56	RAC8GA	19~33	250
		84	DBC1CA	3~15	535*	840*	1410*	84	RBCBHA	18~36	435
		140	DCC1EA	3~15	955*	1460*	1500*	140	RCCBHA	18~36	775*
2	J	56	DAC1JA	3~15	205	340*	605*	56	RAC8GA	19~33	160
		84	DBC1CA	3~15	340*	540*	935*	84	RBCBHA	18~36	270
		140	DCC1EA	3~15	615*	950*	1500*	140	RCCBHA	18~36	500*
3	L	84	DBE1EA	3~15	135	230	405*	84	RBE2HA	12~36	50
		140	DCE1JA	3~15	260*	415*	710*	140	RCEBHA	22~40	275
		240	DDE1KA	3~15	485*	745*	1250*	240	RDEBLA	18~36	420*
4	N	84	DBE1EA	3~15	80	135	245*	84	RBE2HA	12~36	25
		140	DCE1JA	3~15	155*	245*	430*	140	RCEBHA	22~40	160
		240	DDE1KA	3~15	290*	450*	765*	240	RDEBLA	18~36	250*
6	Q	140	DCH1KA	3~15	65	105*	195*	140	RCH2LA	14~38	30
		240	DDH1KA	3~15	130*	205*	355*	240	RDH2LA	11~35	50

- Notes:
1. Direct acting actuator thrust is based on available air supply.
  2. Supply pressure must be 5 psig greater than bench set.
  3. (\*) 17-4PH stem required.
  4. Flow direction is from under the plug.
  5. G110/G111 table also applicable to the V500 and V501.
  6. G112/G113 table also applicable to the V502 and V503

**Series G120, G121, G130, G131 and V817**  
**ANSI 150/300/600 Unbalanced Contoured Plugs**

				Direct Acting Actuator						Reverse Acting Actuator					
				Air to Close - Spring to Open						Air to Open - Spring to Close					
Valve		Trim		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff		
Size	Code	Cv	Code	Size	Model		Supply Pressure			Size	Model				
							35	45	65						
0.5	D	All	All	56	DAD1JA	3~15	1500*	1500*	1500*	56	RAD2HA	15~39	1500		
0.75	E	All	All	56	DAD1JA	3~15	1500*	1500*	1500*	56	RAD2HA	15~39	1500		
1	F	All	All	56	DAD1JA	3~15	1500*	1500*	1500*	56	RAD2HA	15~39	1500		
1.5	H	31 32	A	56	DAC1JA	3~15	800	1260*	1500*	56	RAC8GA	19~33	655		
				84	DBC1CA	3~15	1270*	1500*	1500*	84	RBCBHA	18~36	1040		
				140	~	~	~	~	~	140	RCCBHA	18~36	1500*		
		13.9	B	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC8GA	19~33	1500		
				84	~	~	~	~	~	84	RBC2HA	12~36	1500		
				56	DAC1JA	3~15	1500	1500*	1500*	56	RAC2HA	15~39	1500		
2	J	50 51	A	56	DAC1JA	3~15	455	725*	1260*	56	RAC8GA	19~33	360		
				84	DBC1CA	3~15	730*	1136*	1500*	84	RBCBHA	18~36	590		
				140	~	~	~	~	~	140	RCCBHA	18~36	1050*		
		32	B	56	DAC1JA	3~15	800	1260*	1500*	56	RAC8GA	19~33	655		
				84	DBC1CA	3~15	1500*	1500*	1500*	84	RBCBHA	18~36	1040		
				140	~	~	~	~	~	140	RCCBHA	18~36	1500*		
		13.2 13.5	C	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC8GA	19~33	1500		
				84	~	~	~	~	~	84	RBC2HA	12~36	1500		
		3	L	105	A	84	DBE1EA	3~15	300	480	830*	84	RBE2HA	12~36	75
						140	DCE1JA	3~15	550*	850*	1370*	140	RCEBHA	22~40	575
						240	DDE1KA	3~15	990*	1500*	1500*	240	RDEBLA	18~36	860*
				48 49	B	84	DBE1EA	3~15	720	1130	1500*	84	RBE2HA	12~36	215
140	DCE1JA					3~15	1280*	1500*	1500*	140	RCEBHA	22~40	1345		
240	~					~	~	~	~	240	RDEBLA	18~36	1500*		
35	C			84	DBE1EA	3~15	1255	1500	1500*	84	RBE2HA	12~36	405		
				140	~	~	~	~	~	140	RCEBHA	22~40	1500		
4	N			190 217	A	84	DBE1EA	3~15	155	260	455	84	RBE2HA	12~36	25
						140	DCE1JA	3~15	295	465*	800*	140	RCEBHA	22~40	310
						240	DDE1KA	3~15	545*	835*	1400*	240	RDEBLA	18~36	470*
				105 115	B	84	DBE1EA	3~15	300	480	835	84	RBE2HA	12~36	70
		140	DCE1JA			3~15	545	845*	1360*	140	RCEBHA	22~40	575		
		240	DDE1KA			3~15	985*	1500*	1500*	240	RDEBLA	18~36	860*		
		53 55	C	84	DBE1EA	3~15	715	1120	1500	84	RBE2HA	12~36	210		
				140	DCE1JA	3~15	1275	1500*	1500*	140	RCEBHA	22~40	1340		
		240	~	~	~	~	~	240	RDEBLA	18~36	1500*				
		6	Q	390	A	140	DCH1KA	3~15	120	195	340	140	RCH2LA	14~38	65
						240	DDH1KA	3~15	230	360	610*	240	RDH2LA	11~35	95
				192 198	B	140	DCH1KA	3~15	290	460	795	140	RCH2LA	14~38	170
240	DDH1KA					3~15	540	830	1400*	240	RDH2LA	11~35	240		
120	C			140	DCH1KA	3~15	540	840	1435	140	RCH2LA	14~38	325		
				240	DDH1KA	3~15	980	1500	1500*	240	RDH2LA	11~35	445		

- Notes: 1) Direct acting actuator thrust is based on available air supply.  
2) Supply pressure must be 5 psig greater than bench set.  
3) (\*) 17-4PH stem required.  
4) Flow direction is up through seat ring.

## Series V510 and V511 - ANSI 900/1500 Balanced Cage Trim

Valve		Direct Acting Actuator						Reverse Acting Actuator			
		Air to Close - Spring to Open						Air to Open - Spring to Close			
		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Code	Size	Model		Supply Pressure			Size	Model		
					35	45	65				
1.5	H	56	DAC1JA	3~15	3750	3750*	3750*	56	RAC8GA	19~33	3620
2	J	56	DAC1JA	3~15	3750	3750*	3750*	56	RAC8GA	19~33	2180
		84	~	~	~	~	~	84	RBCBHA	18~36	3750
3	L	84	DBE1EA	3~15	3750	3750	3750*	84	RBE2HA	12~36	870
		140	~	~	~	~	~	140	RCEBHA	22~40	3750
4	N	84	DBE1EA	3~15	2240	3360	3750*	84	RBE2HA	12~36	190
		140	~	~	~	~	~	140	RCEBHA	22~40	3750
6	Q	140	DCH1KA	3~15	2800	3750*	3750*	140	RCH2LA	14~38	1065
		240	~	~	~	~	~	240	RDH2LA	11~35	1990
8	S	200	A46AKF8AB	3~15	1150	2160	~	200	A47AKF8BB	16~40	1100
10	T	200	A46AKF8AB	3~15	730	1550	~	200	A47AKF8BB	16~40	670
12	U	200	A46AKF8AB	3~15	470	1160	~	200	A47AKF8BB	16~40	420

- NOTES 1) Supply pressure must be 5 psig greater than bench set.  
 2) (\*) 17-4PH stem required.  
 3) Maximum pressure for A46/A47 actuators is 45 psig.

**Series V512 and V513 - ANSI 900/1500 Unbalanced Cage Trim**

Valve				Trim				Direct Acting Actuator						Reverse Acting Actuator			
								Air to Close - Spring to Open						Air to Open - Spring to Close			
								Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Model	Supply Pressure			Size	Model											
Size	Code	Cv	Code	Size	Model	Range	35	45	65	Size	Model	Range	Maximum Shutoff				
0.5	D	>2.5	A, B	56	DAD1JA	3~15	3750*	3750*	3750*	56	RADEBA	22~42	3750*				
		<2.5	C~F	56	DAD1JA	3~15	3750*	3750*	3750*	56	RAD2HA	15~39	3750				
0.75	E	>6.9	A	56	DAD1JA	3~15	2200*	3420*	3750*	56	RADEBA	22~42	2350*				
				84	~	~	~	~	~	84	RBDDHA	20~36	3210*				
				140	~	~	~	~	~	140	RCDDHA	20~36	3750*				
		5.4~2.5	B, C	56	DAD1JA	3~15	3750*	3750*	3750*	56	RADEBA	22~42	3750*				
<2.5	D~G	56	DAD1JA	3~15	3750*	3750*	3750*	56	RAD2HA	15~39	3750						
1	F	>6.9	A, B	56	DAD1JA	3~15	2200*	3420*	3750*	56	RADEBA	22~42	2350*				
				84	~	~	~	~	~	84	RBDDHA	20~36	3210*				
				140	~	~	~	~	~	140	RCDDHA	20~36	3750*				
		5.4~2.5	C, D	56	DAD1JA	3~15	3750*	3750*	3750*	56	RADEBA	22~42	3750*				
<2.5	E~H	56	DAD1JA	3~15	3750*	3750*	3750*	56	RAD2HA	15~39	3750						
1.5	H	All	All	56	DAC1JA	3~15	470	770	1350	56	RAC8GA	19~33	365				
				84	DBC1CA	3~15	770	1210	2080*	84	RBCBHA	18~36	625				
				140	DCC1EA	3~15	1380	2110*	3555*	140	RCCBHA	18~36	1120*				
2	J	All	All	56	DAC1JA	3~15	255	420	755	56	RAC8GA	19~33	180				
				84	DBC1CA	3~15	425	680	1175*	84	RBCBHA	18~36	340				
				140	DCC1EA	3~15	770	1190*	2020*	140	RCCBHA	18~36	625*				
3	L	All	All	84	DBE1EA	3~15	170	285	510	84	RBE2HA	12~36	60				
				140	DCE1JA	3~15	330	520	825*	140	RCEBHA	22~40	345				
				240	DDE1KA	3~15	610	935*	1575*	240	RDE2LA	11~35	265				
4	N	All	All	84	DBE1EA	3~15	90	150	280	84	RBE2HA	12~36	25				
				140	DCE1JA	3~15	180	285	500*	140	RCEBHA	22~40	185				
				240	DDE1KA	3~15	335	520*	885*	240	RDE2LA	11~35	142				
6	Q	All	All	140	DCH1KA	3~15	70	120	215	140	RCH2LA	14~38	35				
				240	DDH1KA	3~15	140	225*	390*	240	RDH2LA	11~35	55				
8	S	All	All	200	A46AKF8AB	3~15	45	80	~	200	A47AKF8BB	16~40	45				
10	T	All	All	200	A46AKF8AB	3~15	25	45	~	~	~	~					
12	U	All	All	200	A46AKF8AB	3~15	15	30	~	~	~	~					

- Notes:
1. Direct acting actuator thrust is based on available air supply.
  2. Supply pressure must be 5 psig greater than bench set.
  3. (\*) 17-4PH stem required.
  4. V510/511 flow is either direction.
  5. V512/513 flow direction is from under the plug.

**Series V520 and V521 - ANSI 2500 Balanced Cage Trim**

Valve		Direct Acting Actuator						Reverse Acting Actuator			
		Air to Close - Spring to Open						Air to Open - Spring to Close			
		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Model	Supply Pressure			Size	Model					
					35	45	65				
1.5	H	56	DAC1JA	3~15	4570	6250*	6250*	56	RAC8GA	19~33	3350
		84	~	~	~	~	~	84	RBCBHA	18~36	6250
2	J	56	DBA1JA	3~15	2980	5670*	6250*	56	RAB9BA	18~40	2020
		84	~	~	~	~	~	84	RBBBHA	18~36	4295
		140	~	~	~	~	~	140	RCBBHA	12~36	4810*
3	L	84	DBE1EA	3~15	3045	5760	6250*	84	RBE2HA	12~36	345
		140	~	~	~	~	~	140	RCEBHA	22~40	6250

**Series V522 and V523 - ANSI 2500 Unbalanced Cage Trim**

Valve		Direct Acting Actuator						Reverse Acting Actuator			
		Air to Close - Spring to Open						Air to Open - Spring to Close			
		Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Model	Supply Pressure			Size	Model					
					35	45	65				
1	F	56	DAD1JA	3~15	840*	1350*	2350*	56	RADFBA	21~40	800*
		84	DBD1JA	3~15	1350*	2120*	3620*	84	RBDDHA	20~36	1255*
		140	DCDCJA	1~11	2880*	4160*	6250*	140	RCDDHA	20~36	2215*
1.5	H	56	DAC1JA	3~15	450	745*	1325*	56	RAC8GA	19~33	355
		84	DBC1CA	3~15	750*	1190*	2060*	84	RBCBHA	18~36	600
		140	DCC1EA	3~15	1355*	2090*	3535*	140	RCCBHA	18~36	1100
2	J	56	DAB1JA	3~15	240	410*	745*	56	RAB9BA	18~40	185
		84	~	~	~	~	~	84	RBBBHA	18~36	325
		140	DCB1JA	3~15	760*	1180*	2010*	140	RCBBHA	12~36	610*
3	L	84	DBE1EA	3~15	165	280	510*	84	RBEEHA	14~34	80
		140	DCE1JA	3~15	320*	510*	890*	140	RCEBHA	22~40	335
		240	DDE1KA	3~15	600*	925*	1570*	240	RDEBLA	19~37	520*

- Notes: 1. Direct acting actuator thrust is based on available air supply.  
 2. Supply pressure must be 5 psig greater than bench set.  
 3. (\*) 17-4PH stem required.  
 4. V520/521 flow is either direction.  
 5. V522/523 flow direction is from under the plug.

**Series V800 - Double-Seated Push-to-Close**

Valve		Trim		Direct Acting Actuator						Reverse Acting Actuator			
				Air to Close - Spring to Open						Air to Open - Spring to Close			
				Actuator		Nominal Bench Range	Maximum Shutoff			Actuator		Nominal Bench Range	Maximum Shutoff
Size	Model	Supply Pressure			Size		Model						
Size	Code	Cv	Code	Size	Model	Range	35	45	65	Size	Model	Range	Shutoff
1	F	All	All	56	DAA1JA	3~15	1500*	1500*	1500*	56	RAA2GA	15~39	1500
1.5	H	All	All	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC2HA	15~39	1500
2	J	70 60	A	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC8GA	19~33	1500
		40~ 25	B, C	56	DAC1JA	3~15	1500	1500*	1500*	56	RAC2HA	15~39	1500
3	L	150 160	A	84 140	DBE1EA ~	3~15 ~	1500 ~	1500 ~	1500* ~	84 140	RBE2HA RCE2HA	12~36 12~36	935 1500
		100 104	B	84 140	DBE1EA ~	3~15 ~	1500 ~	1500 ~	1500* ~	84 140	RBE2HA RCE2HA	12~36 12~36	1260 1500
		60 65	C	84	DBE1EA	3~15	1500	1500	1500*	84	RBE2HA	12~36	1500
4	N	225 265	A	84 140	DBE1EA ~	3~15 ~	1500 ~	1500 ~	1500* ~	84 140	RBE2HA RCEBHA	12~36 22~40	535 1500
		147 163	B	84 140	DBE1EA ~	3~16 ~	1500 ~	1500 ~	1500* ~	84 140	RBE2HA RCE2HA	12~36 12~36	935 1500
		100	C	84 140	DBE1EA ~	3~17 ~	1500 ~	1500 ~	1500* ~	84 140	RBE2HA RCE2HA	12~36 12~36	1260 1500
6	Q	540 580	A	140 240	DCH1KA ~	3~15 ~	1500 ~	1500* ~	1500* ~	140 240	RCH2LA RDH2LA	14~38 11~35	960 1435
		225 140	B, C	140	DCH1KA	3~15	1500	1500*	1500*	140	RCH2LA	14~38	1500
8	S	1070 780	A	140 240	DCH1KA ~	3~15 ~	1270 ~	1500* ~	1500* ~	140 240	RCH2LA RDH2LA	14~38 11~35	555 910
		520	B	140 240	DCH1KA ~	3~15 ~	1270 ~	1500* ~	1500* ~	140 240	RCH2LA RDH2LA	14~38 11~35	960 1435
		260	C	140	DCH1KA	3~15	1500	1500*	1500*	140	RCH2LA	14~38	1500
10	T	1250	A	200	A46AKF8AB	3~15	1130	1500	~	200	A47AKF8BB	16~40	1100
		830	B	200	A46AKF8AB	3~15	1500	1500	~	200	A47AKF8BB	16~40	1500
		520	C	200	A46AKF8AB	3~15	1500	1500	~	200	A47AKF8BB	16~40	1500
12	U	1550	A	200	A46AKF8AB	3~15	840	1250	~	200	A47AKF8BB	16~40	800

- Notes:
1. Direct acting actuator thrust is based on available air supply.
  2. Supply pressure must be 5 psig greater than bench set.
  3. (\*) 17-4PH stem required.
  4. Flow direction is between plugs.
  5. Contact factory for ANSI class ratings 900 and above.



### Series V801 - Double-Seated Push-to-Open

Valve		Trim		Direct Acting Actuator				Reverse Acting Actuator					
				Air to Open - Spring to Close				Air to Close - Spring to Open					
Size	Code	Cv	Code	Actuator		Nominal Bench Range	Maximum Shutoff	Actuator		Nominal Bench Range	Maximum Shutoff		
				Size	Model			Size	Model		Supply Pressure		
											35	45	65
1	F	All	All	56	DAA2EA	14~39	1500	56	RAA1GA	3~15	1500	1500	1500
1.5	H	All	All	56	DAC2DA	14~39	1500	56	RAC1GA	3~15	1500	1500	1500
2	J	62 70	A	56	DAC2DA	14~39	1450	56	RAC1GA	3~15	1500	1500	1500
		37 40	B	56	DAC2DA	14~39	1500	56	RAC1GA	3~15	1500	1500	1500
		25 28.5	C	56	DAC2DA	14~39	1500	56	RAC1GA	3~15	1500	1500	1500
3	L	150 160	A	84 140	DBE2DA DCE2DA	12~36	940 1500	84 140	RBE1GA	3~15	1500	1500	1500
		100 104	B	84 140	DBE2DA DCE2DA	12~36	1260 1500	84 140	RBE1GA ~	3~15 ~	1500 ~	1500 ~	1500 ~
		60 65	C	84	DBE2DA	12~36	1500	84	RBE1GA	3~15	1500	1500	1500
4	N	225 265	A	84 140 240	DBE2DA DCE2DA DDE2KA	12~36	540 1330 1500	84 140 240	RBE1GA ~ ~	3~15 ~ ~	1500 ~ ~	1500 ~ ~	1500 ~ ~
		147 163	B	84 140	DBE2DA DCE2DA	12~36	940 1500	84 140	RBE1GA ~	3~15 ~	1500 ~	1500 ~	1500 ~
		100	C	84 140	DBE2DA DCE2DA	12~36	1260 1500	84 140	RBE1GA ~	3~15 ~	1500 ~	1500 ~	1500 ~
6	Q	540 580	A	140 240	DCH2KA DDH2KA	14~38	960 1440	140 240	RCH1LA ~	3~15 ~	1500 ~	1500 ~	1500 ~
		255	B	140	DCH2KA	14~38	1500	140	RCH1LA	3~15	1500	1500	1500
		140	C	140	DCH2KA	14~38	1500	140	RCH1LA	3~15	1500	1500	1500
8	S	1070 780	A	140 240	DCH2KA DDH2KA	14~38	550 910	140 240	RCH2LA ~	3~15 ~	1270 ~	1500 ~	1500 ~
		520	B	140 240	DCH2KA DDH2KA	14~38	960 1440	140 240	RCH1LA ~	3~15 ~	1500 ~	1500 ~	1500 ~
		260	C	140	DCH2KA	14~38	1500	140	RCH1LA	3~15	1500	1500	1500
10	T	1250	A	200	A46AKF8BB	16~40	1100	200	A47AKF8AB	3~15	1200	1500	~
		830	B	200	A46AKF8BB	16~40	1500	200	A47AKF8AB	3~15	1500	1500	~
		520	C	200	A46AKF8BB	16~40	1500	200	A47AKF8AB	3~15	1500	1500	~
12	U	1550	A	200	A46AKF8BB	16~40	800	200	A47AKF8AB	3~15	890	1500	~

- Notes:
1. Direct acting actuator thrust is based on available air supply.
  2. Supply pressure must be 5 psig greater than bench set.
  3. (\*) 17-4PH stem required.
  4. Flow direction is between plugs.
  5. Contact factory for ANSI class ratings 900 and above.

**Series V830 - ANSI 150/300/600 3-Way Diverging Valve**

Valve		Direct Acting Actuator				Reverse Acting Actuator			
		Air to Close Lower Port				Air to Open Lower Port			
		Spring to Close Upper Port				Spring to Open Upper Port			
Size	Code	Actuator		Nominal Bench Range	Maximum Shutoff	Actuator		Nominal Bench Range	Maximum Shutoff
		Size	Model			Size	Model		
1.5	H	56	DAC2DA	15~39	285	56	RAC8GA	19~33	360
		84	DBC2CA	12~36	345	84	RBCBHA	18~36	595
		140	DCC2EA	12~36	645*	140	RCCBHA	18~36	1050*
2	J	56	DAC2DA	15~39	170	56	RAC8GA	19~33	215
		84	DBC2CA	12~36	215	84	RBCBHA	18~36	375
		140	DCC2EA	12~36	410*	140	RCCBHA	18~36	680*
3	L	84	DBE2DA	12~36	75	84	RBE2HA	12~36	75
		140	DCE2DA	12~36	160	140	RCEBHA	22~40	370
		240	DDE2KA	11~35	290	240	RDE2LA	11~35	290
4	N	84	DBE2DA	12~36	30	84	RBE2HA	12~36	25
		140	DCE2DA	12~36	80	140	RCEBHA	22~40	190
		240	DDE2KA	11~35	150	240	RDE2LA	11~35	145
6	Q	140	DCH2KA	14~38	40	140	RCH2LA	14~38	35
		240	DDH2KA	11~35	60	240	RDH2LA	11~35	55
8	S	140	DCH2KA	14~38	15	140	RCH2LA	14~38	15
		240	DDH2KA	11~35	30	240	RDH2LA	11~35	25
10	T	200	A46AKF8BB	16~40	25	200	A47AKF8BB	16~40	10

- Notes: 1. Supply pressure must be 5 psig greater than bench set.  
 2. (\*) 17-4PH stem required.  
 3. Flow direction is into common port and out of upper or lower port.

### Series V831 - ANSI 150/300/600 3-Way Converging Valve

Valve		Direct Acting Actuator				Reverse Acting Actuator			
		Air to Close Upper Port				Air to Open Upper Port			
		Spring to Close Lower Port				Spring to Open Lower Port			
Size	Code	Actuator		Nominal Bench Range	Maximum Shutoff	Actuator		Nominal Bench Range	Maximum Shutoff
		Size	Model			Size	Model		
1.5	H	56	DAC2DA	15~39	285	56	RAC8GA	19~33	360
		84	DBC2CA	12~36	345	84	RBCBHA	18~36	595
		140	DCC2EA	12~36	645*	140	RCCBHA	18~36	1050*
2	J	56	DAC2DA	15~39	175	56	RAC8GA	19~33	215
		84	DBC2CA	12~36	215	84	RBCBHA	18~36	375
		140	DCC2EA	12~36	410*	140	RCCBHA	18~36	680*
3	L	84	DBE2EA	12~36	75	84	RBE2HA	12~36	75
		140	DCE2DA	12~36	160	140	RCEBHA	22~40	370
		240	DDE2KA	11~35	290	240	RDEBLA	18~36	560*
4	N	84	DBE2EA	12~36	30	84	RBE2HA	12~36	25
		140	DCE2DA	12~36	80	140	RCEBHA	22~40	190
		240	DDE2KA	11~35	150	240	RDEBLA	18~36	300*
6	Q	140	DCH2KA	14~38	40	140	RCH2LA	14~38	35
		240	DDH2KA	11~35	60	240	RDH2LA	11~35	55
8	S	140	DCH2KA	14~38	15	140	RCH2LA	14~38	15
		240	DDH2KA	11~35	25	240	RDH2LA	11~35	25
10	T	200	A46AKF8BB	16~40	25	200	A47AKF8BB	16~40	25

- Notes:
1. Supply pressure must be 5 psig greater than bench set.
  2. (\*) 17-4PH stem required.
  3. Flow direction is into upper and lower port and out of common port.