



## KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

SERIES 36 AND 37 - ISO

K-LOK® Series 36 - PN 10/16 / ASME 150

K-LOK® Series 37 - PN 25/40 / ASME 300



### FEATURES AND BENEFITS

- K-LOK® polymer seats provide bi-directional, drop-tight shut-off in vacuum as well as at full rated differential pressure. Its unique design does not rely on pressure to assist sealing therefore seals at high and low pressures, as well as dirty services. A variety of materials allows optimum seat life in all applications.
- Blow-out resistant shaft is standard on all valves for increased safety.
- Unique packing design allows for use in pressure as well as vacuum without modification or special assembly.
- Disc taper pins are tangentially positioned half in disc and half in shaft, placing them in compression rather than shear, which eliminates potential for failure.
- Rocker-shaped gland bridge compensates for uneven adjustment of gland nuts reducing packing leaks.
- Integrally cast disc position stop perfectly locates the disc in seat, achieving maximum seat and seal life.
- Extended neck allows for 50 mm of pipeline insulation.
- Flattened body bore at shaft journal ports positions shaft bearings near disc, providing maximum shaft support resulting in reduced wear and longer life.
- ISO 5211 actuator mounting
- All valves comply with Pressure Equipment Directive (PED) CE marking
- All valves certified to EN 15848 fugitive emissions.

### GENERAL APPLICATIONS

- Modulating service
- Airport refueling
- Hydrocarbon processing
- Chemical/petrochemical processing
- Purified gas
- Steam and vacuum services
- Power and utilities
- Refrigeration
- HVAC
- Alumina refining

### TECHNICAL DATA

Size range:	DN 50 to DN 300
Vacuum rating:	1.016 x 10 <sup>-3</sup> mm Hg
Body style:	Wafer
Pressure rating:	Series 36 - PN 10/16 ASME 150 Series 37 - PN 25/40 ASME 300
Temperature rating:	-40°C to 260°C

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

SERIES 36 AND 37- ISO

## PRINCIPLES OF OPERATION

### Double offset disc/shaft

K-LOK®'s unique two-piece shaft and double-offset disc/shaft design allows for high cycling and creates a lower disc profile with increased capacity and a rangeability of 33:1.

In addition to increasing the flow area across the disc, this design minimizes wear points between seat and disc.

The first offset is achieved by locating the shafts downstream of the center-line of the seat. This allows for a totally unobstructed 360° sealing surface.

The second offset locates the shafts off-center of the vertical axis of the seat.

The combination of these two offsets creates a camming effect as the disc swings into and out of the seat. The disc lifts quickly out of the seat in the first few degrees of travel and does not contact the seat again until it is nearly closed. There are no wear points between the seat and disc, while operating torques are reduced and seat life is extended.

### Adjustable shaft packing

The K-LOK®'s unique shaft packing is composed of 3 rings of braided PTFE rope between one PTFE V-ring at the top and bottom. The packing operates on an interference fit with the body and therefore will seal in pressure and vacuum. Many other manufacturers' designs will require special packing for vacuum services.

This packing is easily field adjustable without the need to remove actuation due to its unique inverted packing adjustment bolts. Another important feature is the use of a rocker shaped packing gland bridge that compensates for uneven tightening of the packing gland bolts eliminating packing leaks due to uneven packing compression.

### Blow-out resistant shaft (BOR)

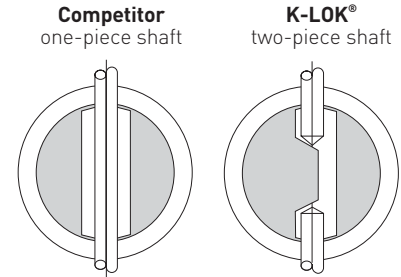
The Keystone K-LOK® high performance butterfly valve contains a blow-out resistant shaft as a standard. This is achieved by machining a groove in the shaft that allows a snap ring to lock into the shaft groove. The packing gland follower is provided with an undercut on its lower surface which encapsulates the locked in snap ring. This design provides positive retention of the shaft in the unlikely event of a shaft breakage.

### Live loaded packing

The EN 15848 fugitive emissions version of the Keystone K-LOK® comes standard with live loaded packing.

### Two-piece shaft vs. one-piece shaft

K-LOK®'s disc geometry maximizes flow capacity by increasing the available flow area through the valve. This increase in disc efficiency results in a higher valve  $C_v$ .

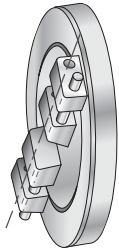


Aspect ratio = open area ÷ disc area

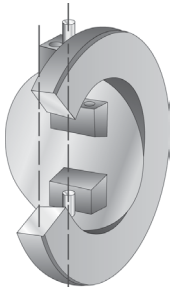
### Standards and specifications applicable for K-LOK®

ASME	B16.34	Steel valves
	B31.3	Chemical plant and petroleum refinery piping
	B16.5	Steel pipe flanges and flange fittings
MSS	SP-25	Standard marking systems for valves
	SP-55	Quality standard for steel casting
	SP-61	Pressure testing of steel valves
	SP-68	High pressure offset disc butterfly valves
API	609	Butterfly valves
	598	Valve inspection and test, upon request
PED/CE European directive		
EN	558	Face to face dimensions
	1092-1	Flange drillings
	15848	Fugitive emissions

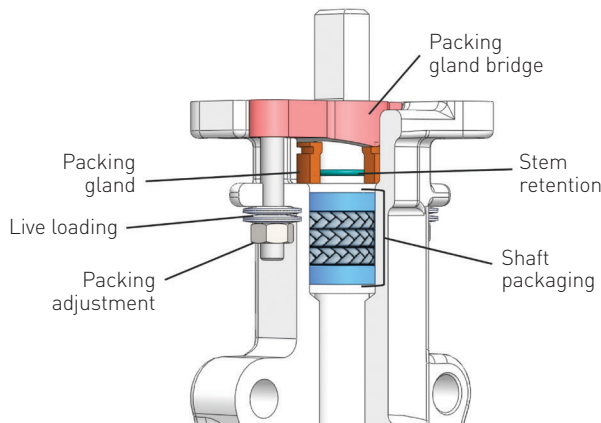
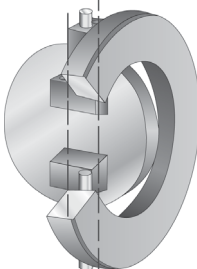
DOUBLE OFFSET



FIRST OFFSET



SECOND OFFSET



# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

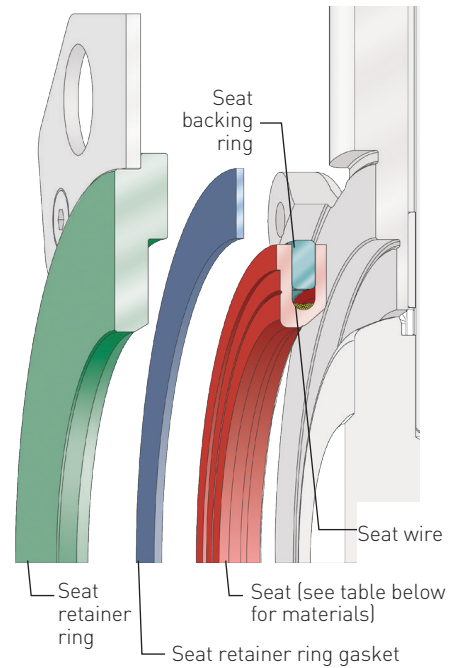
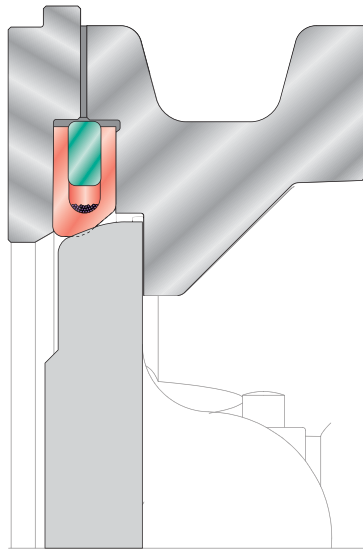
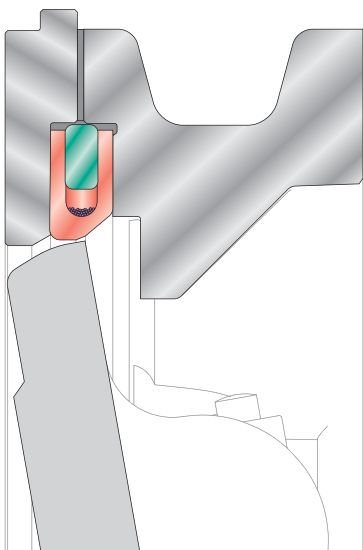
## SERIES 36 AND 37 - ISO

### SEAT DESIGN

The K-LOK® seat is a true interference seat design and unlike most other manufactures does not rely on line pressure to assist in sealing. All seats seal drop-tight bi-directionally at low and high pressure as well as vacuum. Given the interference seat design the K-LOK® will also operate in dirty services where most pressure assist valves fail. Polymer (PTFE and RTFE) seats incorporate a unique design consisting of a stainless steel braided wire winding, enclosed in a U-shape envelope to provide seating energy and memory. This wire winding allows axial flexibility in both directions of flow. The winding also allows radial flexibility when the disc is not fully closed, reducing seat/disc interference, seat wear and shaft torque. When the disc closes, it provides circumferential stiffness and assures the required disc/seat seals tight in both vacuum and pressure.

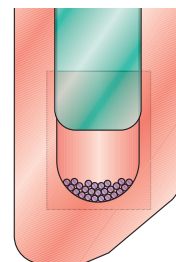
### SEAT REPLACEMENT

All seats for the Keystone K-LOK® are easily field replaceable. Simply remove seat retainer ring, rotate disc to fully closed position and replace seat assembly and gasket. Dis-assembly of the disc and shaft is not required.



### SEAT MATERIALS

Seat	Material	Typical applications
1. RTFE	Reinforced polytetrafluoroethylene	HVAC, steam, chlorine, ammonia, nitrogen, water, gasoline, vacuum
2. PTFE	Polytetrafluoroethylene	Pharmaceuticals, air, potable water, dyes, white mediums
<b>For seats 1 thru 2</b>		
Wire wrap	Stainless steel braided wire	
Seat backing ring	Stainless steel	Steam, ammonia, elevated temperature services



# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### SEAT TIGHTNESS

All polymer seated valves are factory tested for bi-directional drop tight shut-off at 10% above the rated pressure. This exceeds the ANSI FCI 70-2 standard which establishes a service of six leakage classes for control valves as per below:

#### ANSI/FCI 70-2 CONTROL VALVE SEAT LEAKAGE, TOLERANCES, AND TEST SPECIFICATIONS

ANSI B16.104-1976	Maximum leakage			Test medium	Pressure and temperature
Class VI	Nominal port diameter (DN)	Bubbles per minute <sup>[2]</sup>	ml. per minute	Air or nitrogen	Service ΔP or 3.4 bar differential, whichever is lower, at 10°C to 52°C
	50	3	0.45		
	65	4	0.60		
	80	6	0.90		
	100	11	1.70		
	150	27	4.00		
	200	45	6.75		
Class V	5 x 10 <sup>-12</sup> m <sup>3</sup> /sec/bar differential/mm port dia.			Water	Service ΔP at 10°C to 52°C
Class IV	0.01% valve capacity at full travel			Air or water	Service ΔP or 3.4 bar differential, whichever is lower, at 10°C to 52°C

#### NOTES

1. K-LOK® polymer seats meet or exceeds ANSI Class VI shut-off.
  2. Using the ANSI/FCI specified calibrated measuring device.
- Reference ANSI/FCI 70-2 for further information.

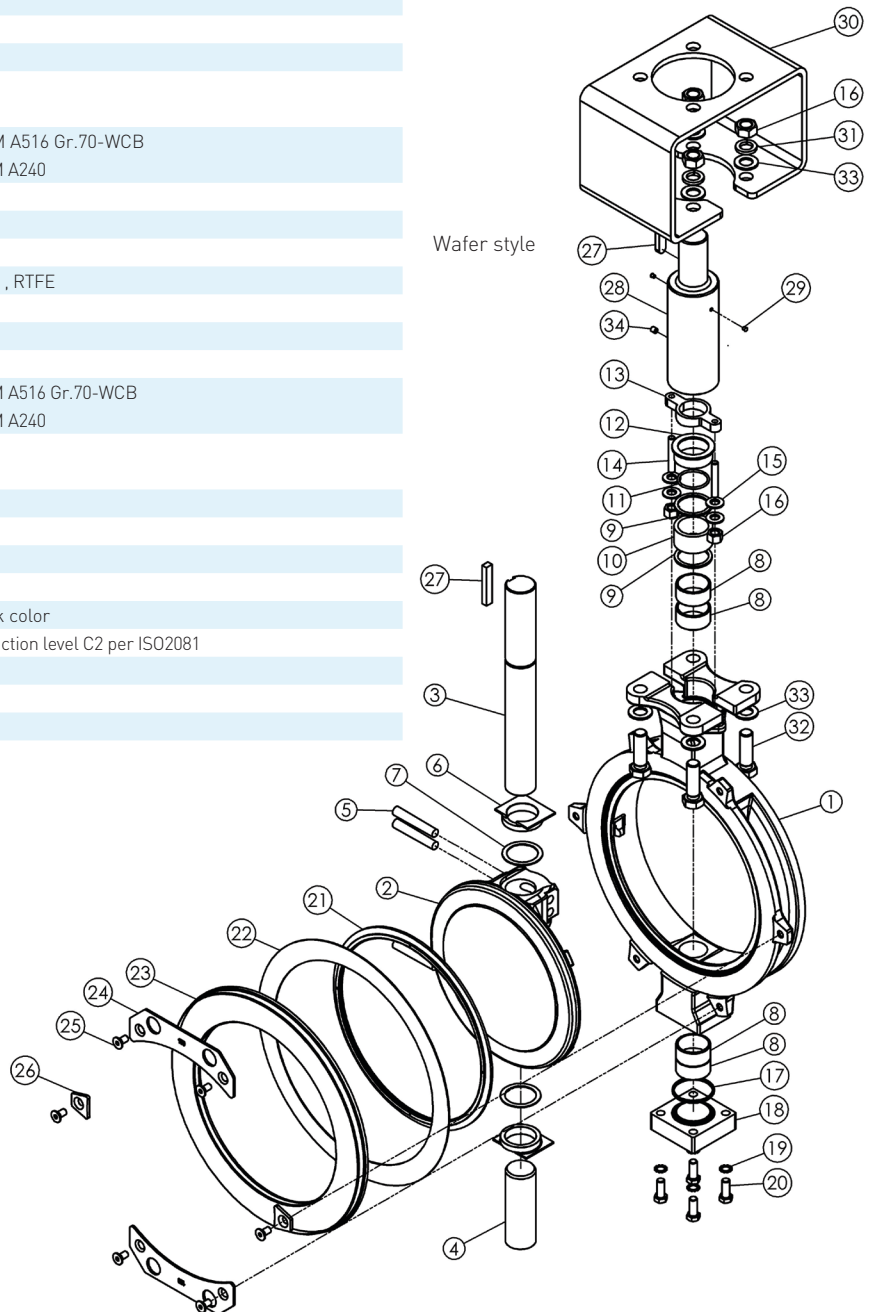
# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### STANDARD MATERIALS OF CONSTRUCTION

Pos	Description	Material	Material standard
1	Body	Carbon Steel	ASTM A216-WCB/ EN 10213 GP240H/ 1.0619
		Stainless Steel	ASTM A351-CF8M/ EN 10213 Gx5CrNiMO 19-11-7/ 1.4408
2	Disc	316 SS	ASTM A351-CF8M/ EN 10213 Gx5CrNiMO 19-11-7/ 1.4408
3	Upper Stem	17-4PH SS	ASTM A564- Condition H1075 or H1100
4	Lower Stem	17-4PH SS	ASTM A564- Condition H1075 or H1100
5	Taper Pin	17-4PH SS	ASTM A564- Condition H1075 or H1100
6	Spacer	316 SS	
7	Thrust Washer	316SS/BRZ/PTFE	
8	Bearing	316SS/BRZ/PTFE	
		RTFE/Composite	
9	Anti-Extrusion Ring	316 SS	
10	Stem Packing	PTFE	
11	Ring, Stem Retention	316 SS	
12	Gland	316 SS	
13	Gland Bridge	17-4PH SS	
14	Stud	B8 CL2	
15	Belleville Washer	50 CrV4	
16	Hex Nut	Stainless steel 18.8	
17	Bottom Spiral Wound Gasket	AISI 316+graphite	
18	Bottom Cover	Carbon steel	ASTM A516 Gr.70-WCB
		Stainless steel	ASTM A240
19	Washer, ext. Tooth Lock	Stainless steel 18.8	
20	Screw, Hex HD Cap	B8 CL2	
21	Seat Assembly		
21.1	Seat	Polymer	PTFE , RTFE
21.2	Wire Structure	Stainless steel	
21.3	Seat Backing Ring	Stainless steel	
22	Gasket Seat Retaining Ring	Graphite	
23	Seat Retaining Ring	Carbon steel	ASTM A516 Gr.70-WCB
		Stainless steel	ASTM A240
24	Retainer Plate	Stainless steel	
		Carbon steel/zinc plated	
25	Retainer Plate/Clip Screw	Stainless steel 18.8	
26	Clip	Stainless steel	
27	Key	Carbon steel	
28	Coupling (Adaptor)	17-4PH SS	
29	Indicator Pin	Rubber	Black color
30	Bracket	Carbon steel	Protection level C2 per ISO2081
31	Washer, Split lock	Stainless steel	
32	Hex Head Bolt	Stainless steel	
33	Plain Washer	Stainless steel	
34	Set screw	Stainless steel	

### MATERIALS OF CONSTRUCTION

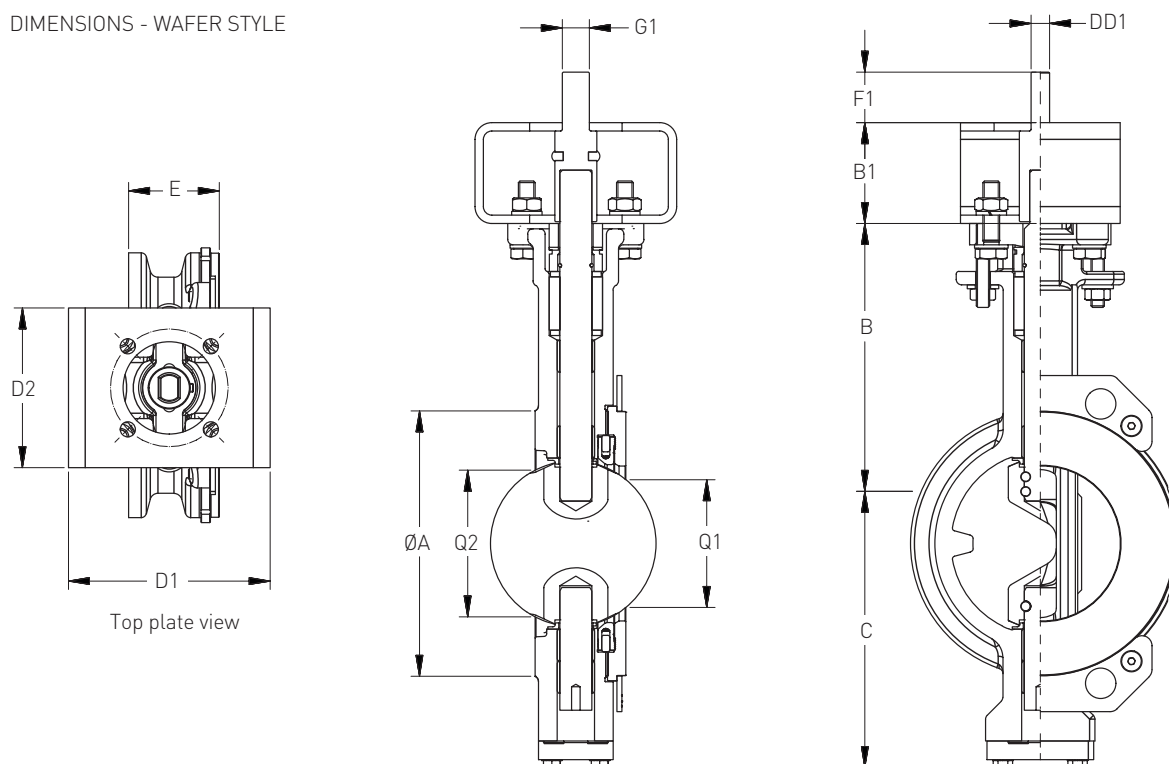


All fasteners are SS (B8M CL2/B8 CL2)

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### DIMENSIONS - WAFER STYLE



### SERIES 36, PN 10/16, WAFER STYLE, DIMENSIONS (mm)

Size	Shaft dimensions										Top plate data							Mass
DN	A	B	B1	C	D	E	F1	Q1	Q2	G1	DD1 or keyway	ISO flange type	PCD	No. holes	Hole dia.	D1	D2	kg
50	110	152	60	108	105	60	30	30	43	12	8	F07	70	4	9	110	85	8
65	105	152	60	121	105	46	30	51	54	12	8	F07	70	4	9	110	85	7
80	127	168	60	129	105	46	30	53	64	16	11	F07	70	4	9	110	85	8
100	157	191	60	141	105	52	30	82	90	16	11	F07	70	4	9	110	85	11
125	186	192	60	154	105	56	30	111	120	20	14	F07	70	4	9	110	85	13
150	216	222	60	186	154	56	30	135	140	20	14	F07	70	4	9	140	120	18
200	270	257	80	217	154	60	50	181	187	25	18	F10	102	4	11	160	125	26
250	324	289	100	257	154	68	50	233	237	30	22	F12	125	4	13.5	160	125	40
300	381	330	100	298	208	78	50	278	284	30	22	F12	125	4	13.5	200	160	60

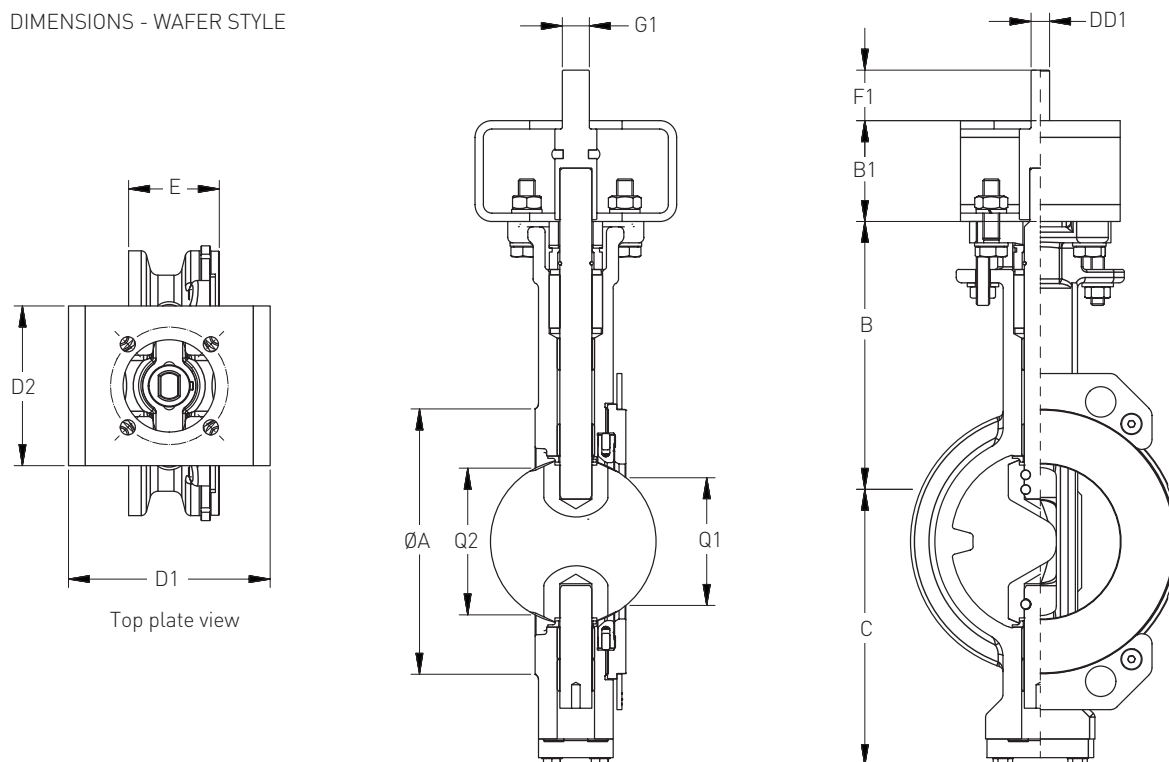
### SERIES 37, PN 25/40, WAFER STYLE, DIMENSIONS (mm)

Size	Shaft dimensions										Top plate data							Mass
DN	A	B	B1	C	D	E	F1	Q1	Q2	G1	DD1 or keyway	ISO flange type	PCD	No. holes	Hole dia.	D1	D2	kg
50	110	152	60	108	102	60	30	30	43	14	9.5	F07	70	4	9	110	85	8
65	105	152	60	121	114	46	30	51	54	14	9.5	F07	70	4	9	110	85	7
80	127	168	60	129	124	46	30	53	64	16	11	F07	70	4	9	110	85	8
100	157	191	60	141	133	52	30	82	90	20	14	F07	70	4	9	110	85	11
125	186	192	80	154	146	56	30	109	121	20	14	F10	102	4	11	130	100	13
150	216	222	80	186	179	56	50	135	140	25	18	F10	102	4	11	160	125	18
200	270	257	100	217	211	71	50	171	186	30	22	F12	125	4	13.5	160	125	31
250	324	289	100	257	244	76	70	228	236	35	10x8x50	F12	125	4	13.5	160	125	49
300	381	330	100	298	287	83	70	275	284	40	12x8x56	F14	140	4	17.5	210	160	65

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

SERIES 36 AND 37

## DIMENSIONS - WAFER STYLE



### SERIES 36, ASME CLASS 150, WAFER STYLE, DIMENSIONS (mm)

Size	Shaft dimensions										Top plate data							Mass
DN	A	B	B1	C	D	E	F1	Q1	Q2	G1	DD1 or keyway	ISO flange type	PCD	No. holes	Hole dia.	D1	D2	kg
50	110	152	60	108	105	60	30	30	43	12	8	F07	70	4	9	110	85	8
65	105	152	60	121	105	48	30	51	54	12	8	F07	70	4	9	110	85	7
80	127	168	60	129	105	48	30	53	64	16	11	F07	70	4	9	110	85	8
100	157	191	60	141	105	54	30	82	90	16	11	F07	70	4	9	110	85	11
125	186	192	60	154	105	57	30	111	120	20	14	F07	70	4	9	110	85	13
150	216	222	60	186	154	57	30	135	140	20	14	F07	70	4	9	140	120	18
200	270	257	80	217	154	64	50	179	186	25	18	F10	102	4	11	160	125	26
250	324	289	100	257	154	71	50	231	236	30	22	F12	125	4	13.5	160	125	40
300	381	330	100	298	208	81	50	278	284	30	22	F12	125	4	13.5	200	160	60

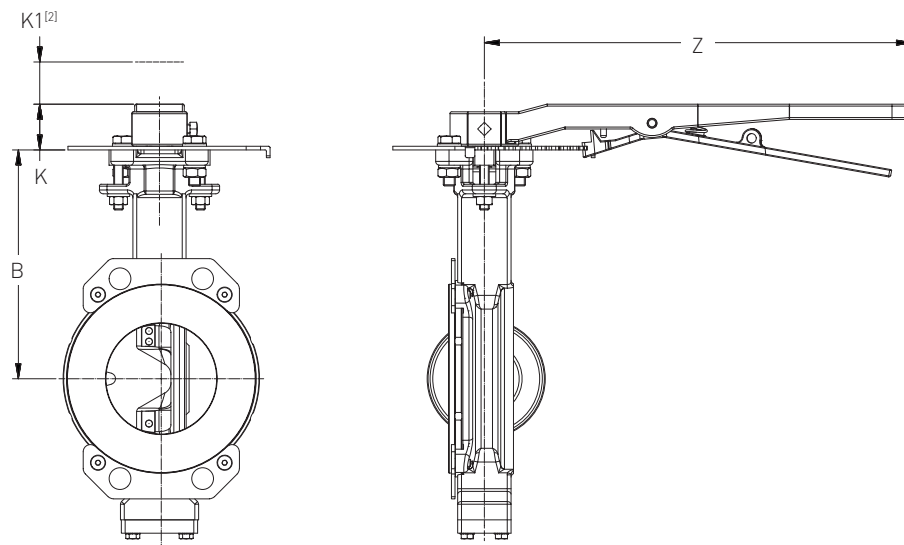
### SERIES 37, ASME CLASS 300, WAFER STYLE, DIMENSIONS (mm)

Size	Shaft dimensions										Top plate data							Mass
DN	A	B	B1	C	D	E	F1	Q1	Q2	G1	DD1 or keyway	ISO flange type	PCD	No. holes	Hole dia.	D1	D2	kg
50	110	152	60	108	102	60	30	30	43	14	9.5	F07	70	4	9	110	85	8
65	105	152	60	121	114	48	30	51	54	14	9.5	F07	70	4	9	110	85	7
80	127	168	60	129	124	48	30	53	64	16	11	F07	70	4	9	110	85	8
100	157	191	60	141	133	54	30	82	90	20	14	F07	70	4	9	110	85	11
125	186	192	80	154	146	59	30	109	119	20	14	F10	102	4	11	130	100	13
150	216	222	80	186	179	59	50	135	140	25	18	F10	102	4	11	160	125	18
200	270	257	100	217	211	73	50	171	186	30	22	F12	125	4	13.5	160	125	31
250	324	289	100	257	244	83	70	224	236	35	10x8x50	F12	125	4	13.5	160	125	49
300	381	330	100	298	287	92	70	269	284	40	12x8x56	F14	140	4	17.5	210	160	67

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### DIMENSIONS - WAFER STYLE WITH HANDLE



### DIMENSIONS (mm) - SERIES 36, PN 10/16, ASME 150 WAFER STYLE WITH HANDLE

Size DN	Actuation Code	C	K	K1	Z	Mass (valve + handle)
50	BAB	152	38	38	267	5.7
65	BAB	152	38	38	267	4.7
80	BAC	168	38	38	267	5.7
100	BAD	191	38	38	267	8.7
125	BAD	192	38	38	267	10.7
150	CAD	222	38	38	356	15.0

### DIMENSIONS (mm) - SERIES 37, PN 25/40, ASME 300 WAFER STYLE WITH HANDLE

Size DN (NPS)	KLOK Topplate Code	C	K	K1	Z	Mass (valve + handle)
50	BAB	152	38	38	267	5.7
65	BAB	152	38	38	267	4.7
80	BAC	168	38	38	267	5.7
100	BAD	191	38	38	267	8.7
125	BAD	192	38	38	267	10.7
150	CAD	222	38	38	356	15.0

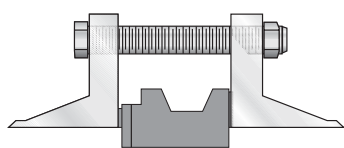
### NOTES

1. Refer to individual drawing for further details of valve and handle.
2. Minimum clearance required for removal of handle.
3. Handles are not recommended on valve larger than DN 100. If used on valves larger than DN 100, pressure should be 10 bar or less.

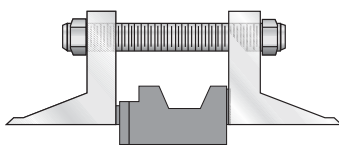


# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37



Type 1



Type 2

### SERIES 36, PN 10/16 WAFER STYLE

#### RECOMMENDED FLANGE BOLT LENGTHS

Size DN	Flange drilling	Qty	Bolt size	Bolt type 1 <sup>[1]</sup>	Stud - type 2 <sup>[2]</sup>
50	PN 10 (PN 16)	4	M16	125	145
65	PN 10 (PN 16)	4	M16	110	130
80	PN 10 (PN 16)	8	M16	115	135
100	PN 10 (PN 16)	8	M16	120	140
125	PN 10 (PN 16)	8	M16	130	150
150	PN 10 (PN 16)	8	M20	135	160
200	PN 10	8	M20	140	165
250	PN 10	12	M20	155	180
300	PN 10	12	M20	165	190
200	PN 16	12	M20	150	170
250	PN 16	12	M24	165	180
300	PN 16	12	M24	170	195

### SERIES 37, PN 25/40 WAFER STYLE

#### RECOMMENDED FLANGE BOLT LENGTHS

Size DN	Flange drilling	Qty	Bolt size	Bolt type 1 <sup>[1]</sup>	Stud - type 2 <sup>[2]</sup>
50	PN 25 (PN 40)	4	M16	130	150
65	PN 25 (PN 40)	8	M16	120	140
80	PN 25 (PN 40)	8	M16	125	145
100	PN 25 (PN 40)	8	M20	135	160
125	PN 25 (PN 40)	8	M24	145	175
150	PN 25 (PN 40)	8	M24	150	180
200	PN 25	12	M24	170	200
250	PN 25	12	M27	180	215
300	PN 25	16	M27	190	225
200	PN 40	12	M27	180	215
250	PN 40	12	M30	195	230
300	PN 40	16	M30	210	245

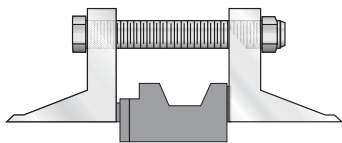
#### NOTES

1. Flange bolt (Hex head)
2. Threaded rod (all thread)

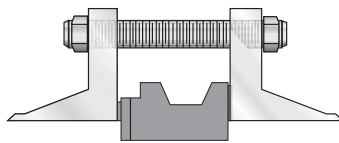
# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### RECOMMENDED FLANGE BOLT LENGTHS



Type 1



Type 2

### SERIES 36 ASME CLASS 150

#### WAFER STYLE

Size (DN)	Qty	Bolt - Type 1 <sup>[1]</sup>	Qty	Stud - Type 2 <sup>[2]</sup>
50	4	5/8 - 11UNC x 135	4	5/8 - 11UNC x 160
65	4	5/8 - 11UNC x 130	4	5/8 - 11UNC x 155
80	4	5/8 - 11UNC x 135	4	5/8 - 11UNC x 155
100	8	5/8 - 11UNC x 140	8	5/8 - 11UNC x 160
125	8	3/4 - 10UNC x 145	8	3/4 - 10UNC x 175
150	8	3/4 - 10UNC x 150	8	3/4 - 10UNC x 180
200	8	3/4 - 10UNC x 165	8	3/4 - 10UNC x 190
250	12	7/8 - 9UNC x 180	12	7/8 - 9UNC x 210
300	12	7/8 - 9UNC x 190	12	7/8 - 9UNC x 220

### SERIES 37 ASME CLASS 300

#### WAFER STYLE

Size (DN)	Qty	Type 1 (flange bolt) (HEX head)	Qty	Type 2 (threaded rod) (all thread)
50	8	5/8 - 11UNC x 140	8	5/8 - 11UNC x 165
65	8	3/4 - 10UNC x 140	8	3/4 - 10UNC x 165
80	8	3/4 - 10UNC x 145	8	3/4 - 10UNC x 170
100	8	3/4 - 11UNC x 155	8	3/4 - 11UNC x 180
125	8	3/4 - 11UNC x 160	8	3/4 - 11UNC x 185
150	12	3/4 - 11UNC x 165	12	3/4 - 11UNC x 195
200	12	7/8 - 10UNC x 200	12	7/8 - 10UNC x 230
250	12	1 - 8UNC x 220	12	1 - 8UNC x 255
	8	1 - 8UNC x 85	8	1 - 8UNC x 121
300	16	1 1/8 - 8UNC x 240	16	1 1/8 - 8UNC x 275

#### NOTES

1. Flange bolt (Hex head)
2. Threaded rod (all thread)

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### VACUUM RATING

The combination of interference fit seats and bi-directional packing makes the K-LOK® especially well suited for vacuum service.

Standard K-LOK® high performance valves are rated to an absolute pressure of  $1.016 \times 10^{-3}$  mm Hg. Higher vacuum applications are available.

### K<sub>v</sub> VALUES VS. TRAVEL POSITION

Size (DN)	Angle of opening								PN 10/16 ASME 150		PN 25/40 ASME 300
	10°	20°	30°	40°	50°	60°	70°	80°	90°	90°	
50	5	9	16	29	44	67	91	116	141	138	
65	5	9	16	29	46	69	96	128	151	147	
80	7	10	21	37	58	86	120	160	190	185	
100	14	20	38	69	112	167	232	310	366	356	
125	26	38	72	128	209	315	434	580	685	677	
150	43	60	112	198	319	474	655	871	1030	983	
200	72	101	216	377	599	907	1290	1725	2103	1983	
250	124	174	391	650	1021	1570	2251	3052	3913	3735	
300	179	262	584	906	1401	2384	3308	4590	5961	5689	

### NOTES

K<sub>v</sub> is the volume of water in m<sup>3</sup>/h that will pass through a valve with a pressure drop of 1 bar at 20°C.

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### SEATING AND UN-SEATING TORQUE

Seating and un-seating torques are a function of the size of the valve and the shutoff pressure of the system.

Specific torque ratings can be found in the seating/un-seating chart at the intersection of the 'size' row and the 'shutoff pressure' column.

Torques listed are for PTFE and RTFE seated valves. For different seat materials, specific multipliers are to be used as stated.

All torques listed are for normal service conditions (i.e. operating frequency is a minimum of once per month; disc corrosion is expected to be mild or minor, the media is a clean gas, liquid or steam, and is non-abrasive) and chemical effects upon the seat are minor.

### PTFE AND RTFE BI-DIRECTIONAL SEATING AND UN-SEATING TORQUE VALUES

Size (DN)	Seating and un-seating torque (Nm)						
	System shutoff pressure (bar)						
	10	14	20	28	35	40	50
50	25	32	43	52	59	61	66
65	25	32	43	52	59	61	66
80	28	36	49	59	67	69	73
100	54	68	93	112	127	131	140
125	105	127	153	177	198	204	215
150	155	181	209	243	270	289	328
200	233	263	362	454	550	600	759
250	377	412	531	706	842	937	1113
300	519	593	723	922	1095	1217	1462

### NOTES

1. Torques shown are based on noncorrosive or non-abrasive services such as water.
2. For corrosive, abrasive or other services than water, multiply by the following factor:

High solids slurry: x 1.5

Dry gas: x 2.0

Dry powders: x 2.7

Liquids other than water: x 1.2

Lubricating fluids: x 0.8

For services that combine unfriendly conditions such as extreme temperatures and high solids, or corrosive with high temperatures, contact your sales representative.

# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

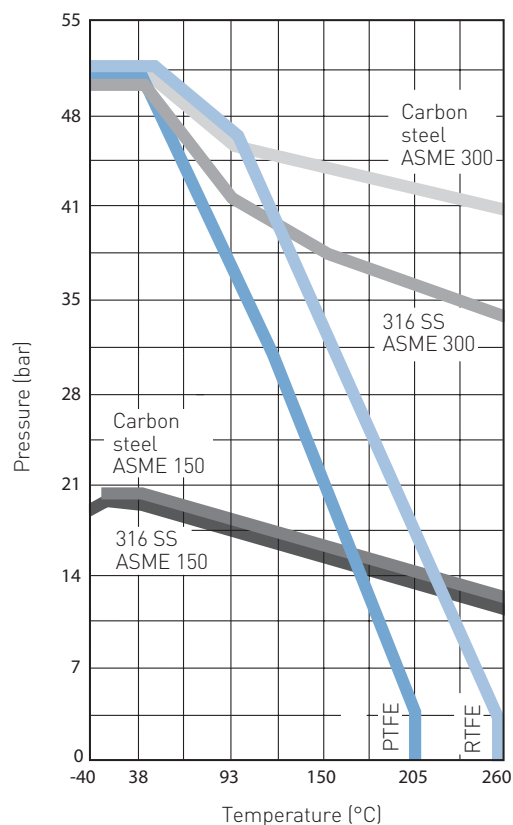
### PRESSURE/TEMPERATURE RATINGS FOR BODIES, DISCS AND SEATS

Pressure (bar)	Temperature (°C)															
	-40*	-29	-18	38	82	93	121	149	204	232	260	316	371	425	482	538
<b>ASME Class 150 Body (Series 36)</b>																
Carbon Steel	N/A	19.6	19.6	19.6	18.2	17.9	16.9	15.8	13.7	12.7	11.7	9.6	7.6	5.5	N/A	N/A
Stainless Steel	19.0	19	19	19	17	16.5	15.6	14.8	13.6	12.7	11.7	9.6	7.6	5.5	3.4	1.4
<b>ASME Class 300 Body (Series 37)</b>																
Carbon Steel	N/A	51.1	51.1	51.1	47.9	47.1	46	45.1	44.8	43.1	41.5	39.1	36.6	28.8	N/A	N/A
Stainless Steel	49.6	49.6	49.6	49.6	44.3	43	40.4	38.1	35.5	34.2	33	31.2	30	29.1	28.6	25.2
<b>ASME Class 150 Disc</b>																
Stainless Steel	19.0	19	19	19	17	16.5	15.6	14.8	13.6	12.7	11.7	9.6	7.6	5.5	3.4	1.4
<b>ASME Class 300 Disc</b>																
Stainless Steel	49.6	49.6	49.6	49.6	44.3	43	40.4	38.1	35.5	34.2	33	31.2	30	29.1	28.6	25.2
<b>K-Lok Seats</b>																
	NOTE: Seats ratings are independent from Body Ratings															
Teflon (TFE)	51.1	51.1	51.1	51.1	41.1	39	31	22.4	3.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reinforce TFE (RTFE)	51.1	51.1	51.1	51.1	48.3	46.9	37.9	31	15.5	6.9	3.4	N/A	N/A	N/A	N/A	N/A

NOTE: \* -29°C is the limit for the scope of ASME B16.34

### PRESSURE/TEMPERATURE RATINGS FOR SEAT MATERIALS

#### POLYMER SEATS



# KEYSTONE K-LOK® HIGH PERFORMANCE BUTTERFLY VALVES

## SERIES 36 AND 37

### SELECTION GUIDE

Example:	36	0100	W0	PB	00	A1	CQ	SQ0	KB	R1	PG	SA	I	B	FE1 PED
<b>Series</b>															
<b>36</b>	K-LOK Series 36														
<b>37</b>	K-LOK Series 37														
<b>Size</b>															
<b>0050</b>	DN 50	<b>0150</b>	DN 150												
<b>0065</b>	DN 65	<b>0200</b>	DN 200												
<b>0080</b>	DN 80	<b>0250</b>	DN 250												
<b>0100</b>	DN 100	<b>0300</b>	DN 300												
<b>0125</b>	DN 125														
<b>Body style</b>															
<b>W0</b>	Wafer														
<b>Flange drilling</b>															
<b>A1</b>	ASME 150	<b>P5</b>	PN 25												
<b>A2</b>	ASME 300	<b>P6</b>	PN 40												
<b>P2</b>	PN 10	<b>PB</b>	PN 10/16												
<b>P3</b>	PN 16	<b>PG</b>	PN 25/40												
<b>Face to face</b>															
<b>00</b>	Standard														
<b>Pressure rating</b>															
<b>A1</b>	ASME 150	<b>A2</b>	ASME 300												
<b>Body material</b>															
<b>CQ</b>	CS ASTM A216 WCB/EN 1.0619														
<b>SQ</b>	316SS ASTM A351 CF8M/EN 1.4408														
<b>Disc material</b>															
<b>SQ0</b>	316SS ASTM A351 CF8M/EN 1.4408														
<b>Shaft material</b>															
<b>KB</b>	17-4pPH Stainless Steel														
<b>Seat/backing ring</b>															
<b>R1</b>	RTFE/SS	<b>TB</b>	PTFE/SS												
<b>Packing and gaskets</b>															
<b>PG</b>	PTFE, Graphite														
<b>Bearings<sup>[3]</sup></b>															
<b>SA</b>	316SS/TFE/BRZ														
<b>Actuator mounting</b>															
<b>I</b>	ISO Mount														
<b>Actuation</b>															
<b>B</b>	Bare Valve														
<b>Special code</b>															
<b>FE1</b>	Fugitive emissions EN 15848 certified														
															<b>PED</b> PED/CE

### FLANGE DRILLING CODES - WAFER STYLE VALVES

Size NPS	DN	Series 36 wafer			Series 37 wafer		
		PN 10	PN 16	ASME 150	PN 25	PN 40	ASME 300
2	50	PB	PB	A1	PG	PG	A2
2.5	65	PB	PB	A1	PG	PG	A2
3	80	PB	PB	A1	PG	PG	A2
4	100	PB	PB	A1	PG	PG	A2
5	125	PB	PB	A1	PG	PG	A2
6	150	PB	PB	A1	PG	PG	A2
8	200	P2	P3	A1	P5	P6	A2
10	250	P2	P3	A1	P5	P6	A2
12	300	P2	P3	A1	P5	P6	A2

Neither Emerson, Emerson Automation Solutions, nor any of their affiliated entities assumes responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use, and maintenance of any product remains solely with the purchaser and end user.

Keystone is a mark owned by one of the companies in the Emerson Automation Solutions business unit of Emerson Electric Co. Emerson Automation Solutions, Emerson and the Emerson logo are trademarks and service marks of Emerson Electric Co. All other marks are the property of their respective owners.

The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available upon request. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.

[Emerson.com/FinalControl](http://Emerson.com/FinalControl)