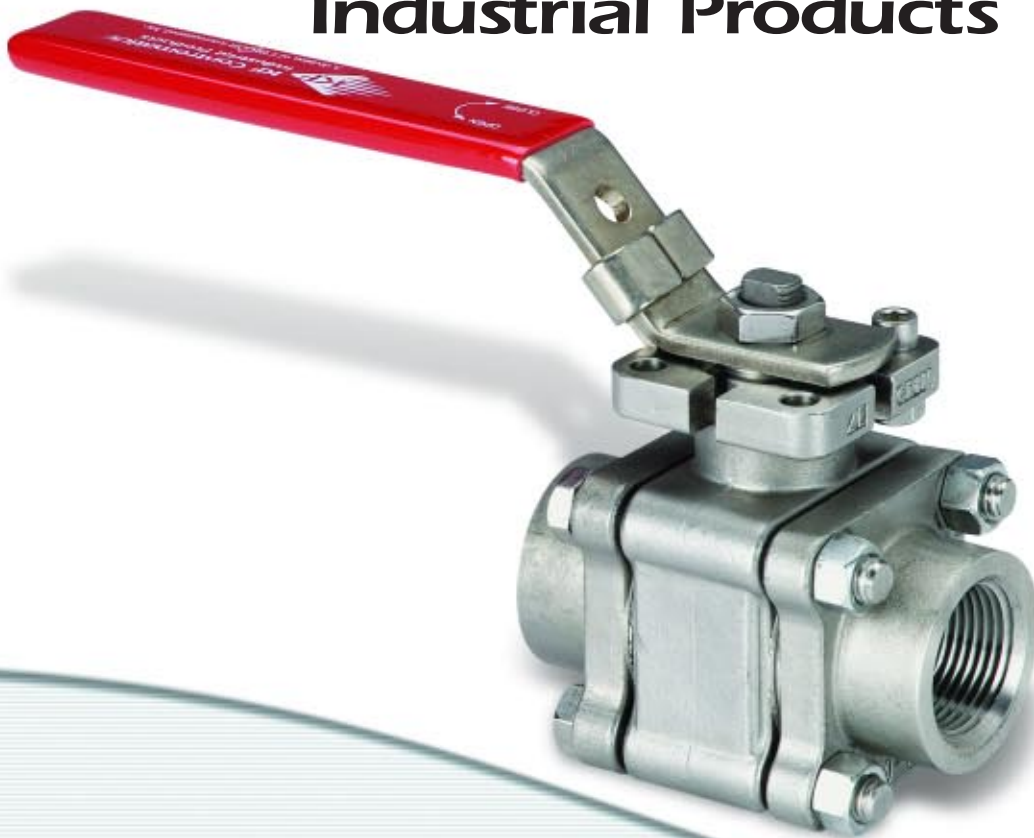


# KF Contromatics 3-Piece 4-Bolt Ball Valves



**KF Contromatics**  
**Industrial Products**



Superior Fluid Control Products  
A Brand of **CIRCOR** Energy Products, Inc.

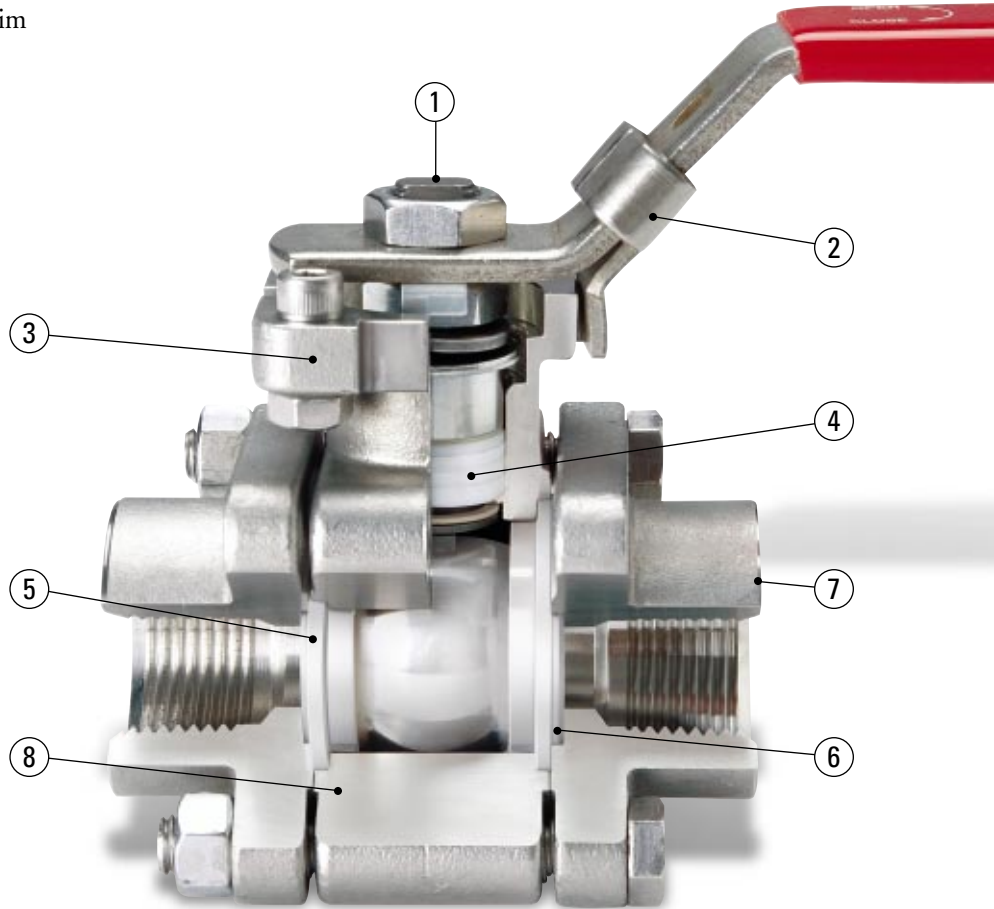
# KF Contromatics 3-Piece 4-Bolt Ball Valves

C7400 - Carbon Steel Body/Stainless Steel Trim  
 S8400 - All Stainless Steel Construction  
 Threaded, Socket Weld or Butt Weld Ends  
 3/4" - 2 1/2" Standard Port  
 1/4" - 2" Full Port  
 Operating Pressures to 4000 WOG

## Series C7400 Series S8400

### General Design Features

- 1 • Internal Entry Stem
- 2 • Handle With Slide Lock
- 3 • ISO 5211 Direct Mount Actuator Mounting Pad
- 4 • Live Loaded High Cycle, TFE V-Ring Style Packing
- 5 • Optional TFE Coated "S" Gasket Body Seals For High Temp & API 607 Applications
- 6 • Integral Fire Lip
- 7 • Threaded, Socket Weld & Butt Weld End Connections Available
- 8 • Full ANSI Class 600 Wall Thicknesses



### Available Seat Materials

Uniseal™  
 Mineral Filled PTFE  
 PEEK™  
 Delrin

### Available End Connections

Female NPTF  
 Socket Weld  
 Butt Weld (Specify Pipe Schedule)

### Specifications

MSS SP-110	ANSI B16.34
ANSI B1.20.3	API 598
ANSI B16.11	API 607
ANSI B16.25	

## Contents

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# KF Contromatics 3-Piece 4-Bolt Ball Valves, How To Order

Code numbers fully describe a valve. They are made up of size and figure designations based upon the following code:

Example: 3/4" Standard port, socket weld, firesafe valve with Uniseal™ seats, 316 Stainless Steel trim and Stainless, Graphite packing firesafe to API 607, lever locking handle.

3/4		7	4	5	1		02		X		FS		Y90		X		M2
1		2	3	4	5		6		7		8		9		10		11

## 1 • Size

1/4 - 2 1/2	Standard Port
3/4 - 2	Full Port

## 2 • Body Material

7	Carbon Steel, WCB
8	Stainless Steel, CF8M

## 3 • Construction

4	3-Piece 4-Bolt
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## 4 • Port

5	Standard Port
8	Full Port

## 5 • End Connection

0	NPT
1	Socket Weld
2	Butt Weld Schedule 40
3	NPT x Socket Weld
4	NPT x Butt Weld Schedule 40

## 6 • Seat & Seal Material

Standard Options		
	Seat	Packing/Body Seal
02	Uniseal™	PTFE/PTFE
04	Mineral Filled PTFE	PTFE/"S" Gasket
07	PEEK™	Graphite/"S" Gasket
08	Delrin	PTFE/PTFE
Firesafe Options		
02	Uniseal™	Graphite/"S" Gasket
04	Mineral Filled PTFE	Graphite/"S" Gasket

## 7 • Ball & Stem

Blank	316 Stainless Steel (17-4 Stem w/07 & 08 Seats)
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## 8 • Packing

Blank	PTFE, Standard Trim
FS	Graphite, API 607 4th Edition Firesafe

## 9 • Configuration

Y90	Live Loaded Stem
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## 10 • Options

Blank	Lever Locking Handle
OVL	Oval Locking Handle
H	Extended Locking
HOV	Extended Oval Locking
HP	TFE Coated 316SS "S" Gasket
VB	Vented Ball
CB	Carbon Bolting
OC	Oxygen Cleaned
G	Grounded Ball & Stem

## 11 • Model Revision

M2	Current Model
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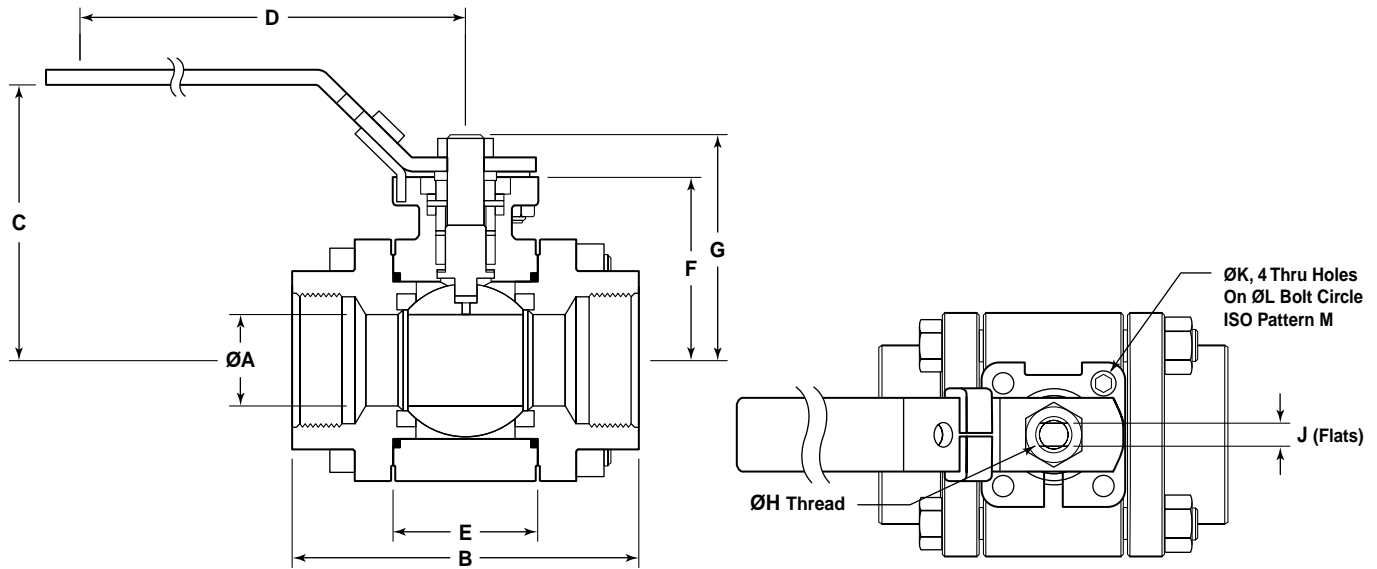
## Optional Handles & Handle Extensions, Standard & Full Port

Standard Port Series 745X / 845X			
Size (in.)	Oval Locking Handle	Extended Locking	Extended Oval Locking
1/4 - 1/2	2054372	0098662	0098861
3/4	2054374	0098663	0098862
1	2054376	0098664	0098863
1 1/4	2054376	0098664	0098863
1 1/2	2054376	0098664	0098863
2	2054378	0098665	0098864
2 1/2	2054378	0098665	0098864

Full Port Series 748X / 848X			
Size (in.)	Oval Locking Handle	Extended Locking	Extended Oval Locking
3/4	2054376	0098664	0098663
1	2054376	0098664	0098663
1 1/4	2054376	0098664	0098663
1 1/2	2054378	0098665	0098664
2	2054378	0098665	0098664



# KF Contromatics 3-Piece 4-Bolt Ball Valves, Dimensional Data (in, mm)



## Dimensional Data (in.), 1/4"-2 1/2"

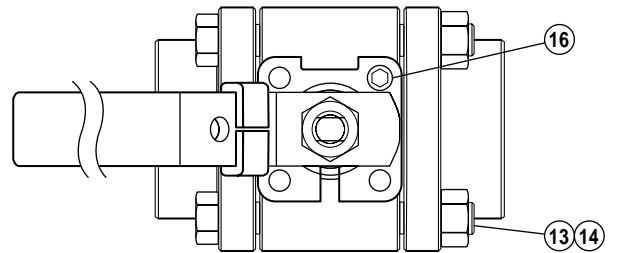
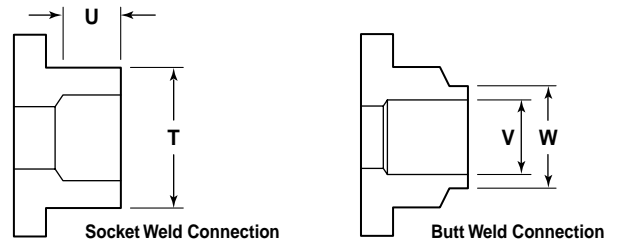
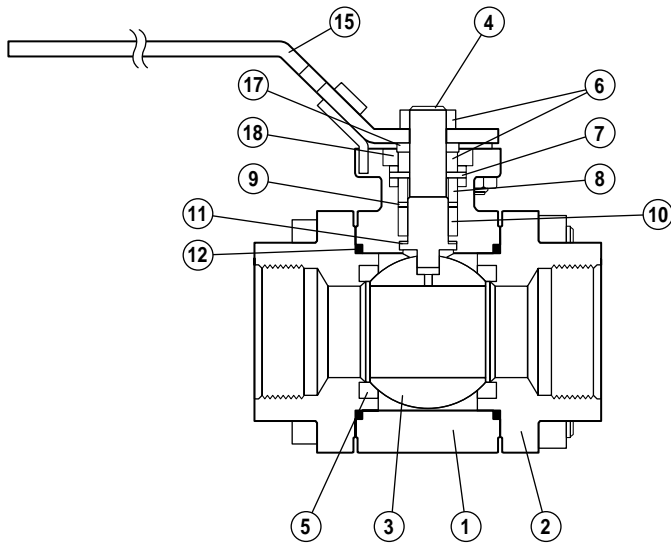
Size (in.)		Dimension (in.)													Wt. (lbs.)
Std. Port	Full Port	A	B	C	D	E	F	G	H	J	K	L	M	Cap Screw Size	
—	1/4	.44	2.63	2.30	4.00	.90	1.39	1.70	5/16 - 24 UNF	.191	.219	1.417	F03	5/16-18 UNC x 2.00	1.5
—	3/8	.50	2.63	2.30	4.00	.90	1.39	1.70	5/16 - 24 UNF	.191	.219	1.417	F03	5/16-18 UNC x 2.00	1.5
—	1/2	.50	2.63	2.30	4.00	.90	1.39	1.70	5/16 - 24 UNF	.191	.219	1.417	F03	5/16-18 UNC x 2.00	1.5
3/4	—	.66	2.88	2.47	4.00	1.04	1.57	1.90	3/8 - 24 UNF	.251	.219	1.417	F03	5/16-18 UNC x 2.25	1.9
1	3/4	.88	3.75	3.25	7.00	1.35	2.15	2.80	1/2 - 20 UNF	.312	.281	1.969	F05	3/8-16 UNC x 2.63	3.4
1 1/4	1	1.00	4.38	3.56	7.00	1.58	2.28	2.85	1/2 - 20 UNF	.312	.281	1.969	F05	3/8-16 UNC x 3.00	5.0
1 1/2	1 1/4	1.25	4.75	3.75	7.00	1.98	2.50	3.07	1/2 - 20 UNF	.312	.281	1.969	F05	7/16-14 UNC x 3.50	6.4
2	1 1/2	1.50	5.50	4.65	8.25	2.27	3.00	3.91	3/4 - 16 UNF	.375	.344	2.756	F07	1/2-13 UNC x 4.00	10.6
2 1/2	2	2.00	6.50	5.05	8.25	2.92	3.44	4.31	3/4 - 16 UNF	.375	.344	2.756	F07	5/8-11 UNC x 5.00	19.0

## Dimensional Data (mm), 1/4"-2 1/2"

Size (in.)		Dimension (mm)													Wt. (kg)
Std. Port	Full Port	A	B	C	D	E	F	G	H	J	K	L	M	Cap Screw Size	
—	1/4	11.2	66.8	58.4	101.6	22.9	35.3	43.2	5/16 - 24 UNF	4.9	5.6	36.0	F03	5/16-18 UNC x 2.00	.7
—	3/8	12.7	66.8	58.4	101.6	22.9	35.3	43.2	5/16 - 24 UNF	4.9	5.6	36.0	F03	5/16-18 UNC x 2.00	.7
—	1/2	12.7	66.8	58.4	101.6	22.9	35.3	43.2	5/16 - 24 UNF	4.9	5.6	36.0	F03	5/16-18 UNC x 2.00	.7
3/4	—	16.8	73.2	62.7	101.6	26.4	39.9	48.3	3/8 - 24 UNF	6.4	5.6	36.0	F03	5/16-18 UNC x 2.25	.9
1	3/4	22.4	95.3	82.6	177.8	34.3	54.6	71.1	1/2 - 20 UNF	7.9	7.1	50.0	F05	3/8-16 UNC x 2.63	1.5
1 1/4	1	25.4	111.3	90.4	177.8	40.1	57.9	72.4	1/2 - 20 UNF	7.9	7.1	50.0	F05	3/8-16 UNC x 3.00	2.3
1 1/2	1 1/4	31.8	120.7	95.3	177.8	50.3	63.5	78.0	1/2 - 20 UNF	7.9	7.1	50.0	F05	7/16-14 UNC x 3.50	2.9
2	1 1/2	38.1	139.7	118.1	209.6	57.7	76.2	99.3	3/4 - 16 UNF	9.5	8.7	70.0	F07	1/2-13 UNC x 4.00	4.8
2 1/2	2	50.8	165.1	128.3	209.6	74.2	87.4	109.5	3/4 - 16 UNF	9.5	8.7	70.0	F07	5/8-11 UNC x 5.00	8.6



# KF Contromatics 3-Piece 4-Bolt Ball Valves, End Dimensions & Parts



## Socket Weld and Schedule 40 Butt Weld End Dimensions (in., mm)

Size (in.)	Dimension (in., mm) / Pipe Schedule								
	T		U		Sched.	V		W	
	in.	mm	in.	mm		in.	mm	in.	mm
1/4	.56	14.2	.44	11.2	5S	—	—	—	—
					10S	.41	10.4	.54	13.7
					40S	.34	8.6	.54	13.7
3/8	.69	17.5	.44	11.2	5S	—	—	—	—
					10S	.55	14.0	.67	17.0
					40S	.52	13.2	.67	17.0
1/2	.86	21.8	.44	11.2	5S	.71	18.0	.84	21.3
					10S	.67	17.0	.84	21.3
					40S	.62	15.7	.84	21.3
3/4	1.07	27.2	.56	14.2	5S	.92	23.4	1.05	26.7
					10S	.88	22.4	1.05	26.7
					40S	.82	20.8	1.05	26.7
1	1.33	33.8	.72	18.3	5S	1.19	30.2	1.32	33.5
					10S	1.10	27.9	1.32	33.5
					40S	1.05	26.7	1.32	33.5

Size (in.)	Dimension (in., mm) / Pipe Schedule								
	T		U		Sched.	V		W	
	in.	mm	in.	mm		in.	mm	in.	mm
1 1/4	1.68	42.7	.72	18.3	5S	1.53	38.9	1.66	42.2
					10S	1.44	36.6	1.66	42.2
					40S	1.38	35.1	1.66	42.2
1 1/2	1.92	48.8	.84	21.3	5S	1.77	45.0	1.91	48.5
					10S	1.67	42.4	1.91	48.5
					40S	1.59	40.4	1.91	48.5
2	2.41	61.2	.84	21.3	5S	2.24	56.9	2.38	60.5
					10S	2.15	54.6	2.38	60.5
					40S	2.06	52.3	2.38	60.5
2 1/2	2.92	74.2	.81	20.6	5S	2.21	56.1	2.88	73.2
					10S	2.64	67.1	2.88	73.2
					40S	2.47	62.7	2.88	73.2

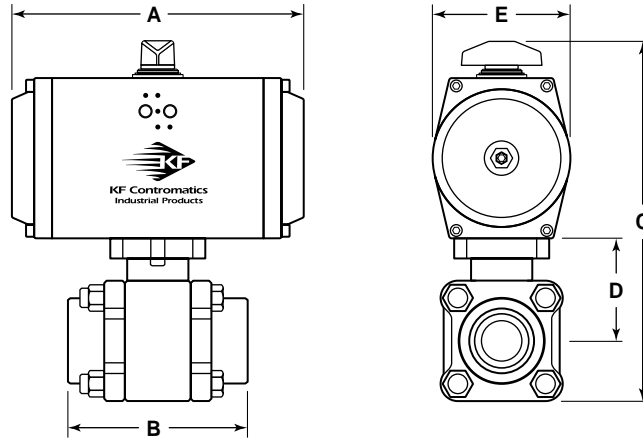
## Parts List

Part No.	Description	Material	
		7450-M2	8450-M2
1	Body	ASTM A216 Gr. WCB	ASTM A351 Gr. CF8M
2	Adapter	ASTM A216 Gr. WCB	ASTM A351 Gr. CF3M
3	Ball*	316 Stainless Steel	
4	Stem*	316 Stainless Steel w/Microseal Coating	
5	Seat	Uniseal™ (PTFE) (02), Mineral Filled PTFE (04), PEEK™ (07)	
6	Stem Nut	304 Stainless Steel	
7	Spring Washer	302 Stainless Steel	
8	Packing Gland	316 Stainless Steel	
9	Upper Thrust Washer	PEEK™	

Part No.	Description	Material	
		7450-M2	8450-M2
10	Packing	PTFE (Std.), Graphite (FS)	
11	Lower Thrust Washer	PEEK™	
12	Body Seal	PTFE (Std.), Stainless Steel w/PTFE Coating (FS)	
13	Hex Screw	ASTM A193 Gr. B7 (Zinc)	ASTM A193 Gr. B8 (304SS)
14	Hex Nut	ASTM A194 Gr. 2H (Zinc)	ASTM A194 Gr. 8 (304SS)
15	Locking Handle	300 Series Stainless Steel w/Vinyl Grip	
16	Handle Stop Assembly	304 Stainless Steel	
17	Lock Washer	304 Stainless Steel	
18	Nut Lock Bracket	304 Stainless Steel	



# Series PAS Actuator Dimensional Data (in., mm) & Mounting Kits



## Envelope Dimensional Data (In.)

Size (in.)	Actuator Model	Dimensions (in.)				
		A	B	C	D	E
1/4	200	5.00	2.63	6.13	1.39	2.32
3/8	300	5.24	2.63	6.68	1.39	2.76
1/2	500	6.10	2.63	7.15	1.39	3.27
3/4	200	5.00	2.88	4.82	1.57	2.32
	300	5.24	2.88	5.37	1.57	2.76
	500	6.10	2.88	5.84	1.57	3.27
1	300	5.24	3.75	5.62	2.15	2.76
	500	6.10	3.75	6.09	2.15	3.27
1 1/4	300	5.24	4.38	5.80	2.28	2.76
	500	6.10	4.38	6.27	2.28	3.27
	700	6.97	4.38	6.38	2.28	3.58
1 1/2	500	6.10	4.75	6.50	2.50	3.27
	700	6.97	4.75	6.61	2.50	3.58
	1030	7.99	4.75	7.21	2.50	3.94
2	500	6.10	5.50	6.73	3.00	3.27
	700	6.97	5.50	6.84	3.00	3.58
	1030	7.99	5.50	7.44	3.00	3.94
2 1/2	700	6.97	6.50	7.27	3.44	3.58
	1030	7.99	6.50	7.87	3.44	3.94
	1400	8.50	6.50	8.77	3.44	4.72

## Envelope Dimensional Data (mm)

Size (in.)	Actuator Model	Dimensions (mm)				
		A	B	C	D	E
1/4	200	127	66.8	155.7	35.3	58.9
3/8	300	133.1	66.8	169.7	35.3	70.1
1/2	500	154.9	66.8	181.6	35.3	83.1
3/4	200	127	73.2	122.4	39.9	58.9
	300	133.1	73.2	136.4	39.9	70.1
	500	154.9	73.2	148.3	39.9	83.1
1	300	133.1	95.3	142.7	54.6	70.1
	500	154.9	95.3	154.7	54.6	83.1
1 1/4	300	177.0	111.3	147.3	57.9	70.1
	500	154.9	111.3	159.3	57.9	83.1
	700	202.9	111.3	162.1	57.9	90.9
1 1/2	500	154.9	120.7	165.1	63.5	83.1
	700	177.0	120.7	167.9	63.5	90.9
	1030	202.9	120.7	183.1	63.5	100.1
2	500	154.9	139.7	170.9	76.2	83.1
	700	177.0	139.7	173.7	76.2	90.9
	1030	202.9	139.7	189.0	76.2	100.1
2 1/2	700	177.0	165.1	184.7	87.4	90.9
	1030	202.9	165.1	199.9	87.4	100.1
	1400	215.9	165.1	222.8	87.4	119.9

## M5 Actuator Mounting Kits, 7400-M2/8400-M2, Standard & Full Port

Size (in.)	Standard Port Series 745X / 845X				
	Actuator Model (PA/PAS)				
	PA200	PA300	PA500 PA700 PA1030	PA1400 PA2200 PA2900	PF/EA
1/4 - 1/2	0098669*	0098605	0098606	N/A	0098607
3/4	0098670*	0098608	0098609	N/A	0098610
1	0098615*	0098615*	0098616*	0098617	0098618
1 1/4	0098615*	0098615*	0098616*	0098617	0098618
1 1/2	0098615*	0098615*	0098616*	0098617	0098618
2	N/A	N/A	0098619*	0098620*	0098621
2 1/2	N/A	N/A	0098619*	0098620*	0098621

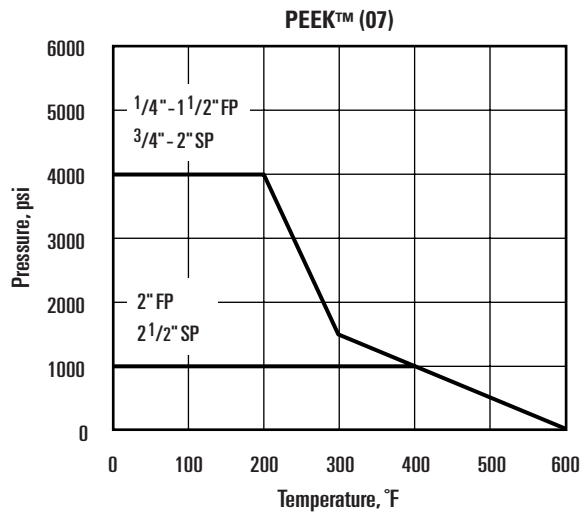
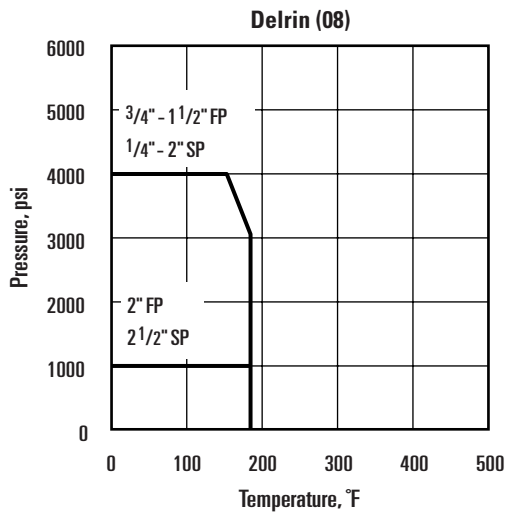
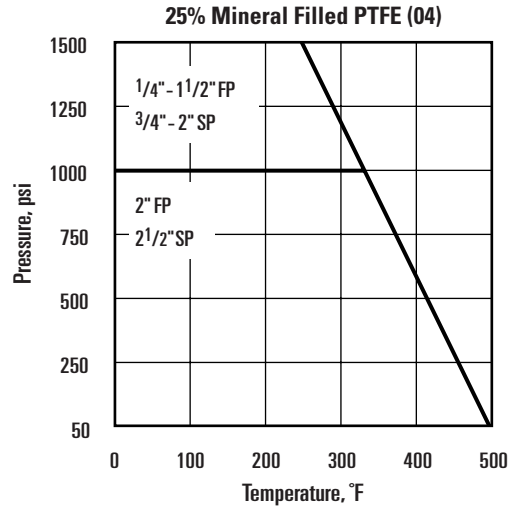
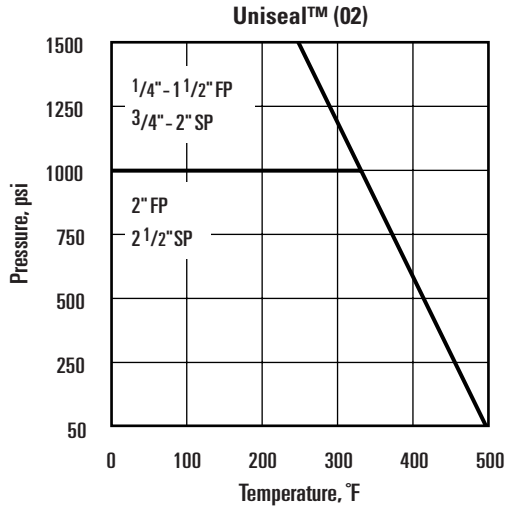
Size (in.)	Full Port Series 748X / 848X				
	Actuator Model (PA/PAS)				
	PA200	PA300	PA500 PA700 PA1030	PA1400 PA2200 PA2900	PF/EA
3/4	0098615*	0098615*	0098616*	0098617	0098618
1	0098615*	0098615*	0098616*	0098617	0098618
1 1/4	0098615*	0098615*	0098616*	0098617	0098618
1 1/2	N/A	N/A	0098619*	0098620*	0098621
2	N/A	N/A	0098619*	0098620*	0098621

\*Direct mounting, others include bracket and coupling.

Note: Valve actuator sizing is based upon standard materials of construction, 80 psi air supply and clean service.



# KF Contromatics 3-Piece 4-Bolt Ball Valves, Engineering Data



## Flow Coefficient (C<sub>v</sub>) and Operating Torque (in.-lbs.)

Size (in.)	C <sub>v</sub> Rating		Operating Torque (in.-lbs.) 02 Seat Materials	
	Std. Port	Full Port	Std. Port	Full Port
1/4, 3/8	—	9	—	60
1/2	—	15	—	60
3/4	25	50	60	80
1	40	60	80	150
1 1/4	50	110	150	250
1 1/2	90	130	250	320
2	120	360	320	400
2 1/2	300	—	400	—

## Torque Factors For Optional Seat Materials (in.-lbs.)

Seat Material	Torque Factor
Min. Filled PTFE (04)	1.25
PEEK™ (07)	2.0
Delrin (08)	1.8

Torque in inch-pounds at full rated pressure.

## Temperature Rating

Seats @50 psig		
Seat Material	°F	°C
Uniseal™ (02)	500°	260°
Min. Filled PTFE (04)	500°	260°
PEEK™ (07)	600°	316°
Delrin (08)	180°	82°

## Low Temperature Limits

Seat Material	°F	°C
Uniseal™ (02)	-50°	-45°
Min. Filled PTFE (04)	-50°	-45°
PEEK™ (07)	-50°	-45°
Delrin (08)	-50°	-45°

## Steam Rating (Saturated)

Seat Material	Rating
Uniseal™ w/PTFE Seals	150 WSP
Min. Filled PTFE w/HP Body Seals	250 WSP

Body Material	°F	°C
WCB	-20°	-29°
CF8M	-50°	-45°

## Vacuum Rating

10 Microns of Mercury Hg w/PTFE Seats





# Worldwide Sales Offices



**KF Contromatics, a leading brand of CIRCOR Energy Products, Inc.  
reaches into every corner of the globe serving the oil & gas and industrial marketplace.**

**Supplying an extensive range of product offerings  
through a worldwide network of manufacturer representatives and distributors,  
KF Contromatics is the right choice for all your flow control needs.**

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