

SEC 11 – 600 Series Accessories

KF Flanges
ISO Flanges
ANSI Flanges
CF Flanges
Wire Sealing

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600 SERIES

ACCESSORIES



HIGH VACUUM APPARATUS MANUFACTURING.,INC.

1763 Sabre St., Hayward, CA 94545; Tel. (510)785-2744; Fax (510)732-9853

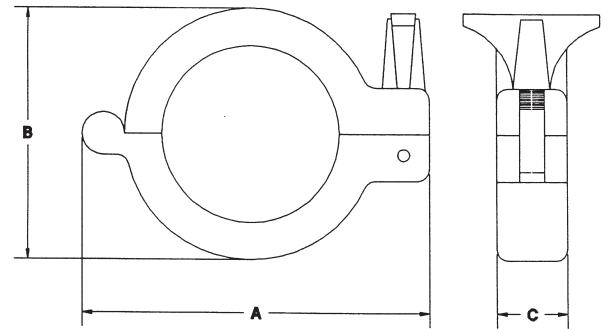
600 Series Accessories

KF FLANGES

Clamps & Centering Rings

CLAMPS (Aluminum)

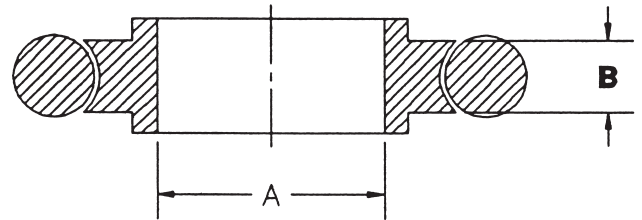
MODEL NUMBER	KF FLANGE		A WIDTH	B HEIGHT	C THICKNESS
690-0110	KF 10	mm. inch	60 2.38	42 1.67	16 .63
690-0160	KF 16	mm. inch	60 2.38	42 1.67	16 .63
690-0250	KF 25	mm. inch	73 2.87	51 2.00	16 .63
690-0400	KF 40	mm. inch	89 3.50	69 2.70	17 .65
690-0500	KF 50	mm. inch	114 4.50	90 3.56	20 .80



CLAMP

CENTERING RING ASSEMBLY (Aluminum) Includes Viton O-Ring

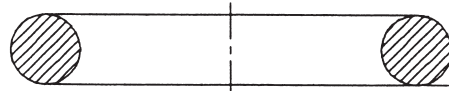
MODEL NUMBER	KF FLANGE		A O.D.	B THICKNESS
691-0110	KF 10	mm. inch	12 .456	5 .210
691-0160	KF 16	mm. inch	16 .625	5 .210
691-0250	KF 25	mm. inch	24 .964	5 .210
691-0400	KF 40	mm. inch	40 1.56	5 .210
691-0500	KF 50	mm. inch	50 1.96	5 .210



CENTERING RING ASSEMBLY

REPLACEMENT O-RING FOR CENTERING RING (Viton)

MODEL NUMBER	KF FLANGE
24-311	KF 10
24-314	KF 16
24-320	KF 25
24-326	KF 40
24-330	KF 50



VITON O-RING FOR CENTERING RING

Due to ongoing product development, prices/dimensions subject to change without notice.

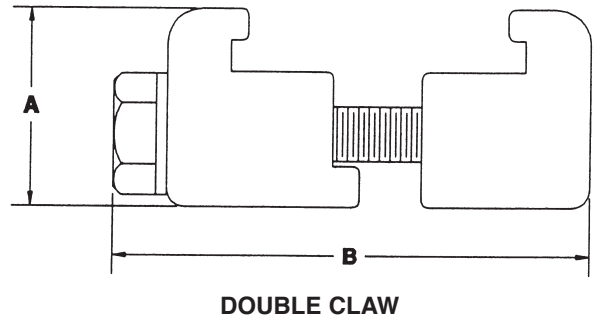
600 Series Accessories

ISO FLANGES

Double, Single Claw Clamp & Centering Ring

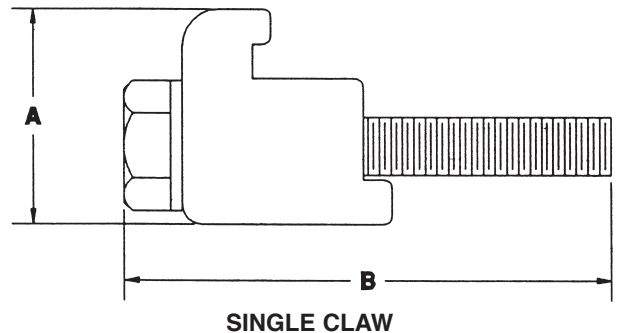
DOUBLE CLAW CLAMP

MODEL NUMBER		BOLT SIZE	A WIDTH	B LENGTH	FLANGE SIZE
692-0802	mm. inch	M8	24 .94	50 1.96	ISO 63 ISO 75 ISO 100
692-1002	mm. inch	M10	28 1.10	50 1.96	ISO 150 ISO 200 ISO 250
692-1202	mm. inch	M12	34 1.34	56 2.20	ISO 300 ISO 400 ISO 500



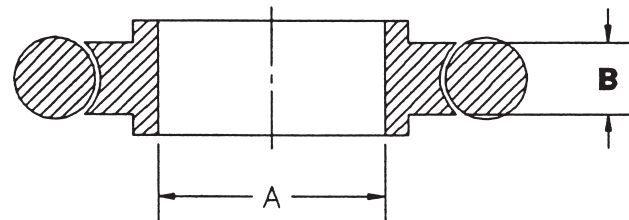
SINGLE CLAW CLAMP

MODEL NUMBER		BOLT SIZE	A WIDTH	B LENGTH
692-0801	mm. inch	M8	24 .94	41 1.60
692-1001	mm. inch	M10	28 1.10	41 1.60
692-1201	mm. inch	M12	34 1.34	58 2.27



CENTERING RING ASSEMBLY (Aluminum – Includes Viton O-Ring)

MODEL NUMBER		ISO FLANGE	A WIDTH	B
691-0630	mm. inch	ISO 63	67 2.63	5 .210
691-0750	mm. inch	ISO 75	80 3.14	5 .210
691-1000	mm. inch	ISO 100	99 3.89	5 .210
691-1500	mm. inch	ISO 150	150 5.90	5 .210
691-2000	mm. inch	ISO 200	210 8.26	5 .210
691-2500	mm. inch	ISO 250	258 10.14	5 .210
691-3000	mm. inch	ISO 300	312 12.30	7 .275
691-4000	mm. inch	ISO 400	395 15.58	7 .275
691-5000	mm. inch	ISO 500	496 19.51	7 .275
691-6000	mm. inch	ISO 600	645 25.41	7 .275



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600 Series Accessories

ANSI FLANGE ACCESSORIES

Gasket And Bolt Kits

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
2.0	24-228	Flange Gasket, Viton®	1	1	.5
2.0	24-232	Flange Gasket, Viton®	1	1	.5
2.0	24-236	Flange Gasket, Viton®	1	1	.5
2.0	670-3816	3/8-16 x .75" lg bolts*	10	1	.5
2.0	671-3816	3/8-16 x 1.50" lg bolts*	10	1	.5

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
3.0	24-236	Flange Gasket, Viton®	1	1	.5
3.0	670-3816	3/8-16 x .75" lg bolts*	10	1	.5
3.0	671-3816	3/8-16 x 1.50" lg bolts*	10	1	.5

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
4.0	24-244	Flange Gasket, Viton®	1	1	.5
4.0	24-252	Flange Gasket, Viton®	1	1	.5
4.0	24-254	Flange Gasket, Viton®	1	1	.5
4.0	670-3816	3/8-16 x .75" lg bolts*	10	1	.5
4.0	671-3816	3/8-16 x 1.50" lg bolts*	10	1	.5

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
6.0	24-259	Flange Gasket, Viton®	1	1	.5
6.0	24-267	Flange Gasket, Viton®	1	1	.5
6.0	670-3410	3/4-10 x .75" lg bolts*	10	2	.9
6.0,8.0	671-3410	3/4-10 x 1.0" lg bolts*	10	2	.9
6.0	673-3410	3/4-10 x 1.50" lg bolts*	10	4	1.8

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
10.0	24-274	Flange Gasket, Viton®	1	1	.5
10.0	24-275	Flange Gasket, Viton®	1	1	.5
10.0	24-278	Flange Gasket, Viton®	1	1	.5
10.0	672-3410	3/4-10 x 1.25" lg bolts*	15	4	1.8
10.0	673-6410	3/4-10 x 1.50" lg bolts*	15	6	2.7

* Includes Nuts and Washers

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600 Series Accessories

ANSI FLANGE ACCESSORIES . . . CONTINUED

Gasket And Bolt Kits

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
12.0	24-278	Flange Gasket, Viton®	1	1	.5
12.0	672-3410	3/4-10 x 1.25" lg bolts*	15	4	1.8
12.0	673-3410	3/4-10 x 1.50" lg bolts*	15	6	2.7

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
14.0	24-383	Flange Gasket, Viton®	1	1	.5
14.0	24-385	Flange Gasket, Viton®	1	1	.5
14.0	674-3410	3/4-10 x 1.75" lg bolts*	20	7	.5

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
16.0	24-385	Flange Gasket, Viton®	1	1	.5
16.0	24-387	Flange Gasket, Viton®	1	1	.5
16.0	674-3410	3/4-10 x 1.75" lg bolts*	20	7	3.2

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
18.0	24-387	Flange Gasket, Viton®	1	1	.5
18.0	674-3410	3/4-10 x 1.75" lg bolts*	20	7	3.2

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
20.0	24-389	Flange Gasket, Viton®	1	1	.5
20.0	24-390	Flange Gasket, Viton®	1	1	.5
20.0	670-0108	1-8 x 2.25" lg bolts*	20	10	4.6

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
24.0	24-393	Flange Gasket, Viton®	1	1	.5
24.0	670-0108	1-8 x 2.25" lg bolts*	20	10	4.6

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
30.0	24-930	Flange Gasket, Viton®	1	1	.5
30.0	670-0108	1-8 x 2.25" lg bolts*	32	10	4.6

FLANGE SIZE	MODEL NUMBER	DESCRIPTION	PKG QTY	SHIPPING WEIGHT LBS.	KG
36.0	24-936	Flange Gasket, Viton®	1	1	.5
36.0	670-0108	1-8 x 2.25" lg bolts*	32	10	4.6

* Includes Nuts and Washers

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600 Series Accessories

CF-F ACCESSORIES

Gasket And Bolt Kits

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
34	1.33	668-0060	OFHC Copper Gaskets	10	1	.5
34	1.33	669-0060	Viton® Version	5	1	.5
34	1.33	670-0832	8-32 x .50" lg bolts*	25	1	.5
34	1.33	671-0832	8-32 x .75" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
54	2.12	668-0100	OFHC Copper Gaskets	10	1	.5
54	2.12	669-0100	Viton® Version	5	1	.5
54	2.12	670-1428	1/4-28 x .75" lg bolts*	25	1	.5
54	2.12	671-1428	1/4-28 x 1.25" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
70	2.75	668-0150	OFHC Copper Gaskets	10	1	.5
70	2.75	669-0150	Viton® Version	5	1	.5
70	2.75	670-1428	1/4-28 x .75" lg bolts*	25	1	.5
70	2.75	671-1428	1/4-28 x 1.25" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
86	3.38	668-0200	OFHC Copper Gaskets	10	1	.5
86	3.38	669-0200	Viton® Version	1	1	.5
86	3.38	670-5624	5/16-24 x 1.0" lg bolts*	25	1	.5
86	3.38	673-5624	5/16-24 x 1.75" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
114	4.50	688-0250	OFHC Copper Gaskets	10	2	.9
114	4.50	669-0250	Viton® Version	1	1	.9
114	4.50	671-5624	5/16-24 x 1.25" lg bolts*	25	2	.5
114	4.50	674-5624	5/16-24 x 2.0" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
117	4.62	668-0300	OFHC Copper Gaskets	10	2	.9
117	4.62	669-0300	Viton® Version	1	1	.5
117	4.62	671-5624	5/16-24 x 1.25" lg bolts*	25	2	.9
117	4.62	674-5624	5/16-24 x 2.0" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
152	6.00	668-0400	OFHC Copper Gaskets	10	2	.9
152	6.00	669-0400	Viton® Version	1	1	.5
152	6.00	671-5624	5/16-24 x 1.25" lg bolts*	25	2	.9
152	6.00	675-5624	5/16-24 x 2.25" lg bolts*	25	2	.9

* Includes
Nuts and
Washers

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600 Series Accessories

CF-F ACCESSORIES ... CONTINUED

Gasket And Bolt Kits

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
171	6.75	668-0500	OFHC Copper Gaskets	10	2	.9
171	6.75	669-0500	Viton® Version	1	1	.5
171	6.75	672-5624	5/16-24 x 1.50" lg bolts*	25	2	.9
171	6.75	675-5624	5/16-24 x 2.25" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
203	8.0	668-0600	OFHC Copper Gaskets	10	3	1.4
203	8.0	669-0600	Viton® Version	1	1	.5
203	8.0	672-5624	5/16-24 x 1.50" lg bolts*	25	2	.9
203	8.0	675-5624	5/16-24 x 2.25" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
254	10.0	668-0800	OFHC Copper Gaskets	10	3	1.4
254	10.0	669-0800	Viton® Version	1	1	.5
254	10.0	673-5624	5/16-24 x 1.75" lg bolts*	25	2	.9
254	10.0	676-5624	5/16-24 x 2.50" lg bolts*	25	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
305	12.0	668-1012	OFHC Copper Gaskets	10	3	1.4
305	12.0	668-8125	M8 x 1.25 x 45mm lg bolts*	32	2	.9
305	12.0	673-5624	5/16-24 x 1.75" lg bolts*	32	2	.9

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
337	13.25	668-1000	OFHC Copper Gaskets	10	3	1.4
337	13.25	669-1000	Viton® Version	1	1	.5
337	13.25	670-3824	3/8-24 x 2.0" lg bolts*	36	3	1.4
337	13.25	671-3824	3/8-24 x 2.75" lg bolts*	36	3	1.4

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
356	14.0	668-1200	OFHC Copper Gaskets	10	4	1.8
356	14.0	669-1200	Viton® Version	1	1	.5
356	14.0	670-3824	3/8-24 x 2.0" lg bolts*	36	3	1.4
356	14.0	671-3824	3/8-24 x 2.75" lg bolts*	36	3	1.4

FLG. O.D. MM INCH		MODEL NUMBER	DESCRIPTION	PKG QTY	WEIGHT LBS.	KG
419	16.5	668-1400	OFHC Copper Gaskets	10	5	2.3
419	16.5	669-1400	Viton® Version	1	1	.5
419	16.5	670-3824	3/8-24 x 2.0" lg bolts*	36	3	1.4
419	16.5	671-3824	3/8-24 x 2.75" lg bolts*	36	3	1.4

* Includes
Nuts and
Washers

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600 Series Accessories

WIRE SEALING FLANGES CLAMPED VERSION

Gasket Kits

<i>FLANGE MODEL NUMBER</i>	<i>OFHC GASKET KIT MODEL NUMBER</i>	<i>VITON GASKET MODEL NUMBER</i>
572-1216-1	668-1250	669-0012
572-1206	668-1250	669-0012
572-1216	668-1250	669-0012
572-1206-1	668-1250	669-0012
572-1416-1	668-1450	669-0014
572-1406	668-1450	669-0014
572-1416	668-1450	669-0014
572-1406-1	668-1450	669-0014
572-1616-1	668-1650	669-0016
572-1606	668-1650	669-0016
572-1616	668-1650	669-0016
572-1606-1	668-1650	669-0016
572-1816-1	668-1850	669-0018
572-1806	668-1850	669-0018
572-1816	668-1850	669-0018
572-1806-1	668-1850	669-0018
572-2416-1	668-2450	669-0024
572-2406	668-2450	669-0024
572-2416	668-2450	669-0024
572-2406-1	668-2450	669-0024
572-3616-1	668-3650	669-0036
572-3606	668-3650	669-0036
572-3616	668-3650	669-0036
572-3606-1	668-3650	669-0036
695-1202	CLAMP	-

The clamp-type wire seal flange can be used with either an OFHC Copper Gasket for higher bakeout temperatures (450°C) or a reusable Viton gasket for temperatures not in excess of 200°C.

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600 Series Accessories

WIRE SEALING FLANGES BOLTED VERSION

Gasket and Bolt Kits

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-1203-1	668-1251	671-3824	36	3/8 - 24 x 2.75"
572-1213-1	668-1251	671-3824	36	3/8 - 24 x 2.75"
572-1203	668-1251	671-3824	36	3/8 - 24 x 2.75"
572-1213	668-1251	671-3824	36	3/8 - 24 x 2.75"

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-1403-1	668-1451	670-1220	38	1/2 - 20 x 2.75"
572-1413-1	668-1451	670-1220	38	1/2 - 20 x 2.75"
572-1403	668-1451	670-1220	38	1/2 - 20 x 2.75"
572-1403	668-1451	670-1220	38	1/2 - 20 x 2.75"

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-1603-1	668-1651	671-1220	38	1/2 - 20 x 3.0 "
572-1613-1	668-1651	671-1220	38	1/2 - 20 x 3.0 "
572-1603	668-1651	671-1220	38	1/2 - 20 x 3.0 "
572-1613	668-1651	671-1220	38	1/2 - 20 x 3.0"

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-1803-1	668-1851	670-5818	38	5/8 - 18 x 3.50"
572-1813-1	668-1851	670-5818	38	5/8 - 18 x 3.50"
572-1803	668-1851	670-5818	38	5/8 - 18 x 3.50"
572-1813	668-1851	670-5818	38	5/8 - 18 x 3.50"

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-2403-1	668-2451	671-5818	42	5/8 - 18 x 4.0 "
572-2413-1	668-2451	671-5818	42	5/8 - 18 x 4.0 "
572-2403	668-2451	671-5818	42	5/8 - 18 x 4.0 "
572-2413	668-2451	671-5818	42	5/8 - 18 x 4.0 "

<i>MODEL NUMBER</i>	<i>OFHC GASKET MODEL</i>	<i>BOLT KIT MODEL</i>	<i>QTY</i>	<i>SIZE</i>
572-3603-1	668-3651	672-5818	62	5/8 - 18 x 4.50"
572-3613-1	668-3651	672-5818	62	5/8 - 18 x 4.50"
572-3603	668-3651	672-5818	62	5/8 - 18 x 4.50"
572-3613	668-3651	672-5818	62	5/8 - 18 x 4.50"

Due to ongoing product development, prices/dimensions subject to change without notice.

600 Series Accessories

11000 & 21200 SERIES GATE VALVE MAINTENANCE KITS

For High Vacuum Applications

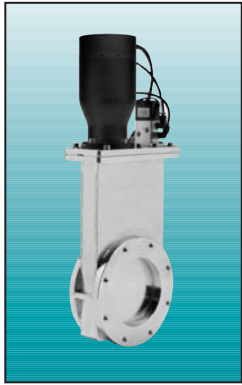
MM	INCH	REPLACEMENT KIT ORDER NO.	
		<i>VITON SEAL BONNET & GATE O-RING KIT</i>	<i>PNEUMATIC ACTUATOR O-RING KIT</i>
38	1.5	KSB15S	KAP1-3S
51	2.0	KSB20S	KAP1-3S
64	2.5	KSB25S	KAP1-3S
76	3.0	KSB30S	KAP1-3S
102	4.0	KSB40S	KAP4-8S
152	6.0	KSB60S	KAP4-8S
203	8.0	KSB80S	KAP4-8S
254	10.0	KSB100S	KAP1012S
273	10.75	KSB1075S	KAP1012S
305	12.0	KSB120S	KAP1012S
356	14.0	KSB140S	KAP14S
406	16.0	KSB160S	KAP16S

MM	INCH	REPLACEMENT KIT ORDER NO.	
		<i>OFHC COPPER BONNET VITON GATE O-RING KIT</i>	<i>PNEUMATIC ACTUATOR O-RING KIT</i>
38	1.5	KSB15M	KAP1-3M
51	2.0	KSB20M	KAP1-3M
64	2.5	KSB25M	KAP1-3M
76	3.0	KSB30M	KAP1-3M
102	4.0	KSB40M	KAP4-8M
152	6.0	KSB60M	KAP4-8M
203	8.0	KSB80M	KAP4-8M
254	10.0	KSB100M	KAP1012M
273	10.75	KSB1075M	KAP1012M
305	12.0	KSB120M	KAP1012M
356	14.0	KSB140M	-
406	16.0	KSB160M	-

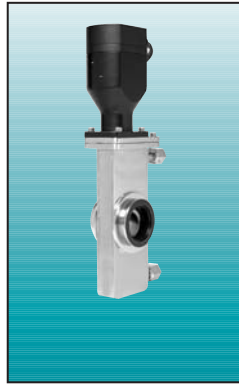
NOTE: When ordering replacement kits, provide valve model number and serial number at time of kit order.

Due to ongoing product development, prices/dimensions subject to change without notice.

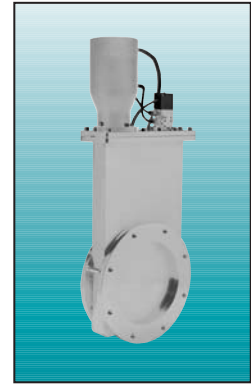
See our other product brochures!



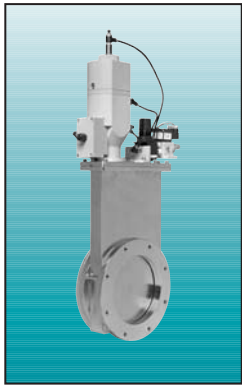
11000 SERIES
Stainless Steel Gate Valves



13000 SERIES
Laminar Flow Series



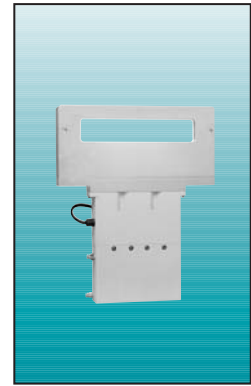
21200 SERIES
Million Cycle Gate Valves



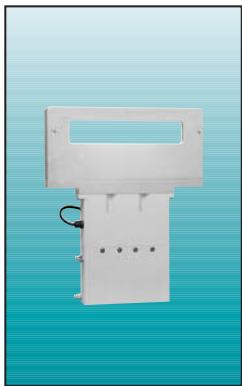
21700 SERIES
Million Cycle 3-Position Gate Valves



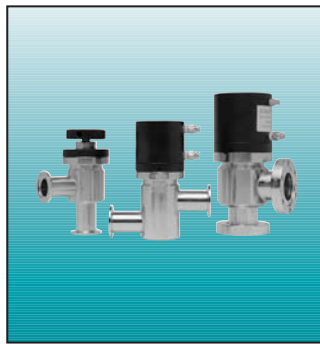
21800 SERIES
Closed Loop Pneumatic Throttle Gate Valves



22000 SERIES
Stainless Steel Rectangular Valves



82000 SERIES
Aluminum Rectangular Valves



14000/15000 SERIES
Stainless Steel Angle/Inline Valves



500 SERIES
Flanges