



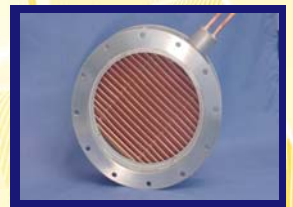
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***VIEW OUR INVENTORY***

# 2010 Mini Product Catalog





## A Message from our President

Thank you for your interest in GNB ...

GNB has been successfully providing highly effective vacuum products for the worldwide market since 1968. During this time, we have produced outstanding, innovative products that have exceeded our customers' most demanding needs and applications, in areas such as temperature extremes, size constraints, radiation levels, vacuum levels, vibration levels and environmental contamination. Our corporate vision is to so impress and wow our customers that they will enthusiastically do business with GNB again . . . ***and again.***

This brochure depicts a sampling of a few of our most popular products. No matter what your application is, please give us a call; and we will share our experience and expertise with you.

Ken Harrison, P.E.  
GNB Corporation

# Ordering Information

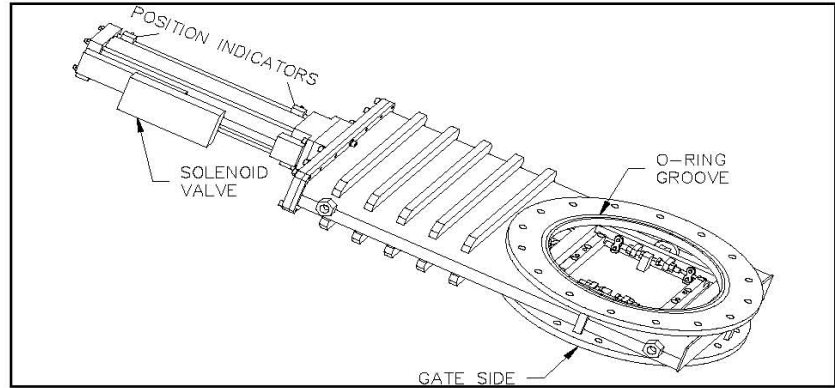
The example shown is a **standard GNB Corporation gate valve** with:

- 16 inch aperture clearance
- Electro pneumatic actuation
- 304L stainless steel composition
- O-ring shaft seal

It has the following options:

- Position indicators
- O-ring groove in the second flange

When ordering this valve, The GNB model number becomes the following...



Valve Type    Actuation    Material    Shaft Seal  
Size  
**G 16 P S O P - X**

## Description

### Valve Type

<b>A</b>	Angle
<b>G</b>	Gate
<b>GL</b>	Linkage gate
<b>HDG</b>	Heavy duty gate
<b>P</b>	Pendulum
<b>PMG</b>	Protective metal gate
<b>RA</b>	Roughing angle
<b>RG</b>	Roughing gate
<b>TA</b>	Throttle angle
<b>TG</b>	Throttle gate

### Size

Clearance aperture inches (nominal)

### Actuation

<b>C</b>	Pneumatic side actuation
<b>E</b>	Electric
<b>H</b>	Hydraulic
<b>L</b>	Side lever
<b>P</b>	Pneumatic
<b>W</b>	Hand wheel

### Material

<b>A</b>	Aluminum
<b>M</b>	Mild steel
<b>S</b>	304L stainless steel

### Shaft Seal

<b>B</b>	Bellows
<b>O</b>	O-ring

## Options

<b>P</b>	Position indicator
<b>R</b>	Roughing port
<b>WG</b>	Water cooled gate
<b>WB</b>	Water cooled body
<b>WF</b>	Water cooled flange
<b>BL</b>	Bodiless

**X** For any of the following options:  
Clean out ports  
Second o-ring groove  
Flange: ASA, ISO, CF, KF, ...  
or custom design

**A complete written description of any options is required on all purchase orders.**

# Angle Valves

## Specifications

- Leak rate:  $<1 \times 10^{-9}$  std.atm.cc/sec of helium
- Vacuum rating:  $1 \times 10^{-7}$  Torr ( $1.3 \times 10^{-7}$  mbar)
- Pressure rating: 1atm (1 bar) across poppet
- Temperature range:  $\leq +300^{\circ}\text{F}$  ( $+150^{\circ}\text{C}$ )
- Mounting position: actuator up or down
- Solenoid: 24V DC
- Air pressure required: 80-120 psig(5.5-8.3 bar)
- Air to open air to close

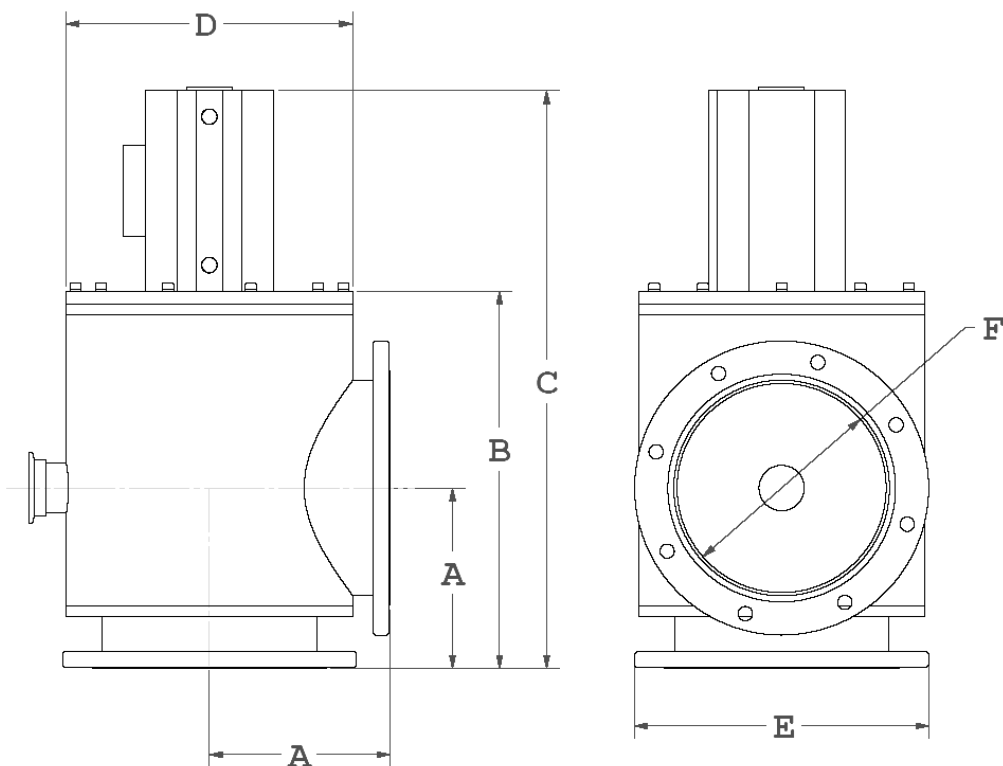
## Features

- Valve body/poppet construction: 304L stainless steel
- Electropolished surface finish interior; glass bead-blast finish exterior
- Opening sizes: 100mm - 320mm ISO flanges
- Bellows sealed linear electro-pneumatic actuation—100,000 cycles before first maintenance under clean vacuum conditions
- Magnetic position indicators
- Viton o-rings at poppet and bonnet
- Designed for reliable operation even in industrial environments



**ISO 160-320**

**High Vacuum  
Angle Valves  
Reliable Cycle Life  
Low Maintenance**



REFERENCE NUMBER	BONNET SEAL	SIZE	PORT FLANGE	ROUGHING PORT	A	B	C	D	E	F
A(ISO100)PSBP	VITON	4"	ISO100	N/A	4.25	8.74	12.72	6.26	6.50	3.94
A(ISO160)PSBP	VITON	6"	ISO160	KF40	5.43	11.34	17.40	8.62	8.86	6.3
A(ISO200)PSBP	VITON	8"	ISO200	KF50	7.87	14.49	21.32	10.75	11.22	7.87
A(ISO250)PSBP	VITON	10"	ISO250	ISO63	8.19	17.00	29.17	12.99	13.19	9.84
A(ISO320)PSBP	VITON	12"	ISO320	ISO80	9.84	20.31	32.48	15.75	16.73	12.60



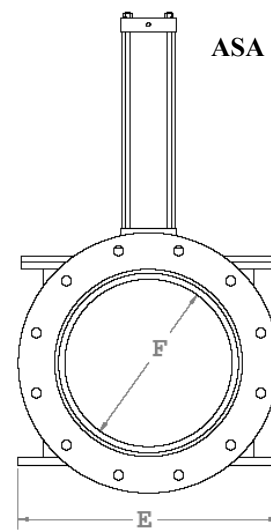
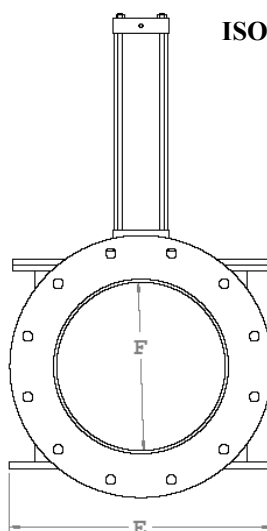
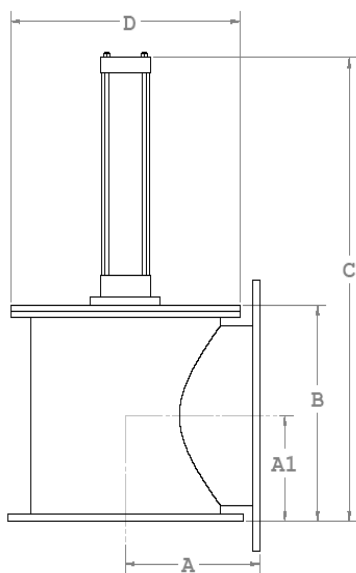
# Large Angle Valves

## Specifications

- Leak rate:  $<1.0 \times 10^{-9}$  std.atm.cc/sec of helium
- Vacuum rating:  $1 \times 10^{-7}$  Torr ( $1.3 \times 10^{-7}$  mbar)
- Pressure rating: 1atm (1 bar) across poppet, easy way seal only
- Temperature range:  $\leq 400^\circ\text{F}$  ( $+200^\circ\text{C}$ )
- Mounting position: actuator up
- Air pressure required: 80-120 psig (5.5 bar-8.3 bar)
- Air to open air to close

## Features

- Valve body/poppet construction: 304L stainless steel
- Surface: glass bead-blast finish at exterior and interior
- Dual o-ring seal shaft, 100,000 cycles typical before first maintenance
- Actuator: electro pneumatic, 24V DC
- Magnetic position indicators
- Viton o-rings at flange, poppet and bonnet



**High Vacuum  
Angle Valves  
Reliable Cycle Life  
Low Maintenance**

### ISO 400-630

REFERENCE NUMBER	BONNET SEAL	SIZE	PORT FLANGE	A	A1	B	C	D	E	F
A(ISO400)P	VITON	16"	ISO400	9.7	13.78	19.56	30.55	20.50	20.10	15.75
A(ISO500)P	VITON	20"	ISO500	12.5	14.60	24.56	39.86	25.50	24.00	19.67
A(ISO630)P	VITON	24"	ISO630	17.5	17.50	33.31	63.88	31.19	29.53	24.80

### ASA 14-24

REFERENCE NUMBER	BONNET SEAL	SIZE	PORT FLANGE	A	A1	B	C	D	E	F
A14P	VITON	14"	ASA14	9.25	12	18.13	38.25	20.50	21.00	14
A16P	VITON	16"	ASA16	9.25	14	19.13	38.50	22.75	23.50	16
A18P	VITON	18"	ASA18	10.31	14	21.13	42.26	22.75	23.50	18
A20P	VITON	20"	ASA20	14.00	16	27.38	56.38	27.41	27.50	20.50
A24P	VITON	24"	ASA24	17.50	19	33.31	63.88	30.75	28.50	23.82

# Gate Valves

## Specifications

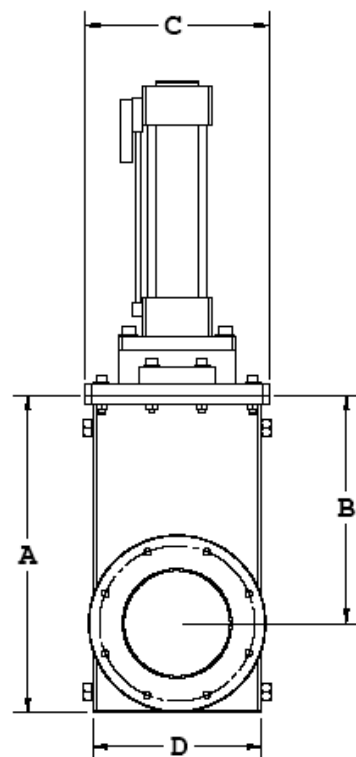
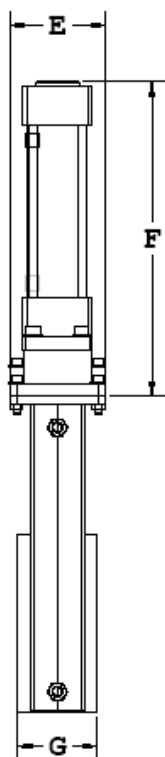
- Leak rate:  $<1 \times 10^{-9}$  std.atm.cc/sec of helium
- Vacuum rating:  $1 \times 10^{-7}$  Torr ( $1.3 \times 10^{-7}$  mbar)
- Seals with differential pressure at gate:  $\leq 1.5$ atm (1.47 bar) in either direction
- Temperature range:  $\leq +400^\circ\text{F}$  ( $200^\circ\text{C}$ )
- Mounting position: any
- Solenoid: 24V DC
- Air pressure required: 80-120 psig (5.5–8.3 bar)
- Air to open air to close

## Features

- Opens with differential pressure across gate
- Lubricated for life - not affected by contaminants
- All exposed components made from stainless steel
- No springs - long-life mechanism designed for 2 million cycles
- Minimal maintenance - does not require removal of the valve body
- No bellows for long life in contaminated environments



**Robust design  
for demanding  
applications,  
Operates with  
1 atm  
differential  
pressure  
across valve**



REFERENCE NUMBER	BONNET SEAL	SIZE	PORT FLANGE	A	B	C	D	E	F	G
G(ISO100)PSOP	VITON	4"	ISO100	11.66	8.36	6.75	6.21	3.50	11.38	2.91
G(ISO160)PSOP	VITON	6"	ISO160	16.50	12.08	9.5	8.72	4.13	13.68	3.59
G(ISO200)PSOP	VITON	8"	ISO200	20.04	14.43	12.25	11.38	4.63	15.38	3.93
G(ISO250)PSOP	VITON	10"	ISO250	25.69	18.44	15.50	14.37	4.50	19.01	4.19
G(ISO320)PSOP	VITON	12"	ISO320	29.70	21.31	17.13	16.03	4.50	19.88	4.47

# Large Gate Valves

## Specifications

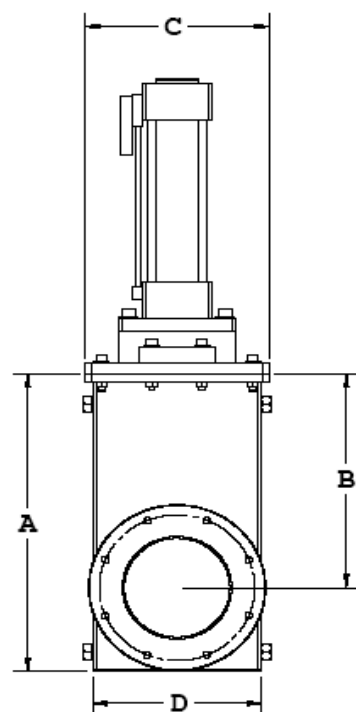
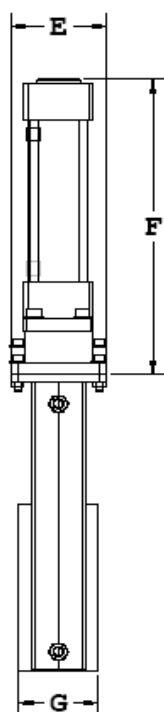
- Leak rate:  $<1.0 \times 10^{-9}$  std.atm.cc/sec of helium
- Vacuum rating:  $1 \times 10^{-7}$  Torr
- Positive pressure rating: 1atm
- Temperature range:  $\leq +392^{\circ}\text{F}$  (ASA 14-20),  $\leq +400^{\circ}\text{F}$  (ASA 24-52) w/o actuator
- Mounting position: any
- Air pressure required: 80-120 psig

## Features

- Valve body/gate construction: 304L stainless steel or mild steel
- Surface: glass bead-blast finish at exterior and interior or paint exterior
- Opening sizes: ASA14-52 flanges and larger per customer request
- Dual o-ring seal shaft, 100,000 cycles minimum before first maintenance under clean vacuum conditions
- Actuator: electro pneumatic, (option Electric), Solenoid voltage 24V DC/110V AC/ 220V AC
- Magnetic position indicators
- Viton or Buna o-rings at flange, poppet and bonnet
- Options: grained or electropolished finish, bellows sealed up to 1 million cycles



**High Vacuum  
Gate Valves  
Reliable Cycle  
Life  
Low  
Maintenance**



REFERENCE NUMBER	BONNET SEAL	SIZE/ PORT FLANGE	A	B	C	D	E	F	G
G14P	Viton/Buna	14"	36.77	26.27	21.80	21.00	6.92	21.96	4.62
G16P	Viton/Buna	16"	41.02	29.27	23.80	23.50	6.92	23.48	4.50
G18P	Viton/Buna	18"	45.37	32.87	25.00	25.00	8.06	27.13	6.0
G20P	Viton/Buna	20"	49.65	35.90	27.67	27.50	8.31	30.38	6.50
G20DP	Viton/Buna	21.25"	49.65	35.90	27.67	27.50	8.31	30.38	6.50
G24P	Viton/Buna	24"	56.41	40.41	35.42	32.00	9.31	33.13	6.53
G30P	Viton/Buna	30"	72.93	53.55	43.14	38.75	13.44	40.75	8.17
G36P	Viton/Buna	36"	83.55	61.05	49.14	45.50	13.44	46.13	8.17
G40P	Viton/Buna	40"	93.42	68.05	53.14	50.75	13.62	50.88	8.63
G48P	Viton/Buna	48"	109.78	81.44	64.46	59.00	14.59	62.11	11.12
G52P	Viton/Buna	52"	119.22	87.72	67.39	63.00	17.57	63.26	10.56

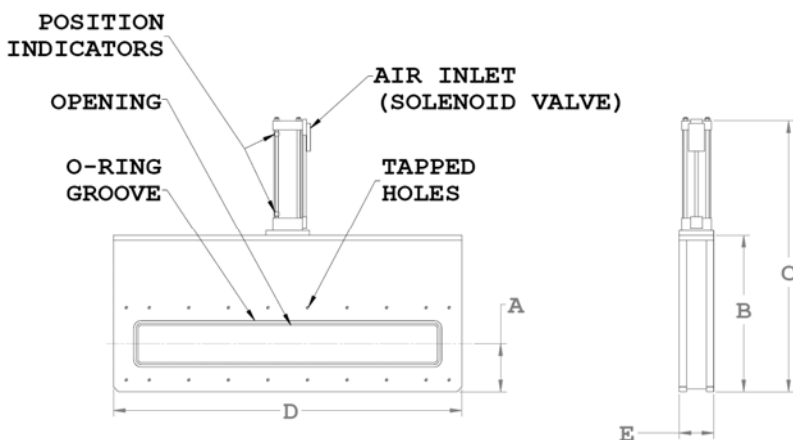
## Transfer Valves Load Lock FPD Process Solar Industry

### Specifications

- Leak rate:  $<1.0 \times 10^{-9}$  std.atm.cc/sec of helium
- Vacuum rating:  $1 \times 10^{-7}$  Torr ( $1.3 \times 10^{-7}$  mbar)
- Pressure rating: 1.0 atm (1.0 bar) in either direction
- Temperature range:  $\leq 400^\circ \text{F}$  ( $200^\circ \text{C}$ )
- Mounting position: any
- Air pressure required: 80-120 psig (5.5 bar-8.3 bar)
- Air to open air to close

### Features

- Valve body aluminum, Internals 304 sst
- Actuator Pneumatic
- Solenoid voltage: 24 VDC
- Magnetic position indicators
- Dual O-ring feed through with pump port
- Valve internals designed for 1 million cycles



REFERENCE NUMBER	BONNET SEAL	SIZE	A	B	C	D	E
G(2x20)P	VITON	2x20	3.58	9.50	19.63	26.64	4.37
G(2x28)P	VITON	2x28	3.58	9.50	19.63	36.04	4.37
G(2x45)P	VITON	2x45	3.83	9.50	19.88	53.89	4.37
G(2x61)P	VITON	2x61	3.83	9.50	19.88	70.69	4.97
G(2x92.5)P	VITON	2x92.5	3.83	9.50	19.88	103.77	4.97
G(4x20)P	VITON	4x20	4.66	18.50	31.13	26.72	5.37
G(4x28)P	VITON	4x28	4.66	18.50	31.13	36.12	5.37
G(4x45)P	VITON	4x45	5.16	18.50	31.63	53.97	5.37
G(4x61)P	VITON	4x61	5.16	18.50	31.63	70.77	5.37
G(4x92.5)P	VITON	4x92.5	5.16	18.50	31.63	103.85	5.37
G(6x20)P	VITON	6x20	5.74	22.50	37.63	54.05	5.87
G(6x28)P	VITON	6x28	5.74	22.50	37.63	70.85	5.87
G(6x45)P	VITON	6x45	6.24	22.50	37.63	54.05	5.87
G(6x61)P	VITON	6x61	6.24	22.50	37.63	70.85	5.87
G(6x92.5)P	VITON	6x92.5	6.24	22.50	37.63	103.93	5.87
G(8x20)P	VITON	8x20	6.82	30.30	48.28	26.95	5.87
G(8x28)P	VITON	8x28	6.82	30.30	48.28	36.35	5.87
G(8x45)P	VITON	8x45	7.32	30.30	48.78	54.20	6.56
G(8x61)P	VITON	8x61	7.32	30.30	48.78	71.00	6.56
G(8x92.5)P	VITON	8x92.5	7.32	30.30	48.78	104.80	6.56



# Chambers

**GNB designs Vacuum Chambers for durability, performance, and value. Choose from standard sizes and features or contact us for custom options.**



## ***Features***

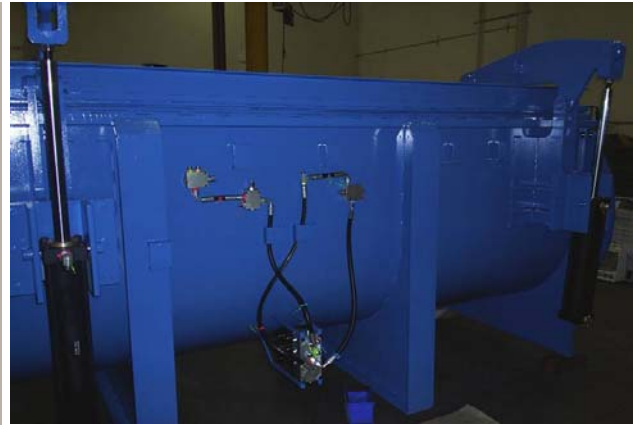
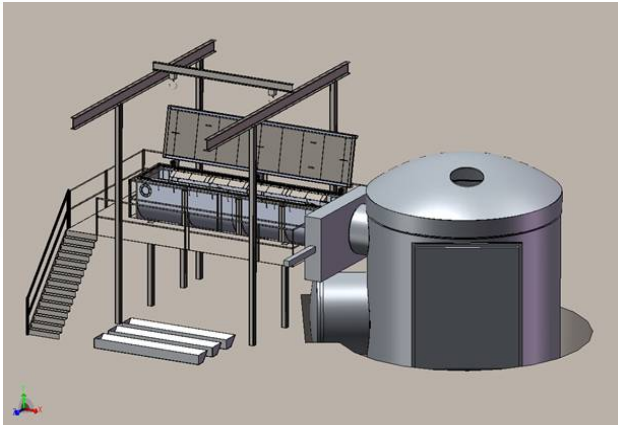
- Material: stainless, aluminum, steel
- Cooling: water channel, water cooled flanges, dual walled.
- Surface finish: bead blasted, grained, electro-polished, machined, or painted
- Sealing: o-ring or all metal sealing
- Vacuum range: high vacuum to ultra high vacuum
- Bake outs & RGA available

***Free Consulting  
On Chambers***

***Short Lead Times***

***Competitive Pricing***





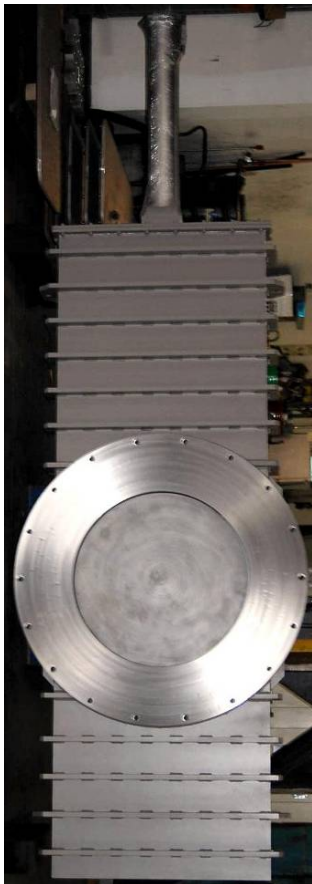
## Features

## Vibratory Feeder Chambers and Systems

- Material: stainless or mild steel
- Actuation: hydraulic, pneumatic, electric
- Cooling: water cooled gates, guard rings, flanges and bodies
- Engineering: retrofit existing systems with feeders, valves, cranes and mezzanines
- Valve types: circular, rectangular, slit, flapper and bodiless



## Products for Re-melting, Forging and Casting



**Water-cooled Protective  
Guard-ring Valve**



**Bodiless Gate Valve**



# Smithers Quality Assessments, Inc.

## CERTIFICATE OF APPROVAL

*This is to Certify that the Quality Management System of:*

### **GNB CORPORATION**

3200 Dwight Road  
Elk Grove, California 95758

*has been assessed and approved by Smithers Quality Assessments, Inc.,  
to the following quality management system standards and requirements:*

#### **ISO 9001:2008 with Design**

*The Quality Management System is Applicable to:*

*The design and manufacture and value engineering of metal  
fabrications for vacuum and other industries.*

Approval  
Certificate Number: 08.323.1

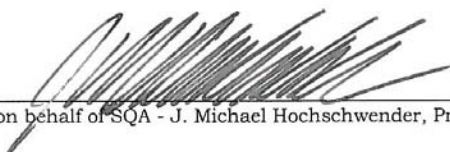
Original Approval: November 18, 2008

Current Certificate: November 18, 2008

Certificate Expires: November 17, 2011



The use of the accreditation mark indicates accreditation in  
respect of those activities covered by The Accreditation  
Certification Number 08.323.1.

  
on behalf of SQA - J. Michael Hochschwender, President

The approval is subject to the company maintaining its system to the required standards which will be monitored by  
Smithers Quality Assessments, Inc., 425 W. Market St., Akron, Ohio 44303-2099





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