

Masoneilan® 31000 Series Rotary Control Valves

Specification Data

CF3000

10/05



**Eccentric Rotary
Control Valves
with PFA Liner**



Table of Contents

Foreword	2
Numbering System	3
General Data	3
Connections	4
Pressure/Temperature Rating	4
Seat Leakage	4
C_v and F_L	4
Materials of Construction	5
Dimensions and Weights.....	6 - 7

Foreword

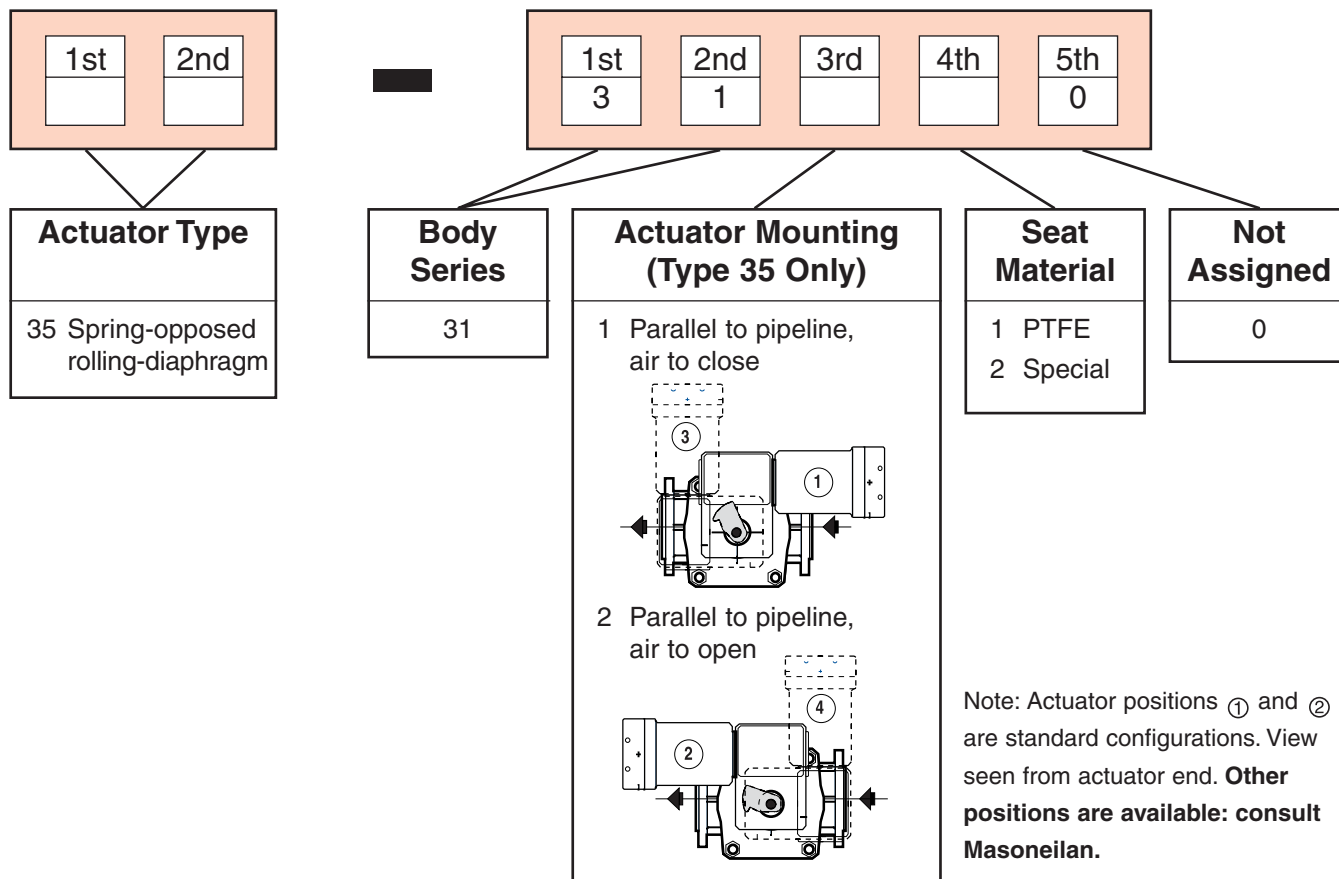
The 31000 Series control valve is a PFA lined control valve for corrosive applications which incorporates the following features:

- **Eccentric rotary plug** providing excellent throttling control accuracy, low dynamic forces and tight shut off.
- **PFA lining with guaranteed minimum wall thickness** provides resistance to most corrosive fluids.
- **Straight through flow pattern** resulting in high flow capacities.
- **PTFE/Graphite packing, chevron rings**, backed-up by a double O-ring follower.
- **Compact dimensions and low weight** without compromise to piping forces.

- **Dovetail grooves for mechanical anchoring** between metal body and PFA lining to ensure high performance under vacuum and at high temperature.
- Powerful, field proven rolling diaphragm actuator providing positive fail-safe action.
- **Totally enclosed actuator linkage.**
- Combination handwheel/adjustable limit stop with locking mechanism.
- Complete line of options and accessories.

Trade names noted are for reference only. Masoneilan reserves the right to supply trade named material or its equivalent.

Numbering System



General Data

• Body and Bonnet

type: cast, one piece, top entry, self flushing
optional: with steam/hot water jacket (SJ)
 material: nodular ductile iron, heat treated
 lining: PFA, translucent, melt processed
optional: antistatic material
 connections: flanged
 bonnet connection: through-bolted
 outside protection: epoxy coating

capacity: full capacity and reduced factor in all sizes

flow characteristic: modified linear

C_v ratio: 80:1

packing: PTFE/Graphite, chevron type rings backed up by a double O-ring follower
optional: leak detector or flushing connection

• **Flow Direction:** flow to close

• Trim

plug type: eccentrically rotating
 plug materials: PFA coated stainless steel
 seat ring type: conical, sealed with O-ring
 seat ring material: Virgin PTFE
optional: other materials (consult Masoneilan)
optional: PFE O-ring

• Actuator*

type: spring-opposed rolling-diaphragm (Model 35)
 yoke: cast iron
optional: auxiliary handwheel / limit-stop manual actuator (Model 20)

* Refer to specific actuator and accessory specification literature for complete information

Connections

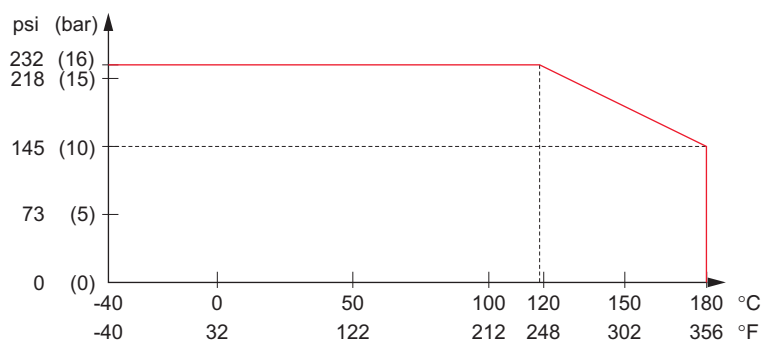
Valve size		PN connections		ANSI connections	
inch	mm	Flanges	Face to face dimensions	Flanges	Face to face dimensions
1, 2, 3	25, 50, 80	PN 10 ① PN 16 (125 AARH)	IEC 534-3 ② Table II	150 RF ③ (125 AARH)	ANSI B16.10 Globe Control Valve

① Connections according to all standard PN (ISO, EN and equivalent national standards, AFNOR, BS, DIN, etc.)

② Equivalent to DIN 3202/F1

③ Connections according to ANSI B16.5

Pressure/Temperature Rating



Vacuum operation within the same temperature range

Seat Leakage

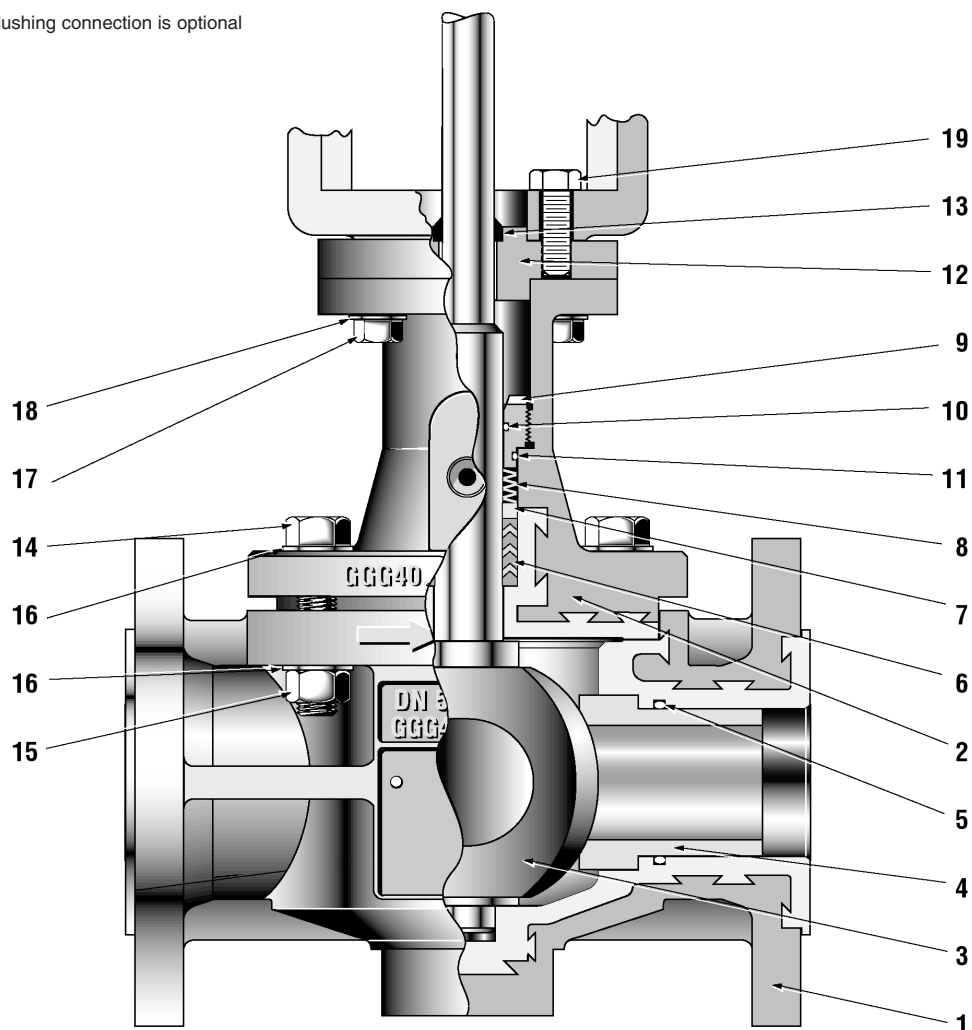
Leakage Class VI, according to IEC 534-4 and ANSI/FCI 70.2

C_V and F_L

Valve Size		Orifice Diameter	Actuator Travel	F _L	C _V
inch	mm	in. (mm)	in. (mm)		
1	25	—	3.5 (89)	0.64	1.2
		—	3.5 (89)	0.64	2
		—	3.5 (89)	0.64	3
		—	3.5 (89)	0.64	4
		.394 (10)	3.5 (89)	0.64	5
		.472 (12)	3.5 (89)	0.64	8
		.669 (17)	3.5 (89)	0.64	14
		.827 (21)	3.5 (89)	0.64	20
2	50	—	3.5 (89)	0.64	10
		.945 (24)	3.5 (89)	0.64	33
		1.299 (33)	3.5 (89)	0.64	59
		1.575 (40)	3.5 (89)	0.64	82
3	80	1.732 (44)	3.5 (89)	0.64	104
		2.283 (58)	3.5 (89)	0.64	182
		3.071 (71)	3.5 (89)	0.64	260

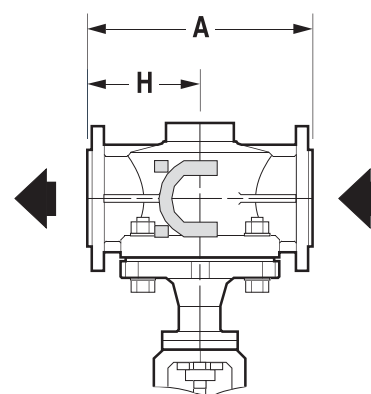
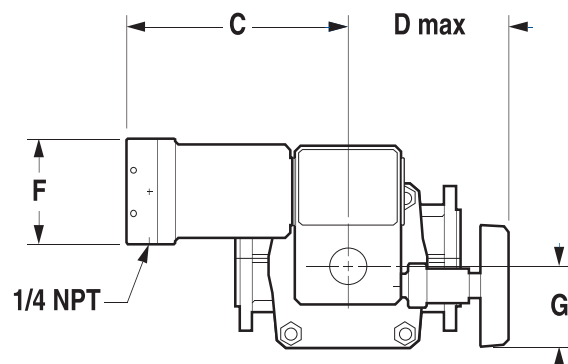
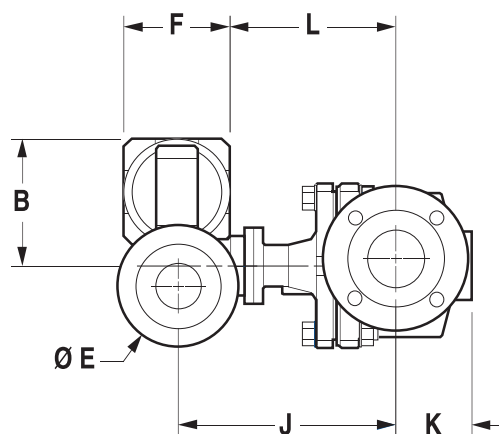
Materials of Construction

Note: leak detector or flushing connection is optional



Ref. No.	Description	Standard Materials <i>(Optional Materials)</i>
1	Body	Ductile Iron ASTM A395/PFA Lined
2	Bonnet	Ductile Iron ASTM A395/PFA Lined
3	Plug	PFA encapsulated Stainless Steel
4	Seat Ring	Virgin Solid PTFE <i>Other Materials (Consult Masoneilan)</i>
5	O-Ring	FEP coated Viton® <i>Perfluoroelastomer (PFE)</i>
6	Packing	PTFE/Graphite - Chevron Ring System
7	Packing Box Ring	Stainless Steel
8	Disc Springs (Set)	Spring Steel
9	Packing Follower	Stainless Steel
10-11	O-Rings	Viton®
12	Actuator Connecting Flange	Stainless Steel
13	Wiper Ring	Neoprene
14-19	Bolting	Stainless Steel

Dimensions and Weights



Dimensions (inches)

Valve Size		A		B	C	D	E	F	G	H		J	K	L	Weight* (lbs)
inch	DN	PN 10 PN 16	ANSI Class 150							PN 10 PN 16	ANSI Class 150				
1	25	6.30	7.25	6.93	11.81	8.31	6.42	5.52	4.61	3.15	3.62	10.04	2.05	7.28	40
2	50	9.06	10.00	6.93	11.81	8.31	6.42	5.52	4.61	4.53	5.00	10.63	3.07	7.87	60
3	80	12.21	11.75	6.93	11.81	8.31	6.42	5.52	4.61	6.10	5.87	11.42	3.94	8.66	97

* Including Handwheel

BELGIUM

Dresser Valves Europe
Boulevard du Souverain 207 B2 Vorstlaan,
B-1160 Brussels, Belgium
Phone: +32-2-344-0970
Fax: +32-2-344-1123

BRAZIL

Dresser Industria E Comercio Ltda
Divisao Masoneilan
Rua Senador Vergueiro, 433
09521-320 Sao Caetano Do Sul
Sao Paulo, Brazil
Phone: 55-11-453-5511
Fax: 55-11-453-5565

CANADA

Ontario
Dresser - Masoneilan
DI Canada, Inc.
835 Harrington Court, 2nd Floor
Burlington, Ontario L7N 3P3, Canada
Phone: 905-335-3529
Fax: 905-336-7628

CHINA

Dresser Flow Control, Beijing Rep. Office
Suite 2403, Capital Mansion
6 Xinyuannan Rd. Chaoyang District
Beijing 100004, China
Phone: +86-10-8486-5272
Fax: +86-10-8486-5305

FRANCE

Masoneilan - Dresser Produits Industriels
Energy 5
130/190 Boulevard de Verdun
92413 Courbevoie cedex, France
Phone: +33-1-4904-9000
Fax: +33-1-4904-9010

Dresser Produits Industriels S.A.S.,
Masoneilan Customer Service Centre
55 rue de la Mouche, Zone Industrielle
69540 Irigny, France
Phone: +33-4-72-39-06-29
Fax: +33-4-72-39-21-93

GERMANY

Dresser Valves Europe GmbH
Heiligenstrasse 75
Viersen D-41751, Germany
Phone: +49-2162-8170-0
Fax: +49-2162-8170-280

Dresser Valves Europe GmbH
Uhlandstrasse 58
60314 Frankfurt, Germany
Phone: +49-69-439350
Fax: +49-69-4970802

INDIA

Dresser Valve India Pvt. Ltd.
305/306, "Midas", Sahar Plaza
Mathurdas Vasarji Road
J.B. Nagar, Andheri East
Mumbai, 400059, India
Phone: +91-22- 8381134
Fax: +91-22-8354791

Dresser Valve India Pvt. Ltd.
205, Mohta Building
4 Bhikaji Cama Place
New Delhi, 110 066, India
Phone: +91-11-6164175
Fax: +91-11-6165074

ITALY

Dresser Italia S.r.l.
Masoneilan Operations
Via Cassano, 77
80020 Casavatore, Napoli Italy
Phone: +39-081-7892-111
Fax: +39-081-7892-208

JAPAN

Niigata Masoneilan Co. Ltd. (NIMCO)
20th Floor, Marive East Tower
WBG 2-6 Nakase, Mihama-ku,
Chiba-shi, Chiba 261-7120 Japan
Phone: +81-43-297-9222
Fax: +81-43-299-1115

KOREA

Dresser Korea Inc.
2015 Kuk Dong Building 60-1
3-Ka, Choongmu-ro Chung-Ku
Seoul, Korea
Phone: +82-2-2274-0792
Fax: +82-2-2274-0794

KUWAIT

Dresser Flow Solutions
Middle East Operations
10th Floor, Al Rashed Complex
Fahad Salem Street, P.O. Box 242
Safat, 13003, Kuwait
Phone: +965-9061157
Fax: +965-3718590

MALAYSIA

Dresser Flow Solutions
Business Suite, 19A-9-1, Level 9
UOA Centre, No. 19, Jalan Pinang
50450 Kuala Lumpur, West Malaysia
Phone: +60-3-2163-2322
Fax: +60-3-2161-1362

MEXICO

Dresser Valve de Mexico, S.A. de C.V.
Henry Ford No. 114, Esq. Fulton
Fraccionamiento Industrial San Nicolas
54030 Tlalhepantla Estado de Mexico
Phone: 52-5-310-9863
Fax: 52-5-310-5584

THE NETHERLANDS

Dresser Valves Europe
Steenhouwerstraat 11
3194 AG Hoogvliet, The Netherlands
Phone: +31-10-438-4122
Fax: +31-10-438-4443

Sales Office Locations

NIGERIA

Dresser Flow Solutions
Plot 293, Akin Olugbade Street
Victoria Island, Lagos, Nigeria
Phone: +234-1-555-4229
Fax: +234-1-555-7969

RUSSIA

DS Controls
Nekhinskaya Street, 61
Veliky Novgorod
Russia, 173021
Phone: +7-8162-11-3099
Fax: +7-8162-11-2981

SAUDI ARABIA

Dresser AL Rushaid
Valve & Instrument Co., Ltd. (Darvico)
P.O. Box 10145
Jubail Industrial City 31961, Saudi Arabia
Phone: +966-3-341-0278
Fax: +966-3-341-7624

SINGAPORE

Dresser Singapore PTE Ltd.
16 Tuas Avenue 8
Singapore 639231
Phone: +65-6-861-6100
Fax: +65-6-861-7197

SOUTH AFRICA

Dresser Limited
P.O. Box 2234
16 Edendale Road
Eastleigh, Edenvale 1610
Republic of South Africa
Phone: +27-11-452-1550
Fax: +27-11-452-6542

SPAIN

Masoneilan S.A.
C/Murcia 39 C
08830 Sant Boi de Llobregat
Barcelona, Spain
Phone: +34-93-652-6430
Fax: +34-93-661-3450

UNITED ARAB EMIRATES

Dresser Flow Solutions
Middle East Operations
P.O. Box 61302
Roundabout 8
Units JA01 & JA02
Jebel Ali Free Zone
Dubai, U. A. E.
Phone: +971-4-8838-752
Fax: +971-4-8838-038

UNITED KINGDOM

DI U.K. Ltd.
East Gillibrands
Skelmersdale,
Lancashire WN8 9TU, England
Phone: +44-1695-52600
Fax: +44-1695-50569

DI U.K. Ltd.
Unit 4, Suite 1.1, Nobel House
Grand Union Office Park
Packet Boat Lane
Uxbridge, Middlesex UB8 2GH
Phone: +44-1895-454-900
Fax: +44-1895-454-917

UNITED STATES

Dresser - Masoneilan
85 Bodwell Street
Avon, MA 02322-1190
Phone: 508-586-4600
Fax: 508-427-8971

Dresser - Masoneilan
4841 Leopard Street
Corpus Christi, TX 78408-2621
Phone: 361-877-2414
Fax: 361-584-1196

Dresser - Masoneilan
Dresser Direct
1250 Hall Court
Deer Park, TX 77536
Phone: 281-884-1000
Fax: 281-884-1010

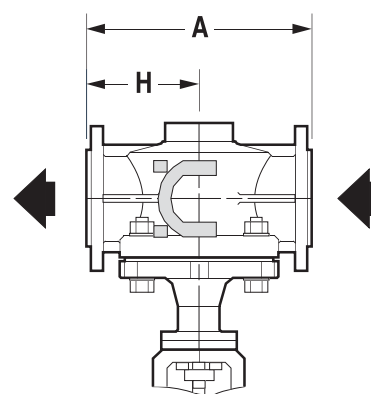
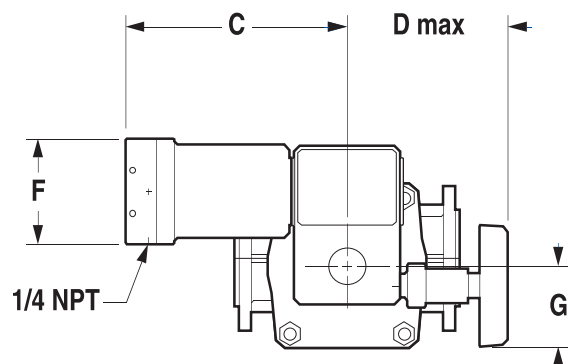
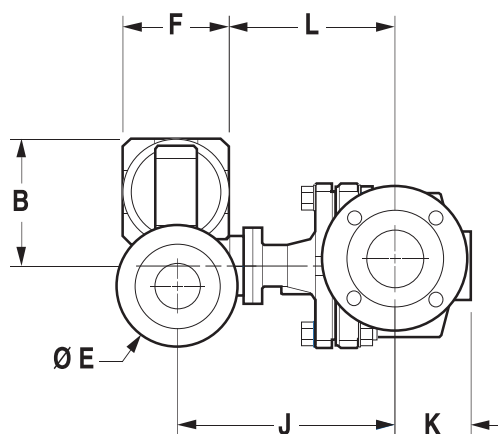
Dresser - Masoneilan
16250 Port Northwest Drive
Houston, TX 77041
Phone: 832-590-2300
Fax: 832-590-2529

Dresser - Masoneilan
2950 East Birch Street
Brea, CA 92821
Phone: 714-572-1528
Fax: 714-572-1463



CF3000 SD - 10/05
31000 Series Rotary Control Valves

Dimensions and Weights



Dimensions (millimeters)

Valve Size		A		B	C	D	E	F	G	H		J	K	L	Weight* (KG)
inch	DN	PN 10 PN 16	ANSI Class 150							PN 10 PN 16	ANSI Class 150				
1	25	160	184	176	300	211	163	140	117	80	92	255	52	185	18
2	50	230	254	176	300	211	163	140	117	115	127	270	78	200	27
3	80	310	298	176	300	211	163	140	117	155	149	290	100	220	44

* Including Handwheel