

Masoneilan*

31000 Series

Eccentric Rotary Control Valve with PFA Liner

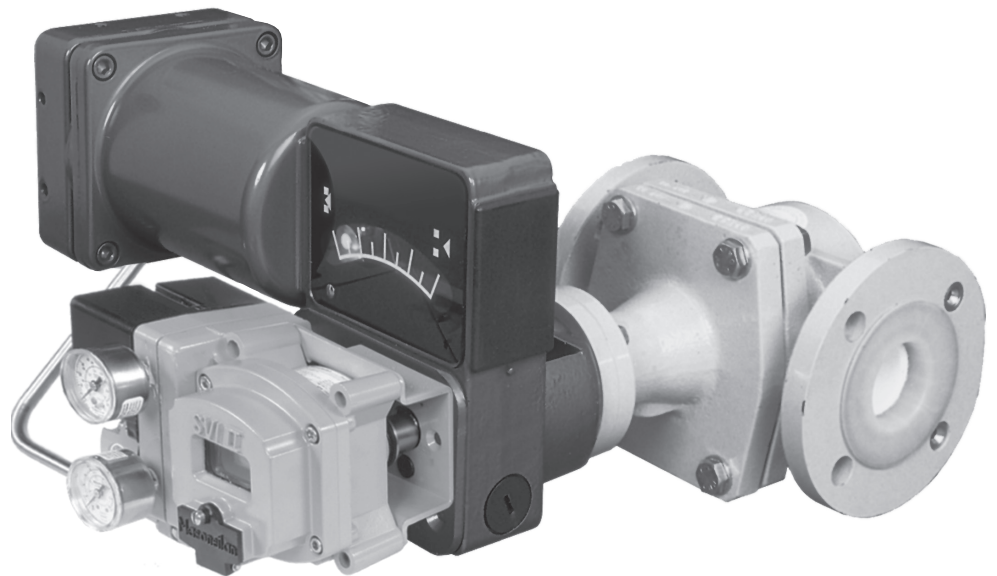


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Features

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

Excellent Performance

The eccentric rotary plug design provides excellent throttling control accuracy, low dynamic forces and tight shut off. The straight through flow pattern results in high flow capacities.

Corrosion Resistance

PFA lining with guaranteed minimum wall thickness provides resistance to most corrosive fluids.

Reduced Fugitive Emissions

The rotary design inherently reduces wear on the packing as compared to a typical linear valve. Additionally, the standard design includes PTFE/Graphite packing, chevron rings, backed-up by a double O-ring follower to provide further reliability in corrosive applications.

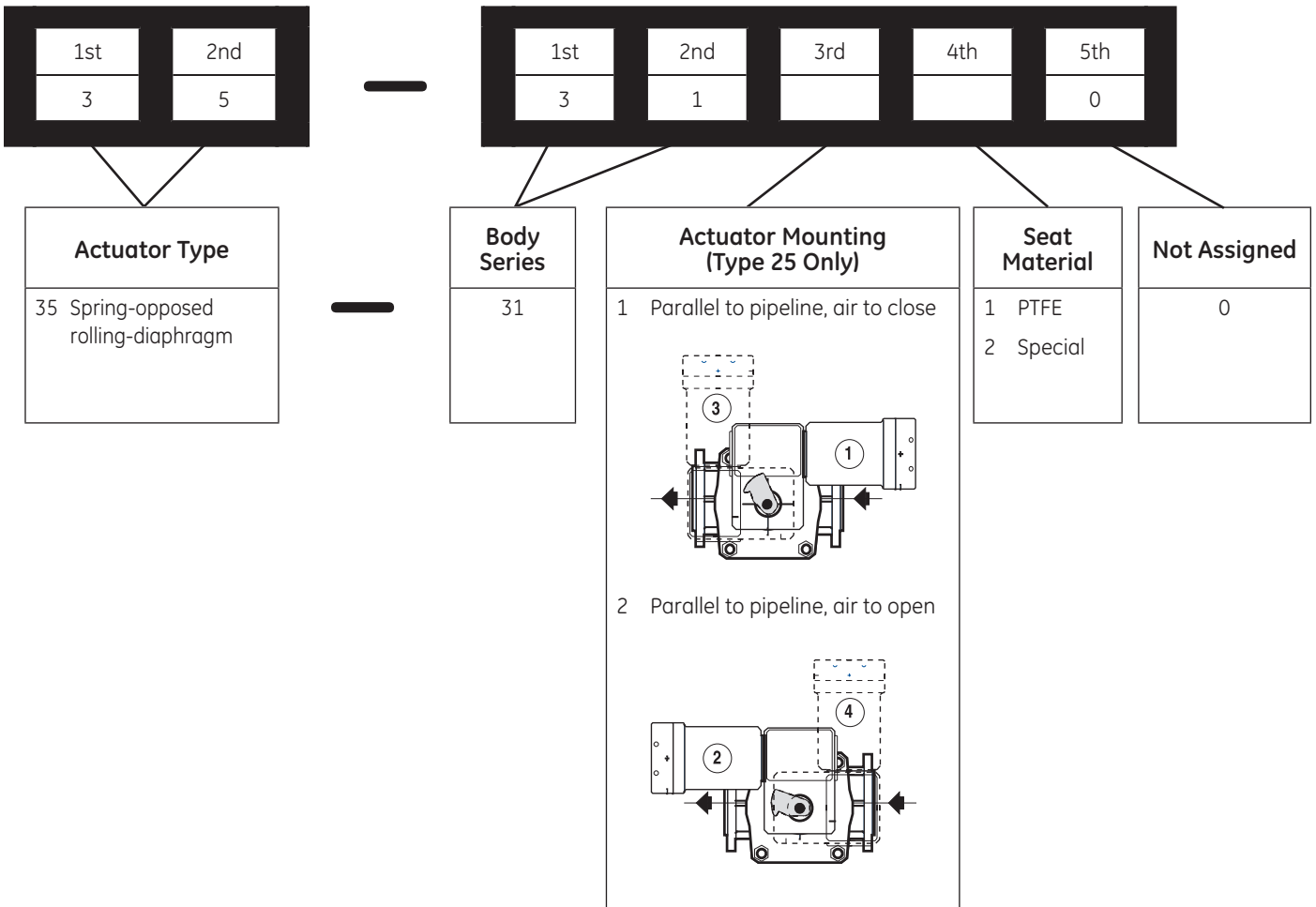
Ease of Maintenance

The compact dimensions and low weight design allows for easy installation and removal without compromising piping forces.

Reliability

The dovetail grooves provide mechanical anchoring between metal body and PFA lining to ensure high performance under vacuum and at high temperature. The powerful, field proven rolling diaphragm actuator provides positive fail-safe action. The actuator linkage is totally enclosed that comes with a combination handwheel and adjustable limit stop with locking mechanism. All actuators are available with a complete line of options and accessories.

Numbering System



Note:
 Actuator positions 1 and 2 are standard configurations. View seen from actuator end.
 Other positions are available: consult GE.

General Data

Body and Bonnet

Type:	Cast, one piece, top entry, self flushing
Optional:	with steam/hotwater 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

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 GE)
Optional:	PFE O-ring

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

Actuator:⁽¹⁾

Type:	Spring-opposed rolling-diaphragm (Model 35)
Yoke:	Cast iron
Optional:	auxiliary handwheel/limit-stop manual actuator (Model 20)

⁽¹⁾ Refer to specific actuator and accessory specification literature for complete information.

Connections

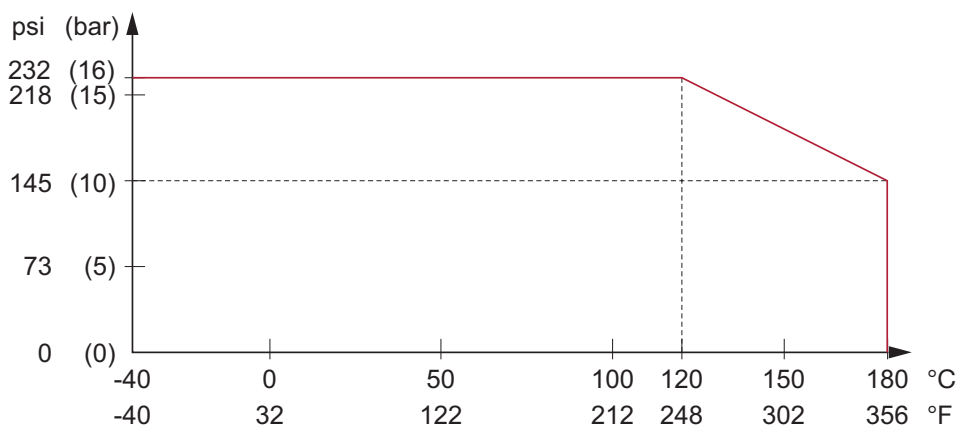
Valve Size		PN Connections		ANSI Connections	
Inches	mm	Flanges	Face to Face Dimensions	Flanges	Face to Face Dimensions
1, 2, 3	25, 50, 80	PN 10 ⁽¹⁾ PN 16 (125 AARH)	IEC 534-3 ⁽²⁾ Table II	150 RF ⁽³⁾ (125 AARH)	ANSI B16.10 Globe Control Valve

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.

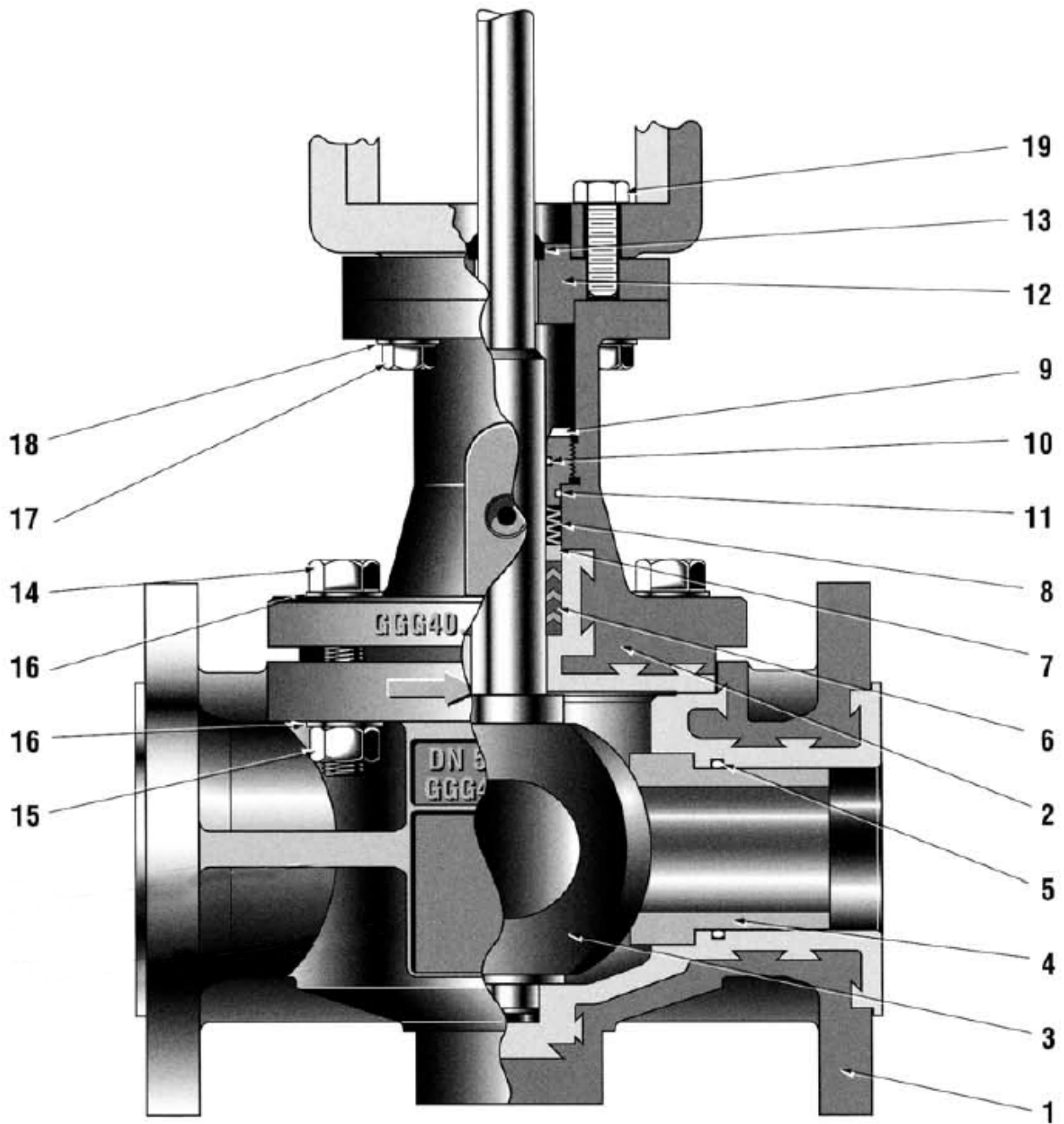
Seat Leakage

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
Inches	mm	inl (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

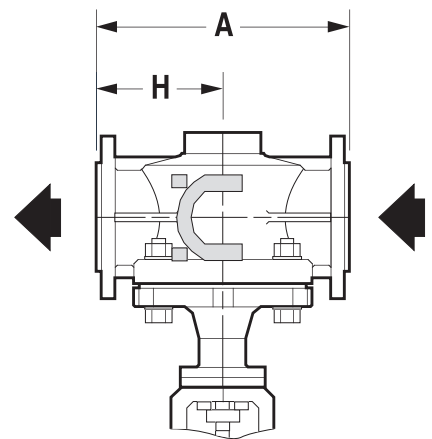
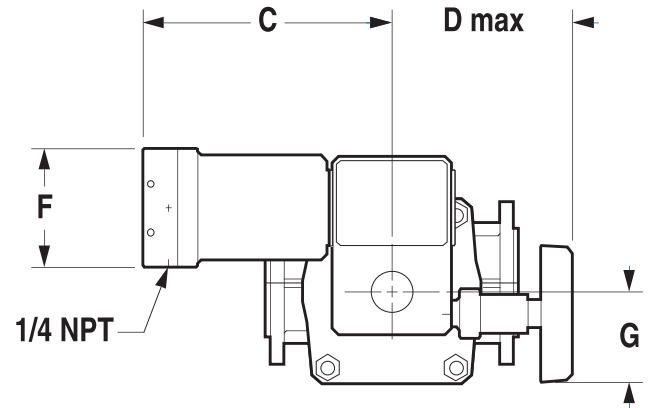
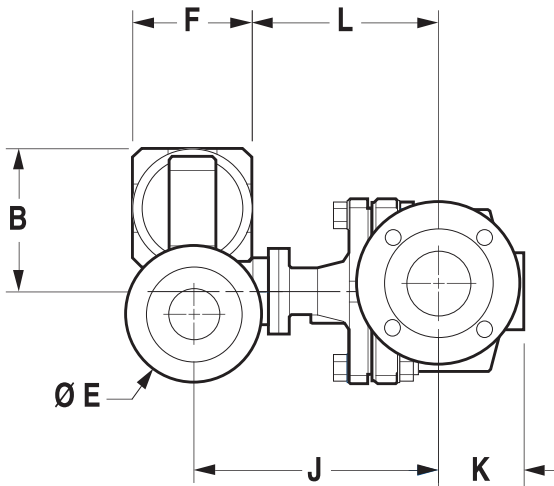


Note: leak detector or fl ushing connection is optional

Materials of Construction

Ref. No.	Description	Standard Materials (Optional Materials)
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 GE)</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 up to 19	Bolting	Stainless Steel

Dimensions and Weights

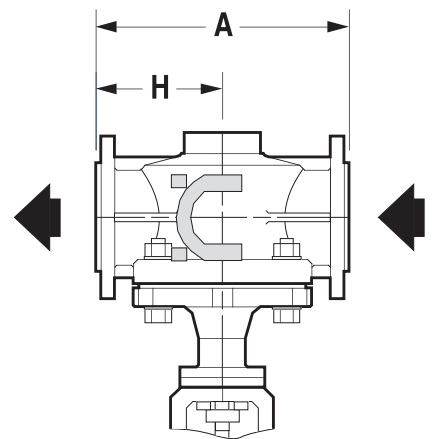
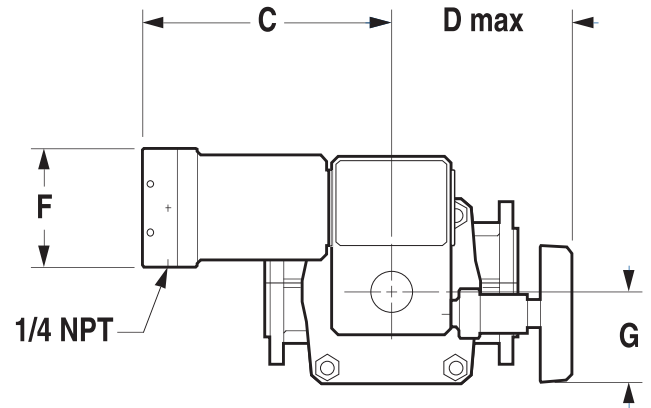
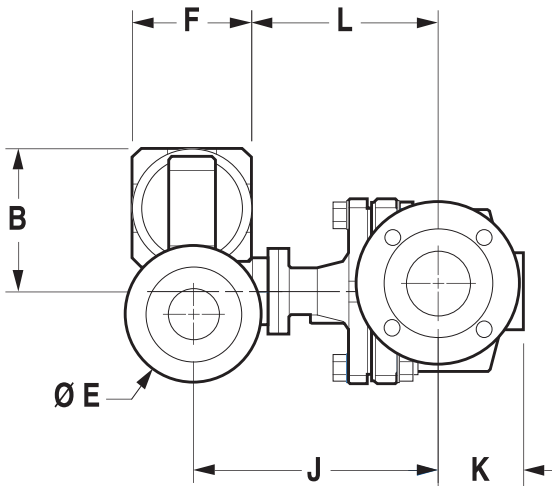


Dimensions (inches)

Valve Size		A		B	C	D	E	F	G	H		J	K	L	Weight ⁽¹⁾ (lbs)
Inch	DN	PN 10 PN 16	ANSI Class 150							PN 10 PN 16	ANSI Class 50				
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

⁽¹⁾ Including Handwheel

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 50				
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

DIRECT SALES OFFICE LOCATIONS

AUSTRALIA

Brisbane:
Phone: +61-7-3001-4319
Fax: +61-7-3001-4399

Perth:
Phone: +61-8-6595-7018
Fax: +61 8 6595-7299

Melbourne:
Phone: +61-3-8807-6002
Fax: +61-3-8807-6577

BELGIUM

Phone: +32-2-344-0970
Fax: +32-2-344-1123

BRAZIL

Phone: +55-11-2146-3600
Fax: +55-11-2146-3610

CHINA

Phone: +86-10-5689-3600
Fax: +86-10-5689-3800

FRANCE

Courbevoie
Phone: +33-1-4904-9000
Fax: +33-1-4904-9010

GERMANY

Ratingen
Phone: +49-2102-108-0
Fax: +49-2102-108-111

INDIA

Mumbai
Phone: +91-22-8354790
Fax: +91-22-8354791

New Delhi

Phone: +91-11-2-6164175
Fax: +91-11-5-1659635

ITALY

Phone: +39-081-7892-111
Fax: +39-081-7892-208

JAPAN

Tokyo
Phone: +81-03-6871-9008
Fax: +81-03-6890-4620

KOREA

Phone: +82-2-2274-0748
Fax: +82-2-2274-0794

MALAYSIA

Phone: +60-3-2161-0322
Fax: +60-3-2163-6312

MEXICO

Phone: +52-55-3640-5060

THE NETHERLANDS

Phone: +31-15-3808666
Fax: +31-18-1641438

RUSSIA

Veliky Novgorod
Phone: +7-8162-55-7898
Fax: +7-8162-55-7921

Moscow

Phone: +7 495-585-1276
Fax: +7 495-585-1279

SAUDI ARABIA

Phone: +966-3-341-0278
Fax: +966-3-341-7624

SINGAPORE

Phone: +65-6861-6100
Fax: +65-6861-7172

SOUTH AFRICA

Phone: +27-11-452-1550
Fax: +27-11-452-6542

SOUTH & CENTRAL

AMERICA AND THE CARIBBEAN
Phone: +55-12-2134-1201
Fax: +55-12-2134-1238

SPAIN

Phone: +34-93-652-6430
Fax: +34-93-652-6444

UNITED ARAB EMIRATES

Phone: +971-4-8991-777
Fax: +971-4-8991-778

UNITED KINGDOM

Bracknell
Phone: +44-1344-460-500
Fax: +44-1344-460-537

Skelmersdale

Phone: +44-1695-526-00
Fax: +44-1695-526-01

UNITED STATES

Massachusetts
Phone: +1-508-586-4600
Fax: +1-508-427-8971

Corpus Christi, Texas

Phone: +1-361-881-8182
Fax: +1-361-881-8246

Deer Park, Texas

Phone: +1-281-884-1000
Fax: +1-281-884-1010

Houston, Texas

Phone: +1-281-671-1640
Fax: +1-281-671-1735



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