



Mini-Marex E

Electrical Remote Control for Marine Propulsion

General

The Mini-Marex control system incorporates the latest microprocessor based control technology. It is designed for remote control of propulsion systems of ships such as yachts and pleasure boats, patrol and police boats, workboats, tugs, fishing boats, ferries and special purpose vessels powered by high speed diesel engines with reversing gears.

For these boats the Mini-Marex system offers the better alternative to mechanical remote control systems such as cables over pulley, push pull cables, chains, etc.

Now Rexroth Mecman GmbH is presenting the Mini-Marex-E control system as the consistent and continuous development of the existing Mini-Marex remote control systems already introduced successfully to the market.

In addition to the extended software programme offering even more possibilities in engine and gear adaptation, new components offer a safe, quick and cost effective installation of the control system. Fully wired control heads are provided with plug connectors as well as the actuators and the pre-assembled electric

Advantageous features

- Single lever operation of engine speed and gear shifting
- Microprocessor controlled sequential operating functions
- High control accuracy
- Low operating forces
- Operation from up to four control stations
- Engine speed control without engaging gears (engine warm-up)
- Adjustable reversing delays in proportion to the reproduced cruising speed
- Choice of automatic power boost with adjustable time delays before engaging the clutches
- Choice of interlocked station transfer with matching in control head lever positions or free transfer
- Continuously adjustable operating travels for speed setting and gear shifting
- Simplified fault diagnosis
- Cost-saving, easy installation by means of pre-assembled components and electric cables with plug connectors

System configuration

The Mini-Marex E system arrangement is shown in the block diagram overleaf. The system consists of the following pre-assembled components:

- Elegant **Control Head** for twin engine propulsion, including all necessary components as indicators and push buttons.

Alternative:

Same Control Head but with short levers

- **Control unit** with integrated electronic for electrical throttle control and electrical or mechanical gear shifting.
Connection for max. 4 control stations.

Optional features:

Active speed synchronisation for twin engine

propulsion and/or electrical or mechanical slip control for trolling gears.

Alternative:

Control unit with integrated electronic for mechanical throttle control and electrical or mechanical gear shifting.

Connection for max. 3 control stations.

Optional features:

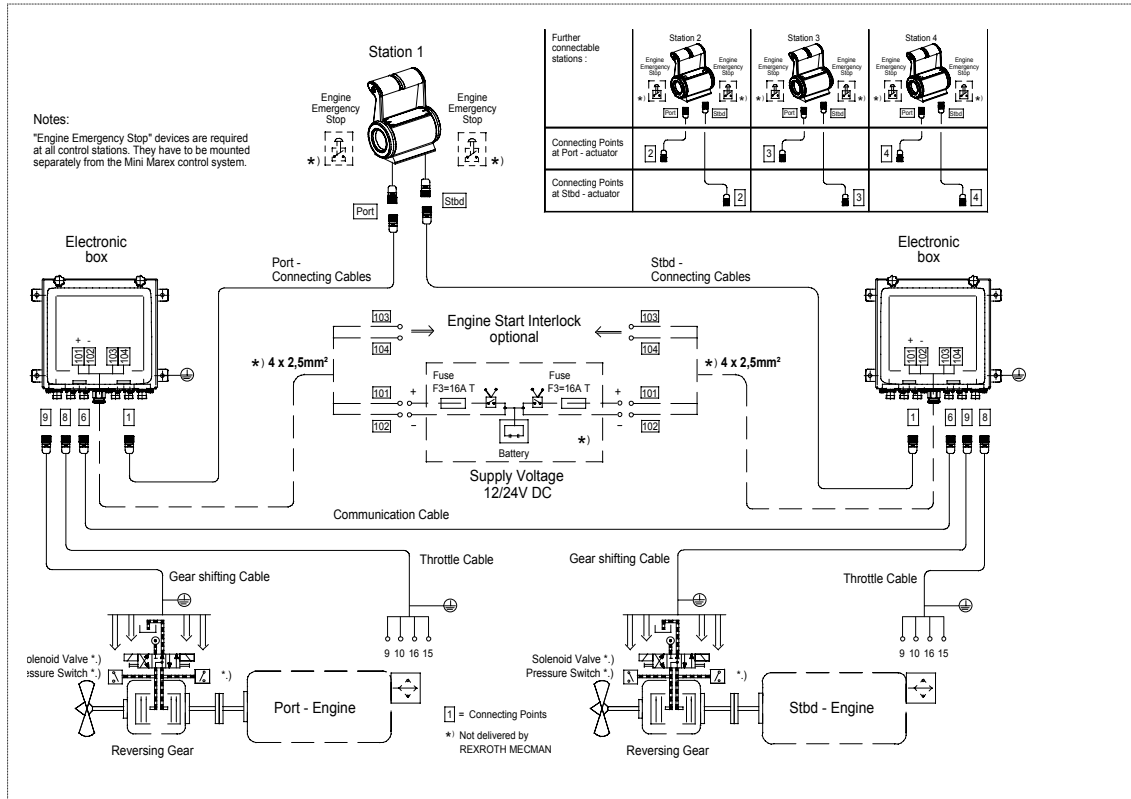
Active speed synchronisation for twin engine propulsion and/or electrical or mechanical slip control for trolling gears

Optional special features

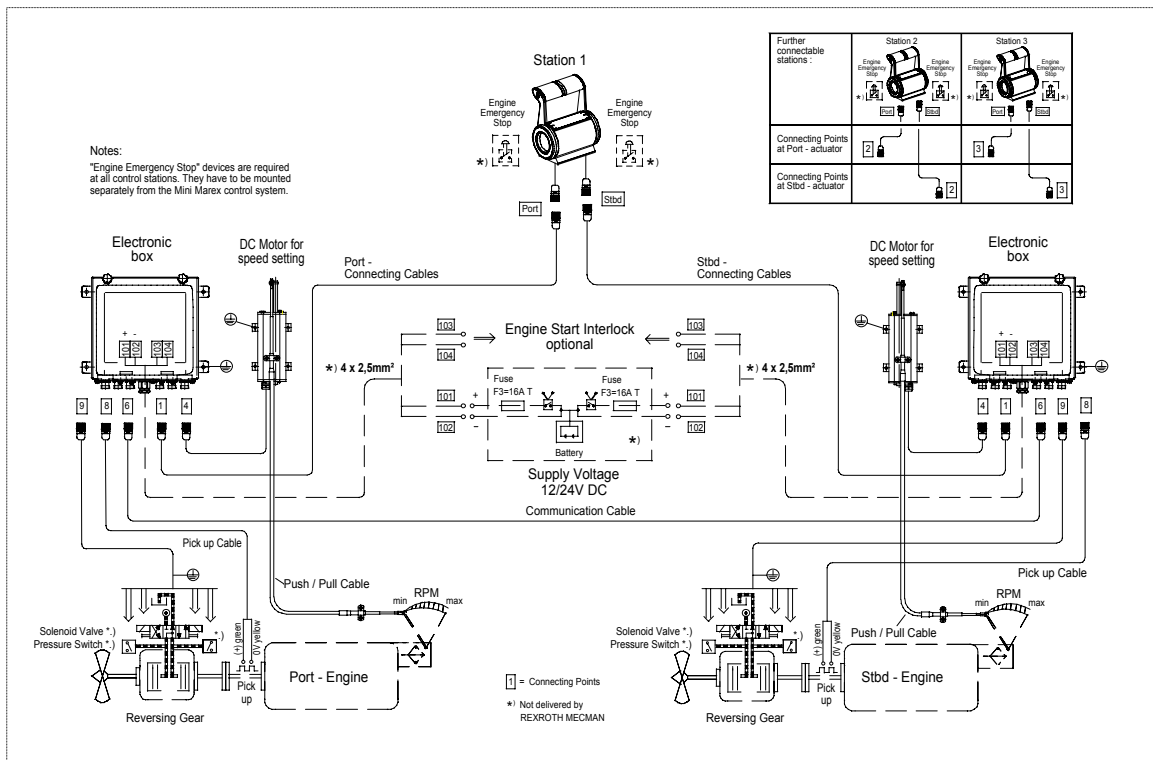
- Controllable clutch slip (trolling-/modulation mode)
- Speed synchronization for twin engines

Block Diagrams

Example 1: Twin Engine - electrical throttle control and electrical gear shifting



Example 2: Twin Engine - mechanical throttle control and electrical gear shifting



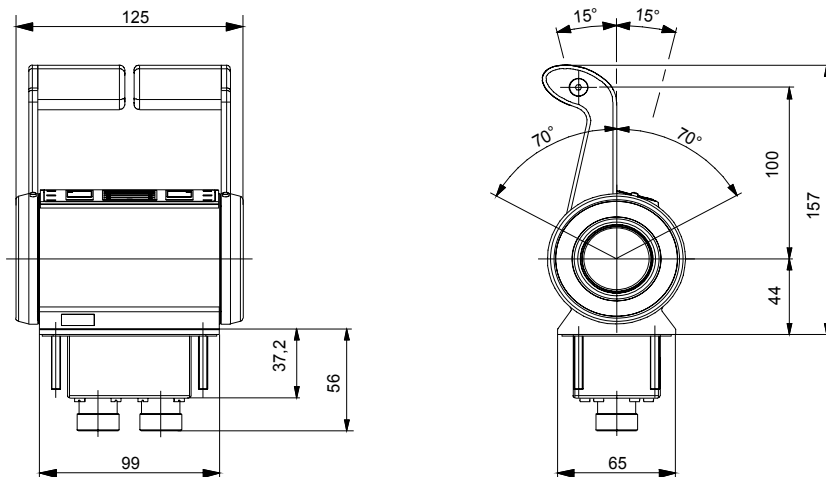
Control Head - type 240



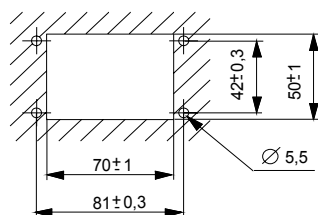
Technical Data

<i>Ambient temperature</i>	248 K ... 343 K
<u>Protection :</u>	
<i>Above desk-top</i>	IP66 - IEC 529 (DIN VDE 0470)
<i>Below desk-top</i>	IP65 - IEC 529 (DIN VDE 0470)
<u>Painting :</u>	
<i>Housing</i>	black, unpolished
<i>Lever</i>	chrom-plated, high polish
<i>Weight</i>	2 kg
Code Number	362 240 020 0

Outline dimensions



Pultausschnitt / Panel Cut-out



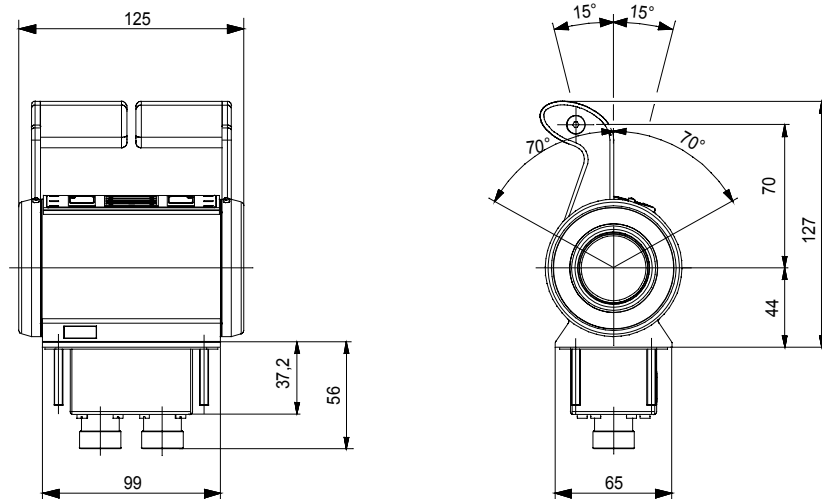
Control Head type 240, short levers



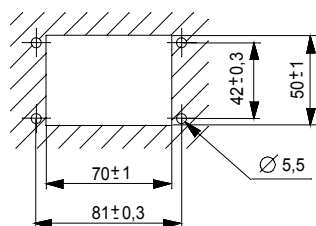
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Outline dimensions



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Control Unit



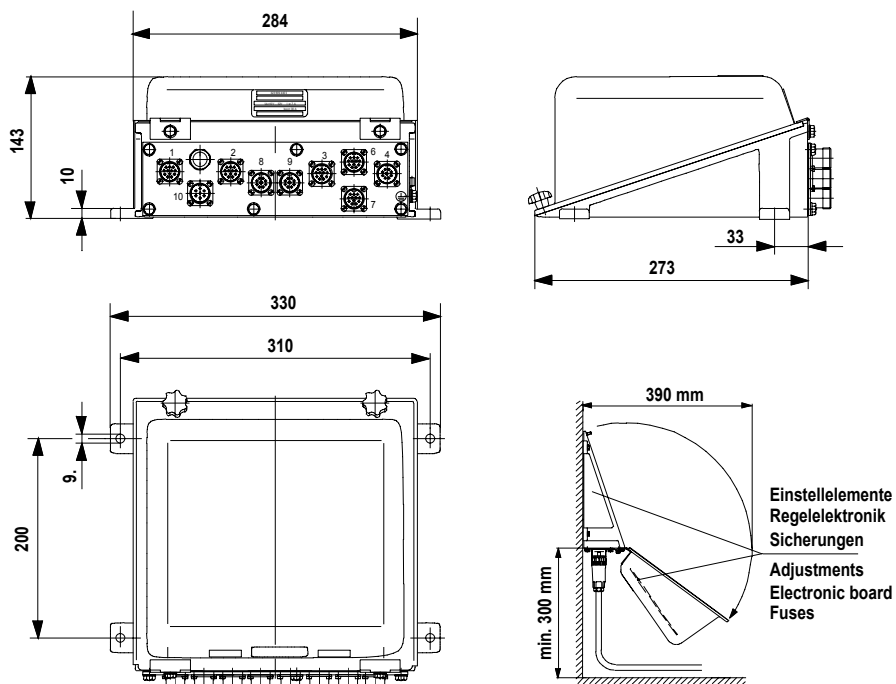
Technical Data

Ambient temperature:	248 K ... 333 K
Protection :	IP44 - IEC 529 (DIN VDE 0470)
Operating Voltage:	12 / 24V DC
Voltage range:	10 ...32V DC
Weight:	9 kg

Code Number 323 699 44 . 0

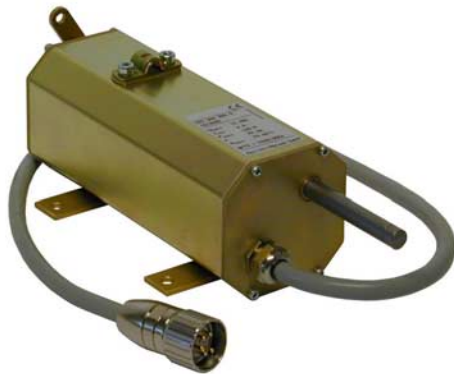
Features	Pc. No. 323 699 446 0	Pc. No. 323 699 447 0	Pc. No. 323 699 448 0
Control stations	max. 4 stations	max. 4 stations	max. 3 stations
Throttle control	<u>electrical</u> (4-20 mA)	<u>electrical</u> (PWM signal)	<u>mechanical</u> servomotor 323 698 000 0 required
Gear shifting	1.) <u>solenoid operated</u> 2.) <u>mechanical operated</u> servomotor 323 698 000 0 required.	1.) <u>solenoid operated</u> 2.) <u>mechanical operated</u> servomotor 323 698 000 0 required.	1.) <u>solenoid operated</u> 2.) <u>mechanical operated</u> servomotor 323 698 000 0 required.
Synchronisation	enable	enable	enable
Trolling	enable 1.) <u>electrical trolling control</u> (4-20mA) 2.) <u>mechanical trolling control</u> servomotor 323 698 100 0 required	enable 1.) <u>electrical trolling control</u> (4-20mA) 2.) <u>mechanical trolling control</u> servomotor 323 698 100 0 required	enable 1.) <u>electrical trolling control</u> (4-20mA) 2.) <u>mechanical trolling control</u> servomotor 323 698 100 0 required

Outline dimensions



DC Servomotor

for mechanical throttle control and for mechanical gear shifting

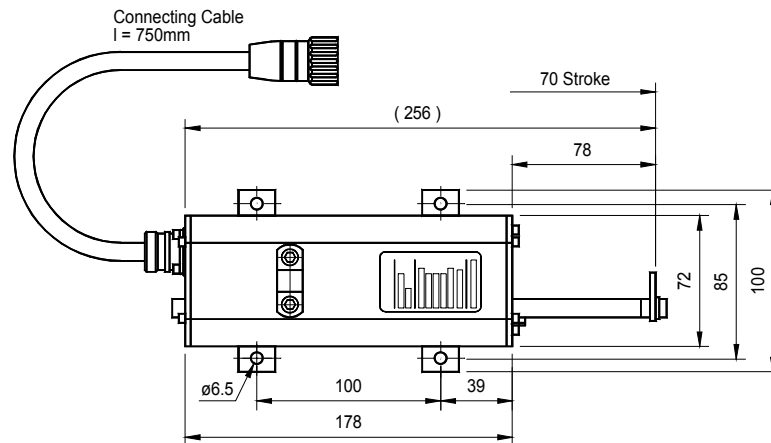


Technical Data

<i>Ambient temperature:</i>	248 K ... 333 K
<i>Protection :</i>	IP54 - IEC 529 (DIN VDE 0470)
<i>Rated stroke:</i>	70mm
<i>Rated speed:</i>	70mm/sec
<i>Rated force:</i>	100 N
<i>Weight:</i>	2 kg

Code Number 323 698 000 0

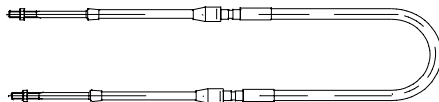
Outline dimensions



Push-Pull Cables

for mechanical throttle control, for mechanical gear shifting and trolling.

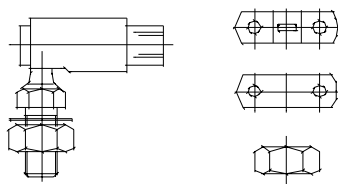
Will be used with DC servomotor.



Available cable lengths: 2 meter (**Code No. 323 699 415 2**)
3 meter (**Code No. 323 699 416 2**)

Mounting kit

for connecting the push-pull cables

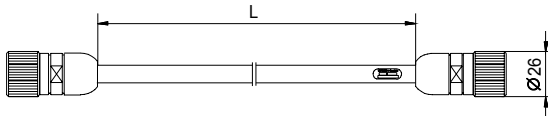


Code No. 323 699 006 2

Electric cables

pre-assembled with connector plugs for an easy connection of all system components

Connection between control head and control unit

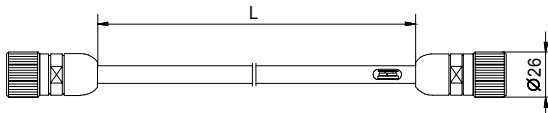


Length L 10 m
Code Number 894 620 240 2

Length L 15 m
Code Number 894 620 242 2

Length L 20 m
Code Number 894 620 243 2

Connection between control units

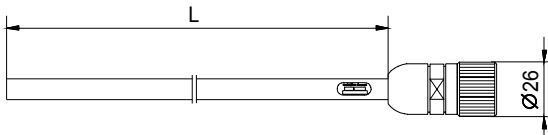


Length L 5 m
Code Number 894 620 261 2

Length L 10 m
Code Number 894 620 260 2

Length L 15 m
Code Number 894 620 262 2

Connection to gear box

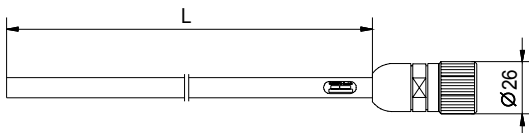


Length L 5 m
Code Number 894 620 291 2

Length L 10 m
Code Number 894 620 290 2

Length L 15 m
Code Number 894 620 292 2

Connection to throttle



Length L 2 m
Code Number 894 620 279 2

Length L 5 m
Code Number 894 620 271 2

Length L 10 m
Code Number 894 620 270 2

Rexroth



Worldwide beside you

ARGENTINA

Mannesmann Rexroth S.A.I.C.
Acassuso 4841/7
1605 Munro
Phone : +54-1-7 56 01 40
Fax : +54-1-7 56 01 36

AUSTRALIA

Mannesmann Rexroth Pty. Ltd.
3 Valediction Road
Kings Park
P.O. Box 6207
Marayong, N.S.W. 2148
Phone : +61-2-98 31 77 88
Fax : +61-2-98 31 55 53

AUSTRIA

Mannesmann Rexroth GmbH
Industriepark 18
A - 4061 Pasching
Phone : +43-72 21 605-319
Fax : +43-72 21 605-26

BELGIUM

Mannesmann Rexroth N.V.-S.A.
Industrielaan, 8
1740 Ternat
Phone : +32-2-5 82 31 80
Fax : +32-2-5 82 43 10

BRAZIL

Rexroth Automação Ltda.
Rua George Rexroth, 182
e 377 Diadema
09950 Diadema SP
Phone : +55-11-7 45 91 65
Fax : +55-11-7 45 90 99

CANADA

Basic Technologies Corp.
3426 Mainway Drive
Burlington, Ontario L7M 1A8
Phone : +1-905-335 55 1
Fax : +1-905-335 41 84

CHINA

Rexroth (China) Ltd.
19, Cheung Shun Street
1/F, Cheung Sha Wan
Kowloon, Hong Kong
Phone : +852-27 41 13 51
Fax : +852-2 86 06 31

DENMARK

Mannesmann Rexroth A/S
Gungevej 1
Postbox 501
2650 Hvidovre
Phone : +45-36 77 44 66
Fax : +45-36 77 08 66

EGYPT

Yasser Fahmy Hydraulic Eng.
65 Saudi Building, Kobba
P.O. Box 6550
Cairo, Sawah 11813
Phone : +20-2-4 52 01 92
Fax : +20-2-4 53 06 38

FINLAND

Mannesmann Rexroth Oy
Ansatie 6
01740 Vantaa
Phone : +358-9-84 91 11
Fax : +358-9-8 4 91 13 57

FRANCE

Rexroth Pneumatic S.A.
Av. De la Trentaine
B.P. 2
77501 Chelles Cedex
Phone : +33-1-64 72 70 00
Fax : +33-1-64 72 70 21

GREAT BRITAIN

Mannesmann Rexroth Ltd.
Rexroth Mecman Pneumatics
Broadway Lane
South Cerney
Cirencester
Gloucestershire GL7 5UH
Phone : +44-12 85 - 863 000
Fax : +44-12 85 - 863 0330

GREECE

Automation Systems S.A.
Spirou Patsi 62
11855 Athens
Phone : +30-1-341 1600
Fax : +30-1-342 27 59

INDONESIA

P.T. Rexroth Wijayakusuma
Jl. Raya Bekasi Km. 21
Pulogadung
Jakarta Timur 13920
Phone : +62-21-4 61 04 87
Fax : +62-21-4 60 01 52

IRAN

Iran Hydraulic Systems Co. Ltd.
P.O. Box 19-395-3636
310 Mirdamad Ave.
Teheran
Phone : +98-21-8 88 35 18
Fax : +98-21-8 88 90 89

ISLAND

Landvlar H.F.
P.O. Box 20
202 Kopavogur
Phone : +354-1-7 66 00
Fax : +354-1-7 85 00

ITALY

MannesmannRexroth S.p.A.
Via G. Di Vittorio, 1
20063 Cernusco s/N (MI)
Phone : +39-2-92 36 53 81
Fax : +39-2-92 36 55 09

JAPAN

Nabco Ltd.
2-21, Isogami-Dori 2-Chome
Chuo-Ku
Kobe 651
Phone : +81-78-2 51-81 09
Fax : +81-78-2 51-80 90

MALAYSIA

Mannesmann Rexroth Sdn.Bhd.
3, Block B, Jalan SS 13/5
Subang Jaya Industrial Estate
47500 Petaling Jaya
Selangor Darul Ehsan
Phone : +60-3-7 34 48 70
Fax : +60-3-7 3257 00

MEXICO

Rexroth Mexico S.A. de C.V.
Apto. Postal 75 - 204
Neptuno No. 72
Unidad Industrial Vallejo
Delegacion G.A. Madero
07700 Mexico D. F.
Phone : +52-5-7 54 17 11
Fax : +52-5-7 54 50 73

NETHERLANDS

Rexroth B.V.
Division Pneumatik
Bankwerkerstraat 16
Postbus 9236
3007 AE Rotterdam
Phone : +31-10-2 92 63 00
Fax : +31-10-2 92 63 10

NEW ZEALAND

Mannesmann Rexroth Ltd.
45 Greenmount Drive
East Tamaki
P.O. Box 58-221
Auckland (NZ)
Phone : +64-9-2 74 41 72
Fax : +64-9-2 74 64 77

NORWAY

Mannesmann Rexroth A/S
Berghagan 1, 1405 Langhus
Postboks 3007, 1402 Ski
Phone : +47-64 86 41 00
Fax : +47-64 86 90 62

POLAND

Mannesmann Rexroth Sp.z.o.o.
ul, Staszica 1
05-800 Pruszkow
Phone : +48-22-7 38 18 00
Fax : +48-22-7 58 87 35

PORTUGAL

Automair Notre Aplicações
Industriais LDA.
R. Marquês de
Soveral No. 2-A
1700 Lisboa
Phone : +351-21-848-9396
Fax : +351-21-848-9202

SINGAPORE

Mannesmann Rexroth Pte. Ltd.
Automation Division
16 International Business Park
03--02 Mannesmann Centre
Singapore 628740
Phone : +65 - 899 70 60
Fax : +65 - 899 70 61

SLOVENIJA

LA & CO MARIBOR
Biro Ljubljana
Kamniska ul. 25
1000 Ljubljana
Phone : +386-61-13 43 270
Fax : +386-61-13 43 501

SOUTH - AFRICA

Tectra Automation (Pty) Ltd.
28 Banfield Road
Industria North, 1700
P.O. Box 75
Maraisburg 1700
Phone : +27-11-6 73 20 80
Fax : +27-11-6 73 72 69

SOUTH - KOREA

Mannesmann Rexroth
Korea Ltd.
1500-12, Dadae-Dong
Saha-Gu
Pusan 604-050
Phone : +82-51-260 07 07
Fax : +82-51-266 81 31

SPAIN

Mannesmann Rexroth S.A.
Centro Industrial Santa
Obradors 14 -16
Barcelona
08130 Santa Perpetua De Mo-
goda
Phone : +34-93-7 47 94 00
Fax : +34-93-7 47 94 01

Centralair S.A.

Apartado 735
B.ºIgara, Poligono 23
20009 San Sebastian
Phone : +34-43-21 12 22
Fax : +34-43-21 76 75

SWEDEN

Rexroth Mecman Svenska AB
Konsumentvägen 4, Älvsjö
12581 Stockholm
Phone : +46-8-7 27 95 51
Fax : +46-8-6 47 63 73

SWITZERLAND

Mannesmann Rexroth
Schweiz AG
Von Roll Areal 17
4710 Klus
Phone : +41-62-3 86 80 74
Fax : +41-62-3 86 80 79

TURKEY

Rexroth Hidropar A.S.
Otomasyon San. Ve Tic. A.S.
Fevzi Cakmak Cad. No. 3
34630 Sefaköy / Istanbul
Phone : +90-212-541 60 70/12
Fax : +90-212-5 99 34 07

U.S.A.

Mannesmann Rexroth Corporation
Pneumatics Division
1953 Mercer Road
P. O. Box 13597
Lexington, KY 40511-1021
Phone : +1-606-2 54 80 31
Fax : +1-606-2 81 34 80

VENEZUELA

Mannesmann Rexroth S.A.
Calle Rep.Dominicana
Edf. Alpha, P.B., Locales 1y2
Boleita Sur
P.O. Box 75703
Caracas
Phone : +58-2-2 35 10 67
Fax : +58-2-23 9 33 30

Rexroth Mecman GmbH
Marine Technique Division
Bartweg 13, 30453 Hannover
Phone: +49-(0) 2136 251
Fax: 49-(0) 2136 165
Email: marinesales@rexroth-mecman.de
Internet, <http://www.rexroth-mecman.com>

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