

Compact and fast | More efficiency for cranes  
The new Demag DR rope hoist | with capacities up to 10 t





38973-2

## Demag Cranes & Components – leading the way with innovative solutions

### Benefits

Efficiency and high operating reliability are clearly defined requirements to be met by material flow, logistics and drive solutions. Demag Cranes & Components has been developing and manufacturing solutions for industrial drives, load handling and material flow applications in the manufacturing and storage sector for almost two centuries.

### Engineering

Today, the company is the world market leader for materials handling components, cranes and hoists and supplies innovative product solutions and services to customers of all sizes.

### Data

Demag Cranes & Components places priority on meeting your needs, so that products and services can be seamlessly integrated into the value creation process of your company.

### Service

### Planning support

### Contact

The development of the new Demag DR rope hoist, which is optimised for crane applications, was designed to be more than “just” a further product development to bring existing products up to date with solid expertise and experience. The requirement to be met was an innovative product which satisfies all the needs of the market for more efficiency and, therefore, a better investment for the owner of the installation. Particularly in the lower load ranges up to 10 t and, above all, for standard applications, demand today centres on higher lifting speeds, greater operating reliability and higher availability. Therefore, the main challenges were for a faster lifting speed to achieve higher handling rates, frequency inverter-fed travel drives for low-sway travel motions and exact positioning of the load as well as a compact, space-saving design.



## The new standard for rope hoists

Optimised for crane applications, the new Demag DR rope hoist meets all the requirements for state-of-the-art hoists for tomorrow's needs. Besides the space-saving design and particularly long service life, it also offers a higher lifting speed for faster handling rates – comprehensive standard features at an attractive price.

### Higher hoist speed for faster handling

Most sub-assemblies of the Demag DR rope hoist have a lifting speed of at least 6 m/min with 4/1 reeving as standard. A frequency inverter provides infinitely variable cross travel speeds up to 30 m/min for low-sway travel motions,

fast and exact positioning and gentle handling of sensitive loads. This also results in a significant reduction of the mechanical load on the crane installation.

### Greater efficiency thanks to higher availability

The crab is supplied with FEM classification 2m<sup>+</sup>. The rope reeving components are classified in 2m, the gearbox service life is rated at 1900 hours at full load instead of the 1600 hours at full load specified for the 2m classification. This means that there is 20 per cent more time before the general overhaul is due when the safe working period has elapsed.

The generous dimensioning of all components also ensures constant availability.

The modular design of the rope hoist facilitates simple and rapid maintenance and repair of individual components, thus cutting any downtime to a minimum.

### Compact design for optimum utilization of space

The Demag DR rope hoist design provides outstanding approach dimensions for better utilization of the space served by the crane. This means that either a larger area can be served or new buildings can be designed smaller. This cuts new construction and subsequent costs.





## Safety and efficiency down to the last detail

### Low-vibration, quiet-running motor

- Optimised motor design for low-vibration, quiet operation
- 12/2-pole or 4-pole squirrel-cage motor with cylindrical rotor
- Thermal contact to protect against overheating as standard
- IP 55 enclosure

### Fast acting brake

- Demag DC disk brake with brake release and motor start-up monitoring, minimum brake safety factor of 1.8
- Fast acting brake thanks to integrated electronic modules

### Gearbox lubricated for life

- Three-stage helical gearbox with high endurance gearing and oil lubrication for the entire service life
- Modular gearbox design facilitates simple modification of the basic transmission ratio

### Protective rope guide

- Rope guide made of tough plastic
- Smooth rope lead-in by means of hardened pressure rollers mounted on anti-friction bearings
- Inclined pull up to 4° without touching the rope guide

### Frequency inverter for stepless travel motions

- For low-sway travel motions and exact positioning

### Electrics featuring CAN bus technology

- Reliable internal signal transmission
- Complete PCB design
- Load spectrum recorder to determine the remaining safe working period integrated in the controls
- Cross-travel inverter and braking resistor integrated in the electrical enclosure
- Pulse generator to monitor the motor function



38926-2

#### Precision geared limit switch

- Automatic cut-off of the lifting and lowering motions in the upper and lower limit positions
- 4 contacts set for emergency cut-off in the upper and lower positions as standard
- Additional safety thanks to fast-to-slow cut-off and phase failure detection
- Other functions, e.g. an operating limit switch, can also be set

#### Overload protection

- Electro-mechanical overload protection integrated in the rope retaining cross-head
- Evaluation by means of the central electronic unit which also specifies the partial load switching point for a measuring run at slow lifting speed
- Electronic overload protection for summation when several hoists are used, load display and slack rope cut-off

#### User-friendly bottom block

- Guard for improved safety
  - moving plastic elements close the opening where the wire rope enters the bottom block
- Two handle recesses make it easier to handle and guide the bottom block

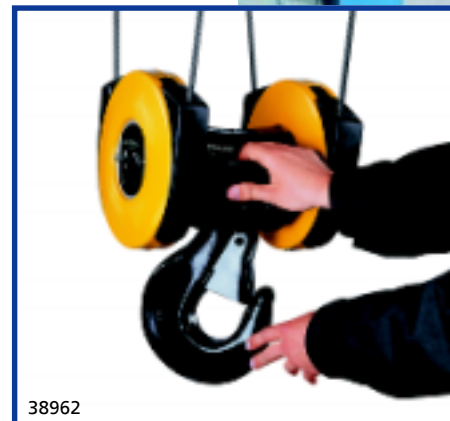
#### Ergonomically optimised controls

- DSE-R control pendant
  - for two-stage and stepless operation
  - User friendly with key-operated switch to check the emergency limit switch for the operating limit switch function as standard
  - Display for the load range and specific installation status information
  - IrDA interface for direct data transfer with a laptop
  - Load display for use with electronic overload protection
- Demag DRC-10 radio control
  - Newly developed radio control with proportional pushbuttons
  - GSM standard radio technology
  - Bidirectional signal transmission
  - Intelligent charging system
  - Display to show the load range and installation-specific data



39017-3

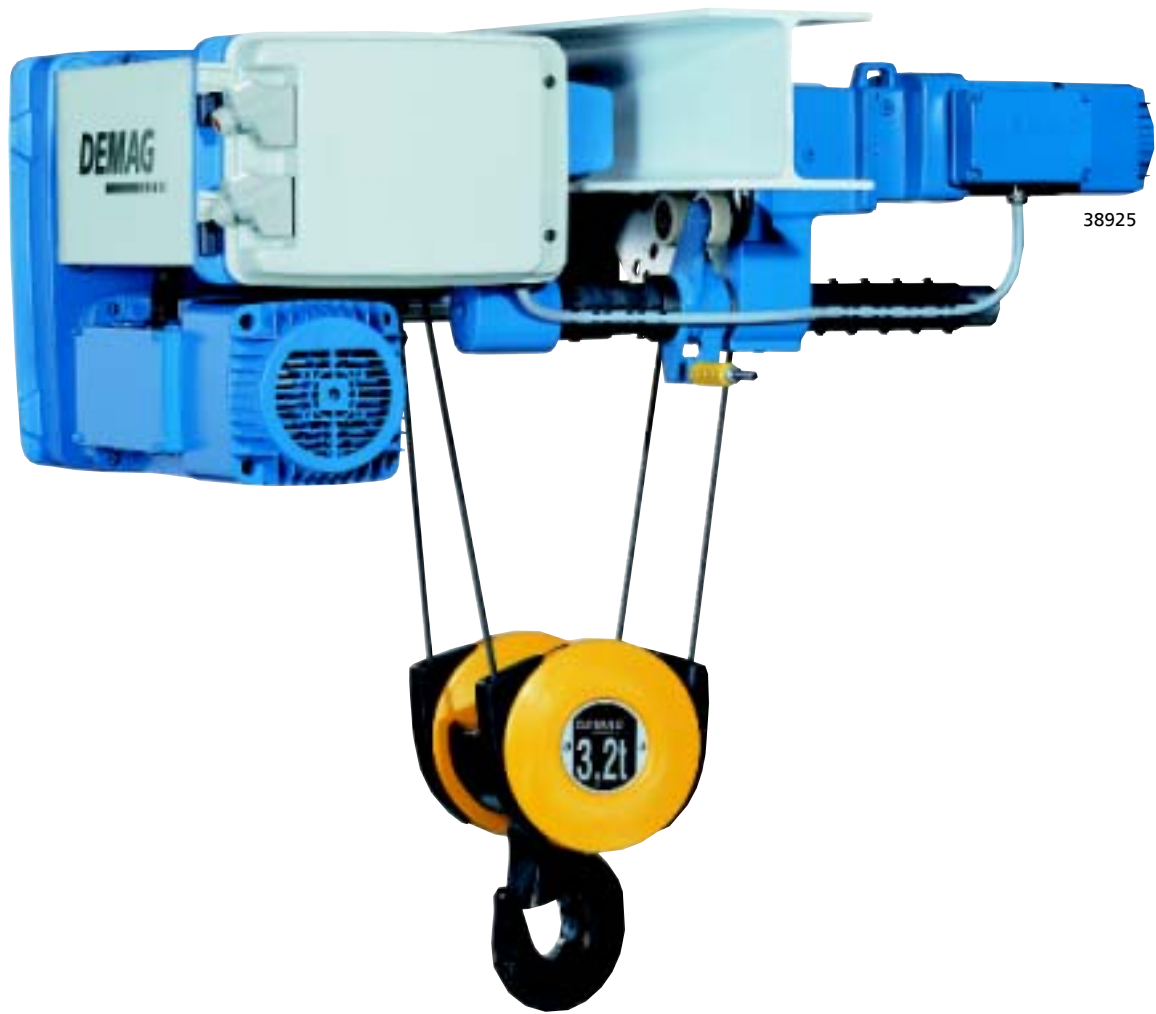
39030-1



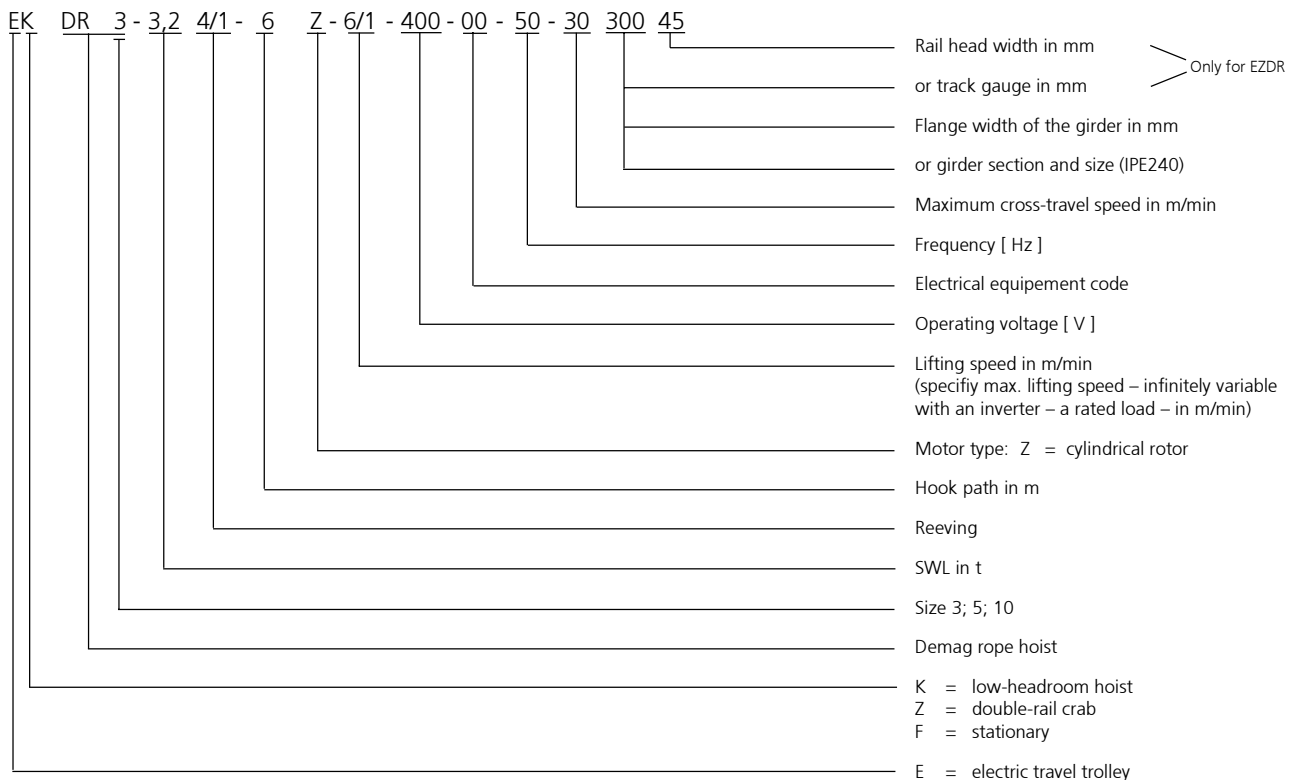
38962



# Technical Data



## Explanation of size designations



## Selection criteria

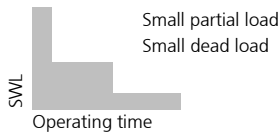
The size of the hoist is determined by the load spectrum, average operating time, SWL and reeving.

### The load spectrum

(estimated in most cases) can be ascertained in accordance with the following definitions:

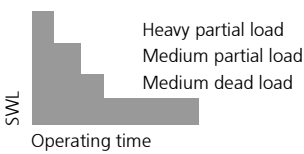
#### 1 Light

Hoist units which are usually subject to very small loads and in exceptional cases only to maximum loads.



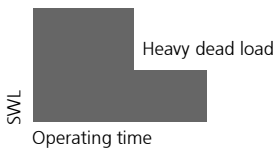
#### 2 Medium

Hoist units which are usually subject to small loads but rather often to maximum loads.



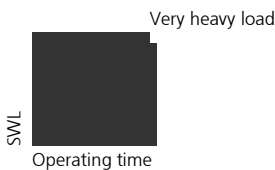
#### 3 Heavy

Hoist units which are usually subject to medium loads but frequently to maximum loads.



#### 4 Very heavy

Hoist units which are usually subject to maximum or almost maximum loads.



1. What are the operating conditions?
2. What is the specified safe working load?
3. To what height must the load be lifted?
4. What is the required lifting speed?

5. Do the loads need to be lifted and lowered with great accuracy?
6. Is horizontal load travel necessary?
7. How is the hoist to be controlled?

The group is determined from the operating time and load spectrum

Load spectrum	Average operating time per working day in hours					
1	Light	4-8	8-16	über 16		
2	Medium	2-4	4-8	8-16		
3	Heavy	1-2	2-4	4-8		
4	Very heavy	0,5-1	1-2	2-4		
Group of mechanisms to	FEM	2 m	3 m	4 m		
	ISO	M 5	M 6	M 7		
Group of mechanisms to FEM/ISO	2 m/M 5 *	3 m/M 6 *	4 m/M 7 *	2 m/M 5 *	3 m/M 6 *	4 m/M 7 *
Rope reeving method	2/1, 4/2			4/1		
Range	SWL in t					
DR 3	1,6	1,25	1	3,2	2,5	2
DR 5	2,5	2	1,6	5	4	3,2
DR 10	5	4	3,2	10	8	6,3

\* The gearbox service life of the new Demag DR rope hoist is approximately 20% higher than the FEM rating

### Example

Load capacity	5 t
Load spectrum	"mittel" nach Tabelle
Lifting speed	6 m/min
Creep lifting speed	1 m/min
Average hook path	3 m
Cycles per hour	20
Working time per day	8 Stunden

The average operating time per working day is estimated or calculated as follows:

$$\text{Operating time/day} = \frac{2 \cdot \text{av. hook path} \cdot \text{no. of cycles/h} \cdot \text{working time/day}}{60 \cdot \text{lifting speed}}$$

$$\text{Operating time/day} = \frac{2 \cdot 3 \cdot 20 \cdot 8}{60 \cdot 6} = 2,66 \text{ hours}$$

For the "light" load spectrum and an average daily operating time of 2.66 hours, the table shows FEM group 2 m. For a load capacity of 5 t and 4/1 rope reeving, the table indicates hoist size DR 5 - 5.

## Selection tables

Size	Group of mechanisms FEM/ISO	SWL t	Hook path m	Lifting speed m/min			SWL t	Hook path m	Lifting speed m/min			SWL t	Hook path m	Lifting speed m/min		
				V1	V2	V3			V1	V2	V3			V1	V2	V3
				2/1					4/1					4/2		
DR 3	2 m/M 5	1,6	12; 20	12/2	18/3	2 - 25	3,2	6; 10	6/1	9/1,5	1 - 12,5	-	-	-	-	-
	3 m/M 6	1,25					2,5									
	4 m/M 7	1					2									
DR 5	2 m/M 5	2,5	12; 20	12/2	18/3	2 - 25	5	6; 10	6/1	9/1,5	1 - 12,5	-	-	-	-	-
	3 m/M 6	2					4									
	4 m/M 7	1,6					3,2									
DR 10	2 m/M 5	5	12; 20	10/1,7	2 - 18	2 - 25	10	6; 10	5/0,8	1 - 9	1 - 12,5	5	5,8; 11,35	10/1,7	2 - 18	2 - 25
	3 m/M 6	4					8					4				
	4 m/M 7	3,2					6,3					3,2				



## Demag Service

### – ready to help around the clock

#### **All over the world**

We offer you service around the clock with our world-wide network of expert service teams. This ensures the highest availability and safety in your installation.

#### **Rapid and reliable spare part supply**

Any spare parts needed can be shipped 24 hours a day, 7 days a week.

#### **Effective training of your employees**

Your employees learn all they need to know about hoists and crane installations in training courses lasting one or more days. Operator and product training courses increase productivity, familiarisation with the relevant regulations contributes towards maximum safety at the workplace. Training courses can be held at our training centres and at your company.

#### **Comprehensive monitoring reduces downtime**

The performance and safety status of your installation are kept under surveillance by the monitoring system. A diagnostics tool constantly shows the operator or maintenance engineer the relevant status information and any unusual operating status, if applicable.

This enables any necessary maintenance and repair work to be identified and carried out in good time, downtime is reduced. Regular monitoring cuts maintenance and operating costs in the long term.

#### **Your individual service package**

Demag Service offers a comprehensive portfolio of services to ensure the lasting availability of your installation throughout its entire lifecycle:

- Recurring inspections according to relevant accident prevention regulations
- Inspection and maintenance according to contract schedules
- Fault elimination both with and without an on-call standby agreement
- Crane and crane runway surveys
- Service training for operators and maintenance engineers

On this basis, we can assemble a package tailored to meet your individual production and operating needs.







# Hoist Designer DR

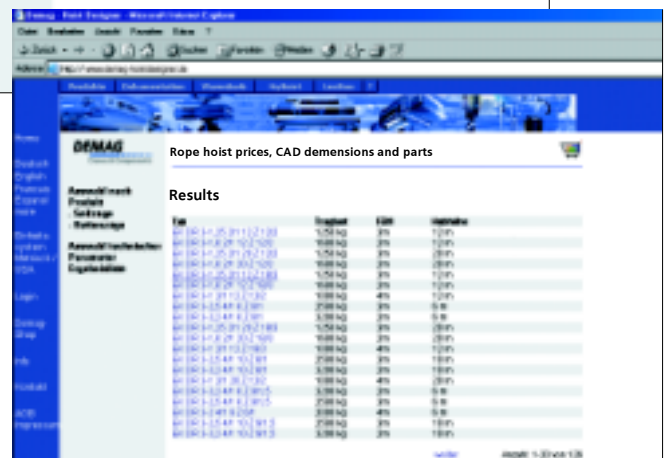
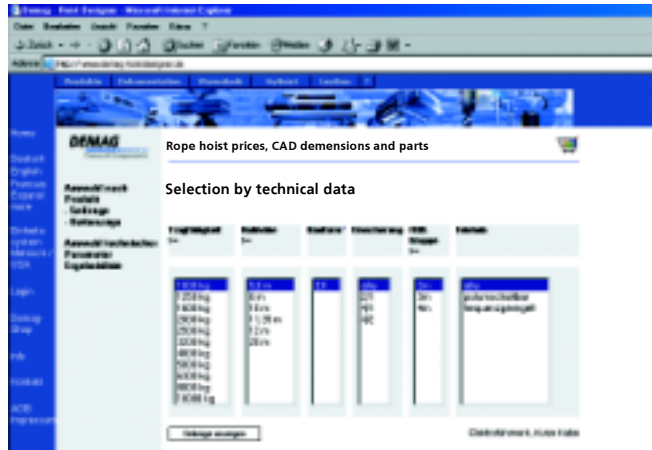
## – the fast way to select your Demag rope hoist

You can simply integrate the Demag DR rope hoist into your design (AutoCAD) using the Hoist Designer at [www.demag-hoistdesigner.com](http://www.demag-hoistdesigner.com). You quickly “click together” the information and calculations you need by direct entry using the model code, or by technical selection using an assistant. You are provided with all the technical data and CAD drawings you need and you can obtain price information. A link to Demag Shop enables you place your order direct.

As the Hoist Designer enables you to make a quick selection, you save valuable time in specifying the right hoist units and equipment.

### Decisive benefits

- Requires no installation and no hard disk space
- Fast and individual selection
- Latest technical data and dimensions
- Latest documentation in various foreign languages
- All information available round the clock worldwide
- Rapid transmission of your enquiry
- Possible connection to our online order system ([www.demag-shop.de](http://www.demag-shop.de))
- No transmission errors



**MHE-Demag**

**Please send the quote to**

Company \_\_\_\_\_

P.O. Box/Street \_\_\_\_\_

Town/post code \_\_\_\_\_

Contact partner \_\_\_\_\_

Telephone/extension \_\_\_\_\_

Telefax \_\_\_\_\_

E-mail \_\_\_\_\_

SWL \_\_\_\_\_ kg

FEM Group (if known) FEM \_\_\_\_\_

**If you do not know the FEM Group, please specify the type of application (e.g. workshop, production or similar)**

Actual operating time of the hoist per day \_\_\_\_\_ Hours

Lifting path \_\_\_\_\_ m

Lifting speed \_\_\_\_\_ m/min

Stepless lifting speed by means of an inverter  Yes  No

**Rope hoist and trolley design**

Stationary rope hoist  Yes  No

Monorail hoist  Yes  No

Travel girder profile (flange width) \_\_\_\_\_ mm

Double-rail crab  Yes  No

Track gauge \_\_\_\_\_ mm

**Electrical equipment**

Operating voltage \_\_\_\_\_ V \_\_\_\_\_ Hz

Option: Remote control  Yes  No

**Special ambient conditions (e.g. operation indoors or outdoors, ambient temperatures, operation in a galvanizing facility or similar)**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

<b>MALAYSIA</b>		Branch Offices	
<b>MHE-Demag Malaysia Sdn Bhd</b> <b>MHE-Demag South (M) Sdn Bhd</b> <b>MHE-Demag Industries (M) Sdn Bhd</b> PT 79, Jalan 26/6, Sec 26 Kawasan Perindustrian Hicom 40000 Shah Alam, Malaysia Tel: (6-03) 5191 1553 Fax: (6-03) 5191 1818 Service Hotline: (6-03) 5195 4570/5		<b>Penang:</b>	No. 2712 (Ground floor) Jalan Chain Ferry, Taman Kimsar, 13700 Perai, Province Wellesley Tel: (6-04)399 7222 · Fax: (6-04)390 8444 · Service Hotline: (6-04)399 7222
		<b>Johor:</b>	31, Jalan Canggih 6, Taman Perindustrian Cemerlang, 81800 Ulu Tiram, Johor Tel: (6-07)863 1748 · Fax: (6-07)863 1753
		<b>Pahang:</b>	B-378, Jalan Air Puteh 25300 Kuantan, Pahang Tel: (6-09) 567 6129 · Fax: (6-09) 567 6143
		<b>Perak:</b>	No 605, Jalan Sultan Azlan Shah Utara, Taman Tasik Baru, 31400 Ipoh, Perak Tel: (60-5) 546 3761 · Fax: (60-5) 547 3357
		<b>Sabah:</b>	Ground Floor, Lot 4, Lorong Iramanis 2, Taman Iramanis, Jalan Lintas, 88450 Kota Kinabalu Tel: (6-088) 389 402 / 389 553 · Fax: (6-088) 389 253
		<b>Sarawak:</b>	Lot 9095, Ground Floor, Section 64 KTLD Jalan Canna, Kuching-By-Pass, 93300 Kuching, Sarawak Tel: (6-082) 333 163 · Fax: (6-082) 333 160

<b>INDONESIA</b>		Branch Office & Factory	
<b>PT MHE-Demag Indonesia</b> Kawasan Komersial Cilandak, Gedung 108-S Jakarta 12560 Tel: (62-21) 780 7611 Fax: (62-21) 780 7620 Service Hotline: (62-21) 780 7474		<b>Surabaya:</b>	Jalan Rungkut Industri I/3, Surabaya 60292 Tel: (62-21) 843 9000 · Fax: (62-21) 843 9287 Service Hotline: (62-21) 843 9001
		<b>Medan:</b>	Jalan Mahoni, No. 1 Medan 20235 Tel: (62-61) 453 2612 · Fax: (62-61) 415 4628 Service Hotline: (62-61) 455 1460
		<b>Pekanbaru:</b>	Kompleks Riau Business Center Blok B-9, Jalan Riau, Pekanbaru 28292 Tel: (0761) 860 890 · Fax: (0761) 860889
		<b>Batam:</b>	Komplek Inti Batam Blok E No. 5 Sei Panas, Batam 29432 Tel: (0778) 430 469 · Fax: (0778) 430 471

<b>THAILAND</b>		Factory	
<b>MHE-Demag (T) Ltd</b> 23/110-117 Sorachai Bldg., 25-29 Fl., Sukhumvit 63 (Ekamai), Sukhumvit Rd., North Klongton, Wattana, Bangkok 10110 Tel: (66-2) 714 3838 Fax: (66-2) 714 3993-4			101/16 Moo 20, Nava Nakorn IPZ, Phaholyothin Road T. Klongnung, A. Klongluang Pathumthani 12120 Tel: (66-2) 529 4340 · Fax: (66-2) 529 1402
		Service Centre	194/1 Soi Soonvijjal 4 Bangkapi, Huay Kwang Bangkok, 10320 Tel: (66-2) 716 8020 · Fax: (66-2) 716 8028

<b>PHILIPPINES</b>		Branch Offices	
<b>MHE-Demag (P) Inc.</b> Main Avenue, Severina Diamond Industrial Estate West Service Road Km. 16, South Expressway Paranaque 1700 Metro Manila, Philippines Tel: (63-2) 822 2536 Fax: (63-2) 821 2517 Service Hotline: (63-2) 821 5149		<b>Cebu:</b>	No. 3 Archbishop Reyes Avenue Camputhaw Cebu City Tel: (63-32) 233 9630 · Fax: (63-32) 233 9638

<b>VIETNAM</b>		
<b>MHE-Demag Vietnam Company Limited</b> 15 VSIP Street 2, Vietnam Singapore Industrial Park, Thuan An District, Binh Duong Province Vietnam Tel: (84-650) 784 080 / 784 081 Fax: (84-650) 784 082		

<b>SINGAPORE</b>		
<b>MHE-Demag (S) Pte Ltd</b> Group Management Office S.E.A. 33 Gul Circle, Singapore 629570 Tel: (65) 6862 2900 · Fax: (65) 6862 1933 Service Hotline: (65) 6862 1123		

Email: sales\_mhe@mhe-demag.com · www.mhe-demag.com