

Scrap Balers from Metso Recycling
Lindemann Eta[®]Press





Tradition with a modern touch

set new standards in efficiency

Metso Recycling scrap balers have a tradition of efficiency

Lindemann Eta®Press III balers are absolutely innovatory and look back on a very long, successful tradition. The story of its success began back in the 1920s when the first hydraulic scrap baler was developed. From then on, they made work so much easier in scrap yards, car body plants, aluminum processing and non-ferrous metal steel rolling mills. It was now possible for companies to press metal off-cuts, cables, wires, long turnings or mixed scrap into bales efficiently. The bales with optimized logistics aspects and outstanding melting properties makes them preferred feed material for steel mills, foundries and steel rolling mills.

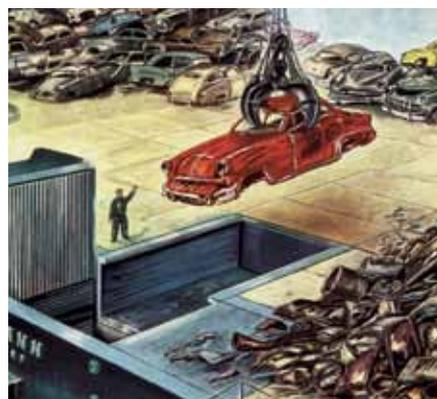
Lindemann Eta®Press III balers: profitability in a new dimension

Metso Recycling is still a step ahead of the competitors, with the Eta®Press III, the latest generation of scrap balers. The balers set new standards not only in terms of profitable utilization of scrap but also in operating safety, flexibility and operation costs. The Eta®Press III series is unique on the one hand with its holistic technological concept and on the other hand particularly when it comes to operator guidance with the user interface. It stands out on account of the same properties that have distinguished the brand for more than 90 years: quality, durability and resilience – with a particularly high level of machine availability.

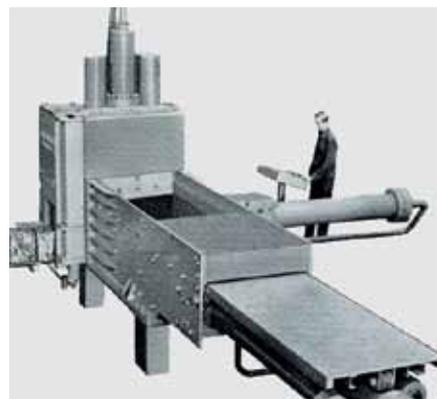
- 1920
- 1921
- 1922
- 1923
- 1924
- 1925
- 1926
- 1927
- 1928
- 1929
- 1930
- 1931
- 1932
- 1933
- 1934
- 1935
- 1936
- 1937
- 1938
- 1939
- 1940
- 1941
- 1942
- 1943
- 1944
- 1945
- 1946
- 1947
- 1948
- 1949
- 1950
- 1951
- 1952
- 1953
- 1954
- 1955
- 1956
- 1957
- 1958
- 1959
- 1960
- 1961
- 1962
- 1963
- 1964
- 1965
- 1966
- 1967
- 1968
- 1969
- 1970
- 1971
- 1972
- 1973
- 1974
- 1975
- 1976
- 1977
- 1978
- 1979
- 1980
- 1981
- 1982
- 1983
- 1984
- 1985
- 1986
- 1987
- 1988
- 1989
- 1990
- 1991
- 1992
- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012



Metal baling press "MINAO"



Heavy duty lid type baler



Baling press "SAWES"



Scrap baling press Lindemann "Eta®Press"



Perfectly adjusted

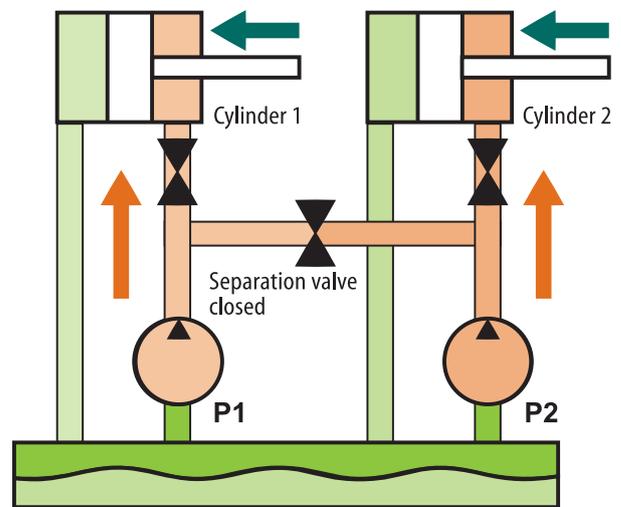
for top technical and profitable performance

Triple action for best results

Lindemann Eta®Press III works according to the principle of three-sided compaction with a hydraulic operating pressure of up to 350 bars. The first striking feature is the optimized construction of the compression chamber made of smooth thick plates for the Lindemann Eta®Press III 22 to 44 and the design of the compression units with their adjustable mechanical stops. They provide more stability and durability as well as operation safety under adverse operating conditions. This applies equally when working in single shifts or round the clock. The side parts of the unit are not only screwed but also positively connected with a key and groove joint – for even more rigidity.

Impressive peak performance

Lindemann Eta®Press III is special, above all in terms of profitability. Peak load monitoring and optional energy saving settings are responsible for favorable energy consumption and low operating costs. The short cycle times of the Lindemann Eta®Press III realize a higher output compared to the installed power. This results of the clever control system with oil transfer and hydraulic separation of the pump flows to move several cylinders at the same time. The contact free positioning system is not only responsible for optimized cylinder control but also bypasses the frequent interruptions caused by proximity and limit switches from dirt or falling scrap.



Hydraulic separation



Perfect for all possible applications, as well as highly efficient

Results that are really worth seeing: compacted bales produced by the Lindemann Eta®Press III offer exemplary efficiency above all on account of their high density, this makes them preferred feed material for steel mills, foundries and steel rolling mills. The baler processes an extensive range of scrap, from car body sheet metal off-cuts, high-strength plates, thin sheet wastes, trimmings or cutting plates through to cables, wires, long turnings or even mixed scrap, so that these materials can be put to efficient use.



Bale density (kg/dm³ - depending on the material)

Fe	up to 3.5
Al	up to 1.2
Cu / Ms	up to 4.0

It just keeps on running, and running and running ...

Safe and reliable

Together with its durability, one of the great advantages of the Lindemann Eta®Press III is its reliability, warranted by the contact-less positioning system, or the rigid thick-plate design of the compression chamber for the Lindemann Eta®Press III 22 to 44, whose optimized buckling resistance can even withstand overfilling. Wear plates with a special washboard surface makes a special contribution to increasing machine safety by reducing the risk of material jamming the machine. Thanks to the visualization based simple user interface, the machine can be operated almost intuitively. The display only shows the elements that are relevant to the selected function.

Outstanding Quality

The Lindemann Eta®Press III scrap baler stands out with a long service life and low wear thanks to the individual detailed solutions. These include improvement of the V-blades with optimized blade geometry and direct lubrication for efficient cutting of protruding material and the full-surface lubrication of the compression chamber base for the Lindemann Eta®Press III 33 to 66 and the large number of lubrication points on moving parts, resulting in a long service life and low wear.

Together with the control, the new compact hydraulic unit with pumps submerged in oil results in a calm, quiet-running machine. The "Soft Motion" control protects the hydraulic system by ensuring ideal interaction of pumps and valves, and optimizes the performance of the compression units thanks to improved acceleration and deceleration phases.



Horizontal space-saving door – even for ejecting oversized bales

This is how it operates

Scrap is fed into the large-sized opening

V1 compresses the material horizontally, cutting off any protruding scrap

V2 compresses the material vertically

V3 finishes off the bale

The door opens and V3 pushes the bale out of the box

Exactly adjustable clearance of the compression units at the mechanical stops prevents any tailing even with increasing wear

The upper side of compression unit 1 is fitted with replaceable screwed wear plates – for fast service



Long guides for precise compaction



Positioning system



Lubrication unit installed inside of compactor 1 for continuous lubrication of the press box bottom. The V-blade with optimized cutting geometry and direct lubrication for the Eta®Press III 33 to 66



Logic block, accessible from all sides

Hydraulic pre-tensioned tie-rods absorb the high forces involved in pressing the bale. This leaves the compression chamber free of dynamic load



Wear plates with special corrugated profile are made of high strength long-life LINDUR. They are screwed for simple fitting and removal

Travelling lubrication of the compression chamber floor thanks to compression unit 1

A perfect fit

from installation through to maintenance

Right from the start

Like the Lindemann Eta®Press III good ideas and efficient solutions stand out above all for one reason: they have been well thought out from beginning to end. Where facts speak for themselves: it saves you time and nervous energy already during installation and commissioning.

The advantages in detail

- High level of pre-assembly ex works for swift installation
- Compact electronics requiring little space
- Field bus connections for less wiring and checking
- Good accessibility for making adjustments
- Machine adjusted without programming units – for simple service

The training and familiarization process also takes up minimum time, an optimized user interface and online help make the machine easy to operate, providing great assistance during every day procedures in combination with the various operating modes tailored to the specific purpose.

All working perfectly

Time is money – particularly in maintenance and service time. The Lindemann Eta®Press III excels here above all with its low downtime.

The advantages at a glance:

- Dynamic oil level monitoring
- Integrated pump and cylinder test
- Computer-controlled central lubrication
- Visualization of all operation- and maintenance-relevant parameters on the integrated touch panel
- Optional wear monitoring system WearCon for timely planning of wear plate replacements
- Screwed wear plates for swift replacement
- Standardized screw sizes for reduced tool requirements for the Lindemann Eta®Press III 22 to 44

If faults should arise, our service technicians are not far away than your phone. This makes monitoring, service and maintenance even simpler.



Control panel



Powerful pumps provide

extra energy savings

Hydraulics is a powerful heart

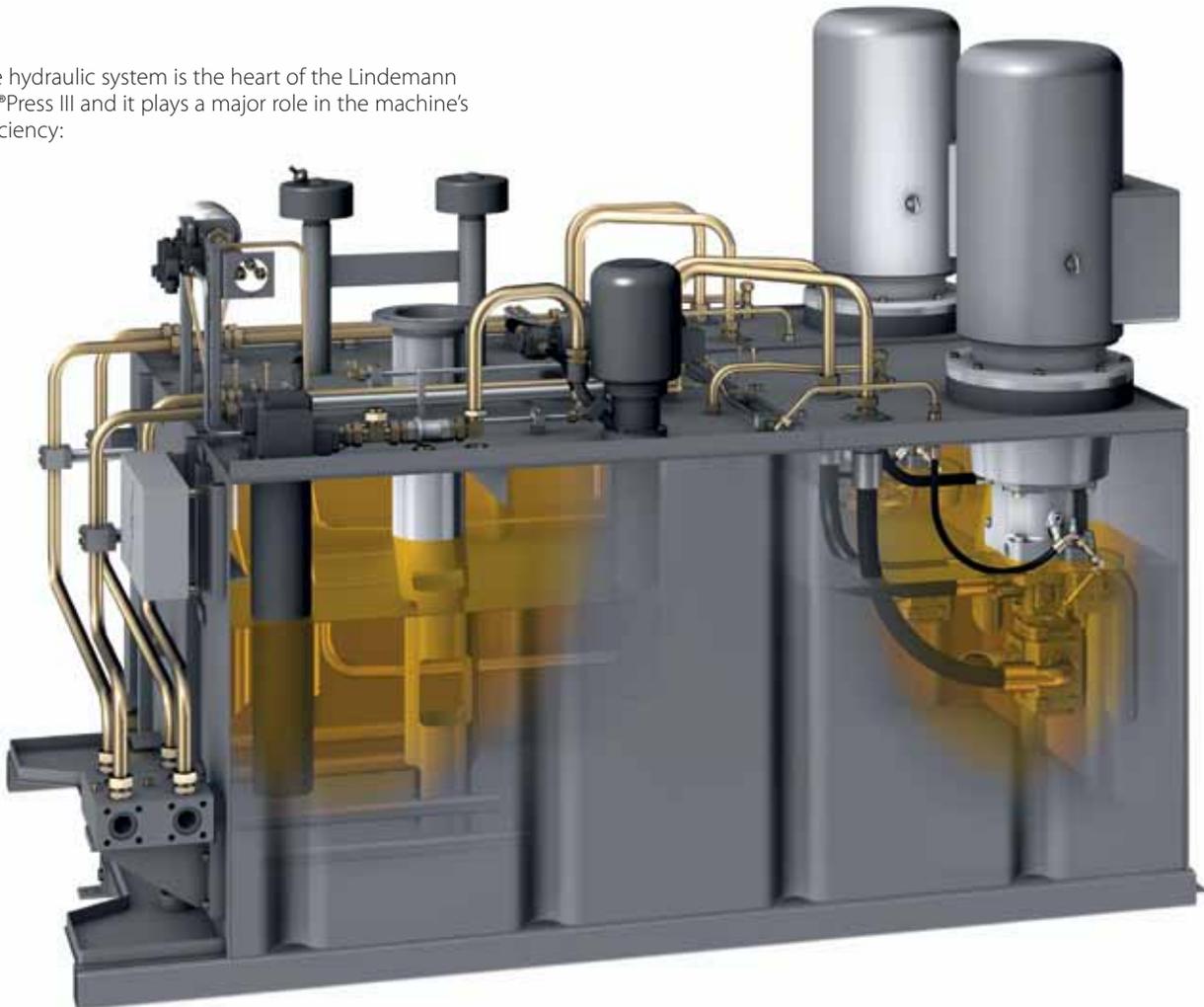
The compact, space-saving hydraulic unit with pumps submerged in oil is definitely the heart of the machine. The hydraulic system, driven by a pump package consisting of axial piston pump and internal gear pump, only needs minimum oil quantities thanks to the high operating pressure of up to 350 bars. The low operating temperature and a bypass filter prolong the oil service life. Furthermore, hydraulic oil for lubricating the machine is continuously taken straight from the tank. This in turn is topped up regularly so that the oil is permanently refreshed with constant quality levels so that major periodic oil change is not necessary. At the same time, this saves oil. The hydraulic unit is a well conceived, energetically efficient drive system with unequalled cycle times.

By the way, if necessary we can install the hydraulic and electric systems in a weatherproof container.

Advantages of the hydraulic system:

- 2-chamber tank with 5 µm bypass oil filtration and cooling
- Pumps submerged in oil for lower noise level
- Very few maintenance-intensive screwed unions
- New "Soft Motion" control for optimized acceleration and deceleration of the compression units
- Hydraulic separation of the pump flows for synchronous control of different compression units
- Integrated cutting impact attenuation
- Oil transfer for high energy efficiency
- Integrated cylinder and pump test
- Service reduced positioning system in the cylinders

The hydraulic system is the heart of the Lindemann Eta®Press III and it plays a major role in the machine's efficiency:

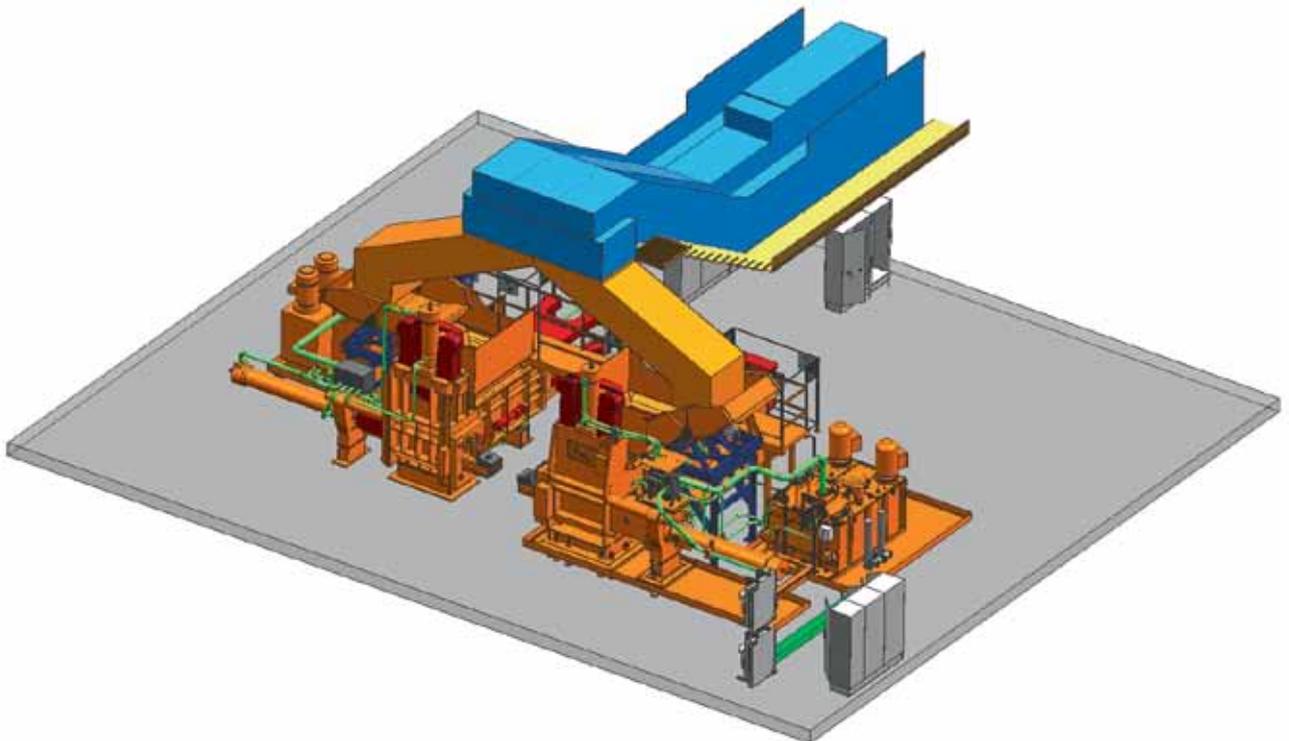


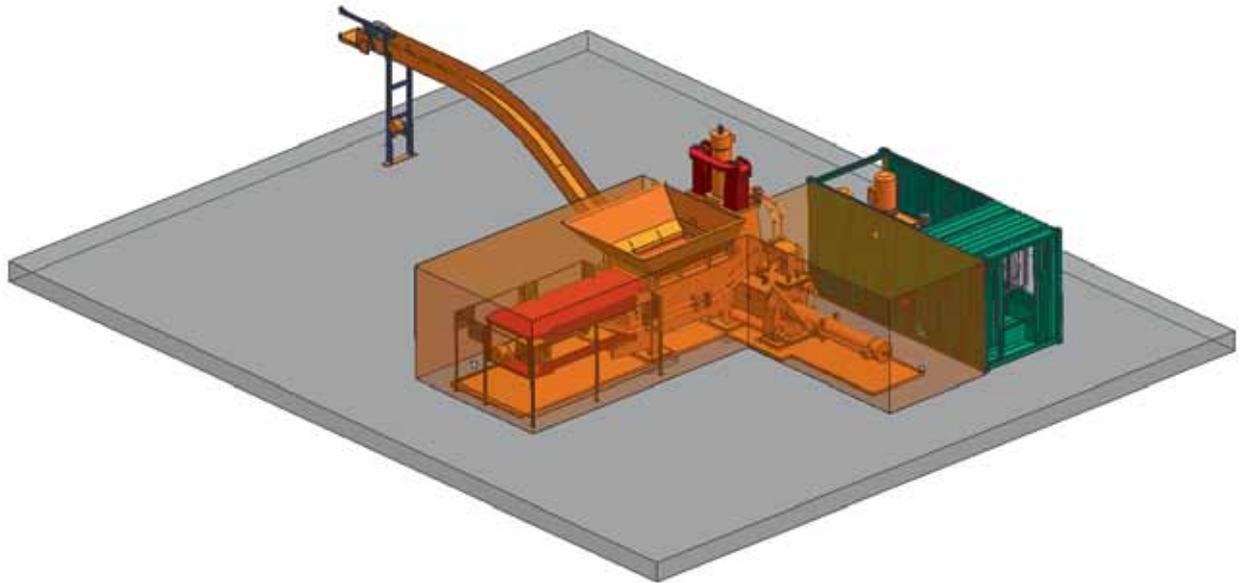


Precise fit

Layouts according to your requirements

To obtain the best possible benefit from the advantages of the Lindemann Eta®Press III scrap baler, the machine must be embedded in the most suitable position in the periphery. Metso Recycling works as your partner, no matter whether you need the machine in automotive production or on a scrap yard, our planning process is based on your specifications, perfectly tailor-made to your requirements. As an option, we not only integrate the weighing stations, belts, bale slides and distributors in your individual concepts but also realize a reliable control of the system – thanks to Fieldbus later additions present no problem. Digital surveying systems combined with 3D CAD bring us to the ideal solution, even for tricky, confined erection situations. Everything works perfectly without a hitch.





Weighing stations
for automatic baler feed

Belts
for continuous scrap feed – or
for discharge of the bales

Bale slides
to ensure that the bales arrive
the loading point

Hydraulics container
for compact, weatherproof
protection of hydraulic drive and
electric system – even without
a permanent pump house



Metso Recycling Equipment

Our range:

Pre-Shredders
Shredders
Shredder Plants
Metal Crushers

Scrap Shears
Turnings Crushers
Briquetting Presses
Double Screw Presses
Anode Crushers

Screen Drums
Scrap Baling Presses
Waste Fine Shredders
Waste Pre Shredders

Metso Recycling Services

Uptime Services

Inspection Services
Parts Services
Repair and Refurbishment
Troubleshooting Services

Performance Services

Process Monitoring Services
Optimization Services
Upgrade Services
Training Services

Project and Engineering Services

Start-up Services
Health, Safety and Environmental Services
Engineering Services
Plant Relocation Services

Metso Minerals, Austria

1230 Wien
Tel.: +43 18 13 65 080
E-Mail: recycling.info.at@metso.com

N.V. Metso Minerals, Belux

1702 Groot-Bijgaarden
Tel.: +32 24 81 09 60
E-Mail: recycling.info.be@metso.com

Metso Brasil Indústria e Comércio

18087-050 Sorocaba, SP
Tel.: +55 15 2102 1300
E-Mail: recycling.info.br@metso.com

Metso Automation, Shanghai

Beijing Branch
Chao Yang District, Beijing 100022
Tel.: +86 10 6566 6600
E-Mail: recycling.info.cn@metso.com

Metso Minerals s.r.o., Czech Republic

628 00 Brno
Tel.: 00420 544 425 527
E-mail: recycling.info.cz@metso.com

Metso Denmark

8700 Horsens
Tel.: +45 45 7626 6400
E-mail: recycling.info.dk@metso.com

Metso Minerals, Finland

01740 Vantaa
Tel.: +358 20 48 45 200
E-Mail: recycling.info.fi@metso.com

Metso Minerals, France

71009 Mâcon Cedex
Tel.: +33 3 85 39 62 00
E-Mail: recycling.info.fr@metso.com

Metso Lindemann, Germany

40231 Düsseldorf
Tel.: +49 211 21 05 0
E-Mail: recycling.info.de@metso.com

Metso Recycling Business Line, India

Mumbai - 400710
Tel.: +91 22 39130100
E-mail: recycling.info.in@metso.com

Metso Minerals, Japan

Yokohama 222-0033
Tel.: +81 45 476 3935
E-Mail: recycling.info.jp@metso.com

Metso Recycling Business Line, Korea

Seocho-gu Seoul
Tel.: +82 (0) 2-582-1507
E-Mail: recycling.info.kr@metso.com

Metso Mexico S.A. de C.V.

CP 36541 Irapuato, Gto.
Tel.: +52 871 791 2180
E-mail: recycling.info.mx@metso.com

Metso Minerals, Netherlands

3316 GC Dordrecht
Tel.: +31 78 61 86 888
E-Mail: recycling.info.nl@metso.com

Metso Minerals (Poland) Sp.z.o.o.

40246 Katowice
Tel.: +48 32 253 07 29
E-mail: recycling.info.pl@metso.com

ZAO "Metso Minerals (CIS)", Russia

109240 Moscow
Tel.: +7 495 915 73 64
E-Mail: recycling.info.ru@metso.com

Metso Automation Singapore Pte Ltd

Singapore 339411
Tel.: +65 6511 1011
E-mail: recycling.info.sg@metso.com

Metso Minerals, South Africa

Isando, 1600
Tel.: +27 11 961 4000
E-Mail: recycling.info.za@metso.com

Metso Minerals, Spain

28032 Madrid
Tel.: +34 91 82 55 700
E-Mail: recycling.info.es@metso.com

Metso Minerals, Sweden

261 62 Glumslöv
Tel.: +46 706 24 55 70
E-Mail: recycling.info.se@metso.com

Metso Dış Tic. Ltd. Şti., Turkey

06370 Ankara
Tel.: +90 312 387 3600
E-mail: recycling.info.tr@metso.com

Metso Recycling Business Line, UK

Rugby, Warwickshire, CV21 1QJ
Tel.: +44 17 88 53 22 55
E-Mail: recycling.info.uk@metso.com

Metso Minerals Industries, USA

San Antonio, TX 78216
Tel.: +1 210 491 9521
E-Mail: recycling.info.us@metso.com

www.metso.com/recycling

We reserve the right to make changes and improvements without notice, „Lindemann Eta©Press“, Metso Recycling, June 2012