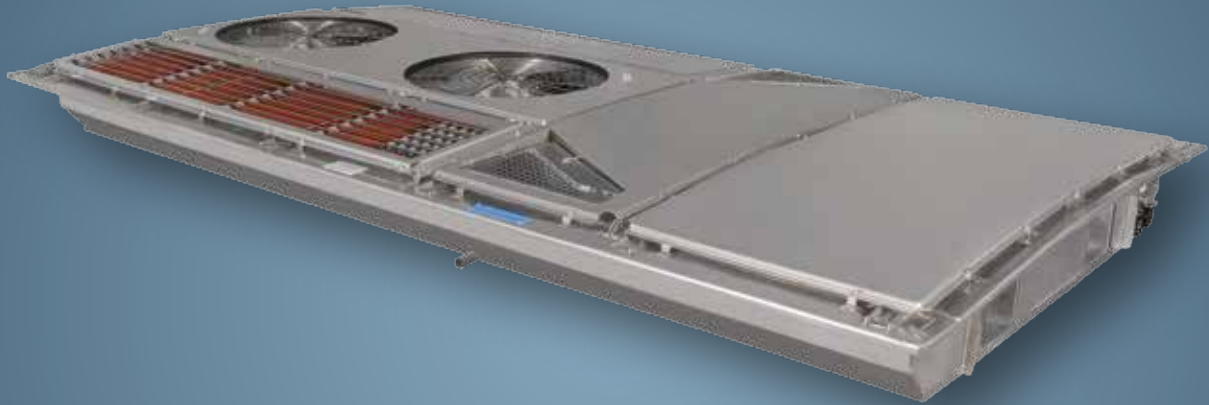


EFFICIENT. TECHNOLOGY. WORLDWIDE.



HVAC Platform for Metro Applications



APPLICATIONS

Metros



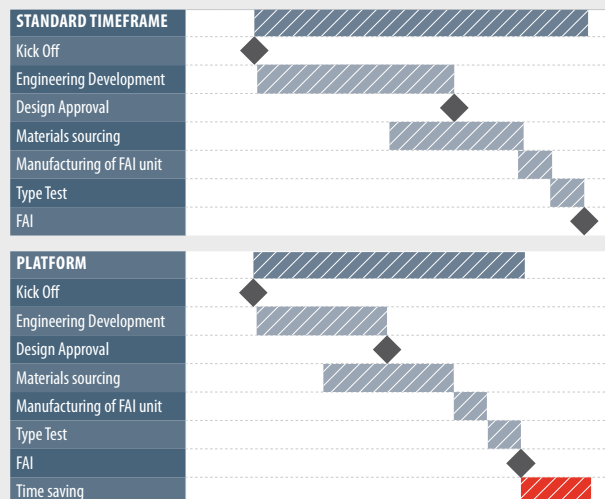
HVAC PLATFORM FOR METRO APPLICATIONS



ENSURING THE HIGHEST STANDARDS OF AIR QUALITY AND COMFORT LEVELS FOR PASSENGERS HAS ALWAYS BEEN A PRIORITY FOR MERAK. This is especially important for Metro applications where there are typically high levels of passenger occupancy and where optimised performance is vital. In addition, Metro HVAC units must also be designed to be as compact as possible due to often limited space envelopes available in low profile tunnels and where reduced weight is required.

In order to meet these challenging requirements, whilst ensuring competitive lead times and prices, Merak has developed a new HVAC platform especially for Metro applications. Through this platform Merak can offer standardized solutions to our customers that enable us minimize the design period whilst increasing reliability. Already the Metro HVAC platform has been successfully adapted to a range of climatic conditions and customer requirements including in North and South America.

Lead time comparison:
New design/Standard project and platform design




approx. 20%

HVAC PLATFORM FOR METRO APPLICATIONS



CUSTOMER BENEFITS

- Flexible design, easily adaptable to meet market requirements and climatic conditions
- Adaptable to meet the typically restricted installation envelopes of metro cars
- Low profile of less than 300 mm in height
- Low weight, even with a robust stainless steel frame
- Fresh air intake is integrated into the HVAC unit avoiding the need for air intake ducting on the metro car
- Ability to meet different interface requirements
- Easy to maintain

OPTIONAL TECHNICAL FEATURES

- Integrated HVAC unit with adaptable cover shape to fit different car roof profiles
- Various configurations available
- Cooling capacity of up to 41 kW
- Supply of air of up to 3700 m³/h
- Optional variable fresh airflow
- Optional filter clogging detector



	Example 1	Example 2	Example 3
Cooling power	30 kW	38 kW	41 kW
Heating power	16 kW	0 kW	0 kW
Outline dimensions (LxWxH) mm	3120x1570x300	3370x1570x300	3495x1630x310
Weight	578 kg	560 kg	682 kg
Frame/Covers material	Stainless Steel / Al	Stainless Steel	Stainless Steel
Coils material	Cu-Cu	Cu-Al	Cu-Al
Supply air	3057 m ³ /h	3400 m ³ /h	3700 m ³ /h

Merak Sistemas Integrados de Climatización, S.A.

Parque Empresarial La Carpetania
C/Miguel Faraday, 1
28906 Getafe - Madrid
Spain
Tel.: +34 911 459 400
Fax: +34 911 459 444

WWW.MERAK-HVAC.COM

» Europe | Africa

AUSTRIA | Kematn/Ybbs
Knorr-Bremse GmbH Division IFE
Automatic Door Systems
Tel: +43 7448 9000

AUSTRIA | Mödling
Dr. techn. J. ZELISKO GmbH
Tel: +43 2236 4090

Knorr-Bremse GmbH
Tel: +43 2236 4090

CZECH REPUBLIC | Brno
IFE-CR, a.s.
Tel: +42 0532 159111

IGE-CZ s.r.o.
Tel: +42 0548 424050

FRANCE | Reims
Freinrail Systèmes Ferroviaires S.A.
Tel: +33 3 26797200

GERMANY | Berlin
Knorr-Bremse Systeme für
Schienenfahrzeuge GmbH
Zweigniederlassung Berlin
Tel: +49 30 93920

GERMANY | Munich
Knorr-Bremse Systeme für
Schienenfahrzeuge GmbH
Tel: +49 89 35470

HUNGARY | Budapest
Knorr-Bremse Vasúti Járnmű
Rendszerek Hungária Kft.
Tel: +36 1 4211100

ITALY | Florence
Knorr-Bremse Rail Systems Italia S.r.l.
Tel: +39 055 30201

ITALY | Buccinasco
Microelettrica Scientifica SpA
Tel: +39 02 575731

NETHERLANDS | Leeuwarden
IFE Tebel Technologies B.V.
Tel: +31 58 2973333

POLAND | Cracow
Knorr-Bremse Systemy dla
Kolejowych Środków Lokomocji PL
Sp. z o.o.
Tel: +48 12 2609610

ROMANIA | Bucharest
Knorr-Bremse SRL
Tel: +40 37 4005155

RUSSIA | Moscow
Knorr-Bremse Systeme für
Schienenfahrzeuge GmbH
Representation Office Russia
Tel: +7 495 7390113

SOUTH AFRICA | Johannesburg
Microelettrica Scientifica (PTY) Ltd
Tel: +27 11 7943330

SOUTH AFRICA | Spartan
Knorr-Bremse S.A. Pty. Ltd.
Tel: +27 11 9617800

SPAIN | Madrid
Sociedad Española de Frenos
Calefacción y Señales, S.A.
Tel: +34 91 1459400

SWEDEN | Lund
Knorr-Bremse Nordic
Rail Services AB
Tel: +46 46 329350

SWITZERLAND | Niederhasli
Oerlikon-Knorr
Eisenbahntechnik AG
Tel: +41 44 8523111

UNITED KINGDOM | Derby
Sydac Ltd.
Tel: +44 1332 299600

UNITED KINGDOM | Melksham
Knorr-Bremse Rail Systems (UK) Ltd.
Tel: +44 1225 898700

» America

BRAZIL | São Paulo
Knorr-Bremse Sistemas para
Veículos Ferroviários Ltda.
Tel: +55 11 56811129

CANADA | Kingston
Knorr Brake Ltd.
Tel: +1 613 3894660

USA | Randolph
Microelettrica USA LLC
Tel: +1 973 5980806

USA | Watertown
New York Air Brake Corporation
Tel: +1 315 7865200

USA | West Chicago
Anchor Brake Shoe Company
Tel: +1 630 2931110

USA | Westminster
IFE North America LLC
Tel: +1 410 8751468

Knorr Brake Corporation
Tel: +1 410 8750900

Merak North America LLC
Tel: +1 410 8750900

» Asia | Australia

AUSTRALIA | Adelaide
Sydac PTY Ltd.
Tel: +61 8 82393600

AUSTRALIA | Granville, NSW
Knorr-Bremse Australia Pty Ltd.
Tel: +61 2 88636500

AUSTRALIA | Wetherill Park, NSW
Sigma Air Conditioning Pty. Ltd.
Tel: +61 2 98270000

Sigma Transit Systems Pty Limited
Tel: +61 2 98270000

CHINA | Beijing
Knorr-Bremse CARS LD Vehicle Brake
Disc Manufacturing (Beijing) Co., Ltd.
Tel: +86 10 51010999

Knorr-Bremse Nankou Air
Supply Unit (Beijing) Co. Ltd.
Tel: +86 10 52726100

Knorr-Bremse Systems for Rail Vehicles
(Suzhou) Co. Ltd.
Beijing Office
Tel: +86 10 68029088

CHINA | Guangzhou
Westinghouse Platform
Screen Doors (Guangzhou) Ltd.
Tel: +86 20 39221333

CHINA | Hong Kong
Knorr-Bremse Asia Pacific
(Holding) Ltd.
Tel: +852 36579800

CHINA | Qingdao
IFE-VICTALL Railway Vehicle Door
Systems (Qingdao) Co., Ltd.
Tel: +86 532 87938512

CHINA | Shanghai
Merak Railways Technologies
(Shanghai) Co., Ltd.
Tel: +86 21 51928000

CHINA | Suzhou
Knorr-Bremse Systems for
Rail Vehicles (Suzhou) Co., Ltd.
Tel: +86 512 66165666

CHINA | Wuxi
Merak-Jinxin Air-Conditioning
Systems (Wuxi) Co., Ltd.
Tel: +86 510 85583133

INDIA | Faridabad
Knorr-Bremse India Private Ltd.
Tel: +91 129 4191402

JAPAN | Tokyo
Knorr-Bremse
Rail Systems Japan Ltd.
Tel: +81 3 33462620

KOREA | Seoul
Knorr-Bremse
Rail Systems Korea Ltd.
Tel: +82 2 22805555

SINGAPORE | Singapore
Knorr-Bremse Asia Pacific
(Holding) Ltd.,
Singapore Branch
Tel: +65 6848 7291

TAIWAN | Taipei
Knorr-Bremse Asia Pacific
(Holding) Ltd.,
Taiwan Branch
Tel: +886 2 33223355

 **KNORR-BREMSE**

 **IFE** Innovations
for
Entrance Systems

 **merak**

 **SIGMA**

 **Microelettrica Scientifica**

 **WESTINGHOUSE**
platform screen doors

 **NEW YORK AIR BRAKE**

 **ZELISKO**

 **S Y D A C**

 **rail services**

This publication may be subject to alteration without prior notice. A printed copy of this document may not be the latest revision. Please contact your local Knorr-Bremse representative or check our website www.knorr-bremse.com for the latest update. The figurative mark „K“ and the trademarks KNORR and KNORR-BREMSE are registered in the name of Knorr-Bremse AG. Copyright 2012 © Knorr-Bremse AG. All rights reserved. Including industrial property rights applications. Knorr-Bremse AG retains any power of disposal, such as for copying and transferring.