



SOLUTIONS FOR CRANE TECHNOLOGY



**ELECTRIFICATION
CABLE MANAGEMENT
DATA COMMUNICATION
POSITIONING SYSTEMS**

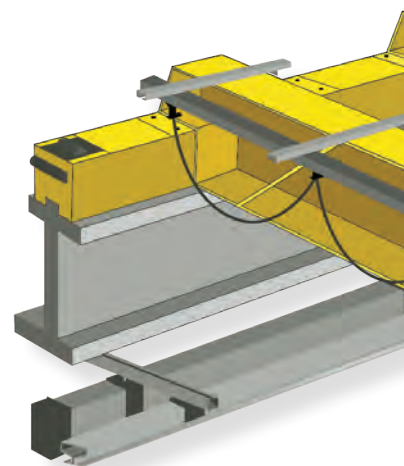
CRANE TECHNOLOGY

Overhead cranes are a staple in warehouses and industrial settings around the world. Materials need to be lifted, stacked and moved constantly and reliably. To provide this, crane builders and users require dependable and repeatable performance with minimal maintenance.

VAHLE's line of conductor bar and festoon systems offer robust and economical solutions for power and control systems for any crane type. Additionally, as cranes become more advanced, VAHLE has proven high-rate data communication and millimeter precise positioning solutions.

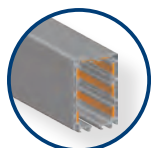
VAHLE has conductor bar and festoon solutions for any application type and any environment - process cranes, transfer cars, work station cranes, steel mill cranes, bucket conveyors, gantry cranes and more.

The following pages provide an overview of VAHLE solutions and allow you to select the optimal product for your application.



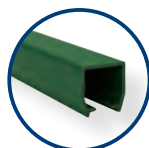
WHAT SOLUTIONS DOES VAHLE OFFER FOR YOUR CRANE?

ELECTRIFICATION



ENCLOSED CONDUCTOR BAR

See page 6 & 7 for light to medium duty conductor bar solutions under



TRACK FESTOON SYSTEMS

See page 12 & 13 for our track festoon systems, ideal for light to medium duty applications requiring cable management.



INSULATED CONDUCTOR BAR

See page 8 & 9 for insulated conductor bar solutions from 100 - 1250 amps, ideal for light and heavy duty.



I-BEAM FESTOON CARRIERS

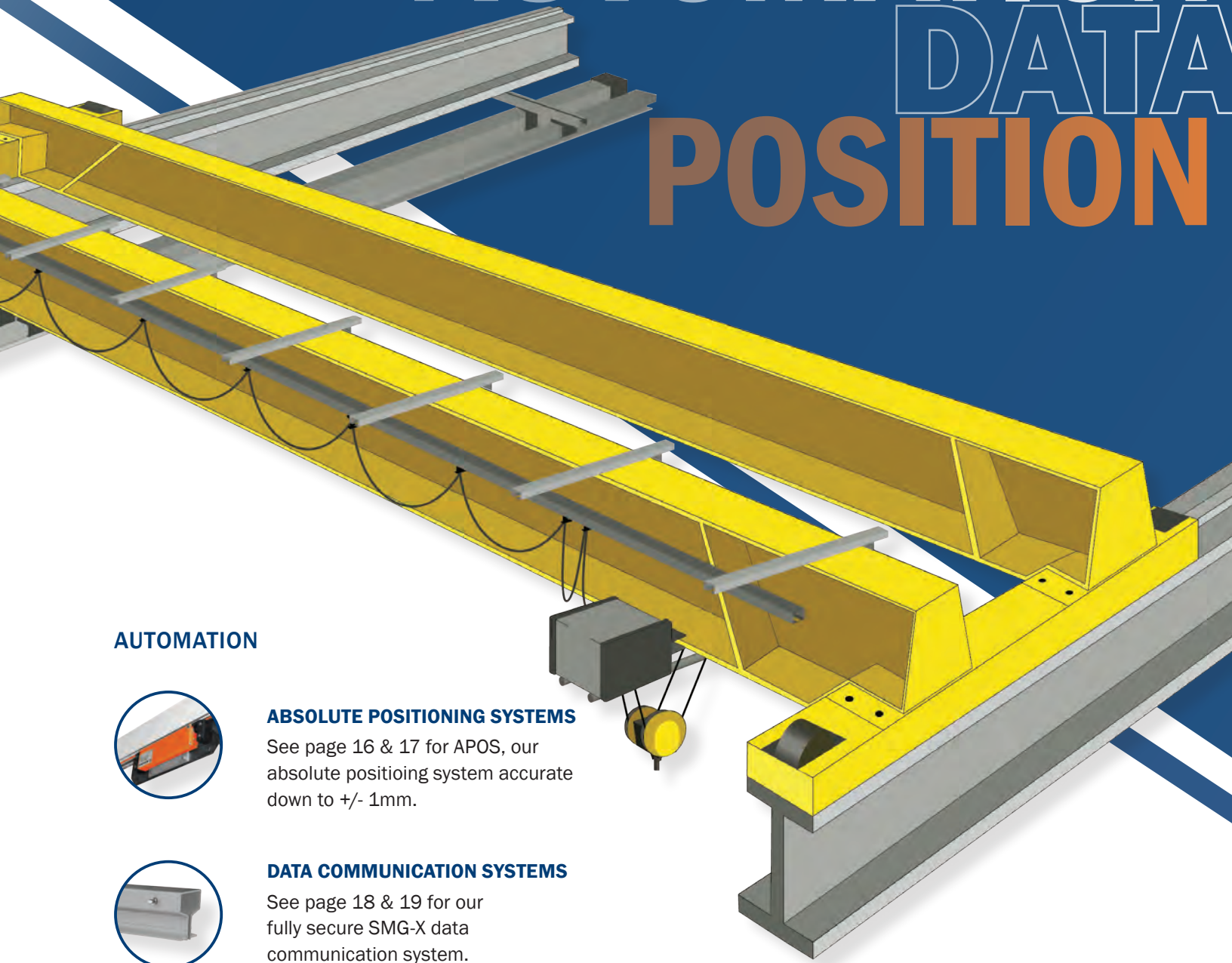
See page 14 & 15 for I-beam festoon carrier solutions. Multiple types exist for medium to heavy duty applications.



OPEN CONDUCTOR BAR

See page 10 & 11 for open conductor bar solutions for up to 2360 amps, ideal for the most demanding applications.

POWER AUTOMATION DATA POSITION



AUTOMATION



ABSOLUTE POSITIONING SYSTEMS

See page 16 & 17 for APOS, our absolute positioning system accurate down to $\pm 1\text{mm}$.



DATA COMMUNICATION SYSTEMS

See page 18 & 19 for our fully secure SMG-X data communication system.

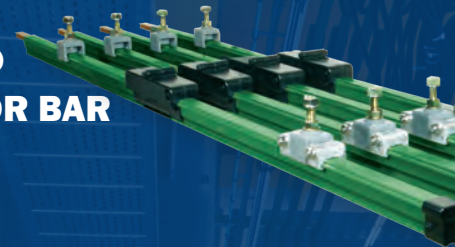
WHICH SOLUTION IS RIGHT FOR YOU?

VAHLE's electrification solutions include a variety of conductor bar and festoon products to meet any demand. This includes c-track & enclosed conductor bars for lighter duty applications such as EOT cranes and process cranes. We also offer insulated unipole, uninsulated open conductor, and multiple I-Beam carriers. You can find these medium to heavy duty solutions on high load cranes in places like industrial metal processing facilities, smelting plants, and port applications.

When selecting the optimal solution for your application, consider the amperage requirements, application type, and environmental conditions.

MEDIUM to HEAVY DUTY

**INSULATED
CONDUCTOR BAR**



**UP TO 1250
AMPS**

LIGHT DUTY

**ENCLOSED
CONDUCTOR BARS**



**UP TO 200
AMPS**

**TRACK
FESTOON SYSTEMS
including stainless-
steel and plastic
tracks**



HEAVY DUTY

**OPEN
CONDUCTOR BARS**



100 ... 2360 AMPS
up to 6000V

**W145
CABLE CARRIER**



**W55
CABLE CARRIER**



**SELECTING THE RIGHT SOLUTION,
DOESN'T HAVE TO BE COMPLICATED.**

ENCLOSED CONDUCTOR BAR SYSTEMS

63-200 AMP (100% duty cycle)

KEY SPECS

- UL Listed
- IP 23 protected (IP24 with sealing strips)
- Indoor & outdoor use
- Curves, loops possible
- Transfers & switches possible
- Isolations for sectionalizing/zoning

COMMON APPLICATIONS:

- ✓ Light duty overhead cranes
- ✓ Electric hoists
- ✓ Work station cranes
- ✓ Festoonless bridges
- ✓ Monorail systems
- ✓ Hangar doors
- ✓ Rail-guided transport

KBHF / KBHS

4-5 Conductors

PRODUCT SUMMARY

- ✓ 600V Max. Voltage
- ✓ Indoor/outdoor rated
- ✓ Spring-loaded or bolted joints
- ✓ Curves, loops, switches possible
- ✓ 63-200A (100% duty cycle)
- ✓ IP23 / IP24 with sealing strips

MKHF / MKHS

6-10 Conductors

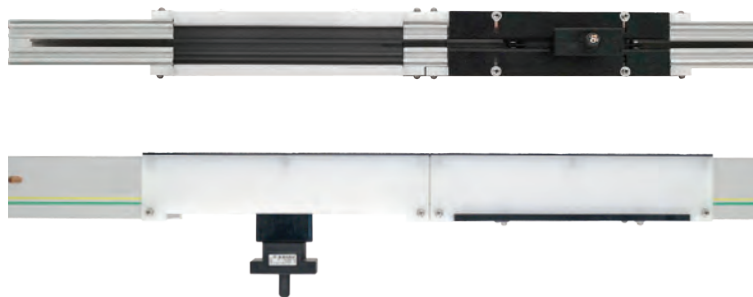
CLASS LEADING SOLUTIONS FOR RELIABLE CRANE ELECTRIFICATION

SAVE TIME & COST ON MAINTENANCE

Current collectors and their contact brushes are wear items and require inspection and periodic replacement for optimal system operation. Standard enclosed systems require travel to either end for collector removal and inspection.

COLLECTOR REMOVAL

Exclusive VAHLE solution allows for the removal of the current collector along the length of the system. Combine the removal section with isolations to create safe zones for crane maintenance.



MULTIPLE SAFETY FEATURES TO PROTECT PERSONNEL

Conductors can be interrupted electrically to allow for the creation of zones. Utilizing these zones, you can create maintenance areas for increased safety. Combine these areas with collector removal sections for added benefit.

ISOLATIONS

Conductors can be interrupted electrically to allow for the creation of zones. Utilizing these isolations, you can create maintenance zones for increased safety and ease of maintenance.



SEALING STRIPS

Very few warehouses and mills are spotless and free of dirt or debris and some are subjected to exposure of corrosive fumes. To combat this, VAHLE offers an exclusive dual sealing strip to prevent damage and protect your system.

SEALING STRIP

Dual neoprene sealing strips available for complete enclosure of conductor bar. Provides protection against hazards & debris such as humidity, corrosive gases, dust and dirt.



INSULATED CONDUCTOR BAR SYSTEMS

SOLUTIONS UP TO 1250 AMPS (100% duty cycle)

KEY SPECS

UL Listed
IP 23 protected
Indoor & outdoor use
Curves possible
Transfers & switches possible
Isolations for sectionalizing/zoning

U25 - U35

PRODUCT SUMMARY

U25 and U35 offer exclusive VAHLE design conductors in aluminum-stainless steel and copper for efficient and cost effective energy transfer for medium to high load cranes.

COMMON APPLICATIONS

Medium to heavy duty overhead cranes and process cranes, typically found in mills, material handling and heavy metal smelters.

Conductors:
Aluminum +
Stainless Steel
or Copper

INNOVATIVE CURRENT COLLECTORS

- ✓ Quick and easy
- ✓ Simple installation
- ✓ Visual control of installation dimensions
- ✓ Automatic adjustment of the phase distance

MULTI COLLECT 125
for U15, U25, VKS



U20 - U30

PRODUCT SUMMARY

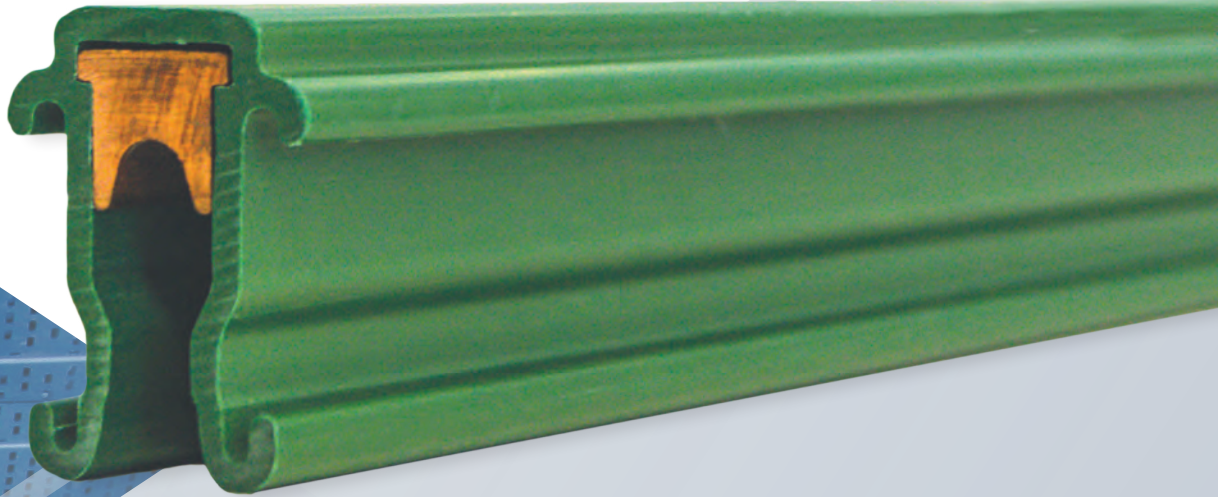
U20 & U30 offer solid copper conductors for heavy duty and demanding applications with increased wear resistance and minimal maintenance requirements.

COMMON APPLICATIONS

Medium to heavy duty overhead cranes and process cranes, typically found in mills, material handling and heavy metal smelters.

FOR GALVANIZING PLANTS

Insulated conductor rails U20 and U30 are used in harsh conditions and in critical applications.



ENGINEERED DESIGN FOR OPTIMAL PERFORMANCE

Conductor bars feature deep traveling groove to provide consistent tracking of current collector. This results in reliable contact for dependable performance.

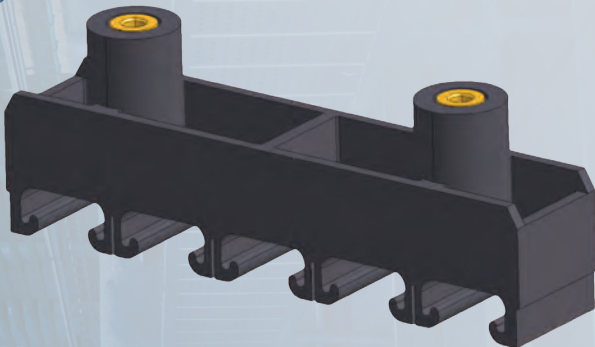
INSTALLS QUICKLY

Insulated conductor bars are supplied in 19' 8" (6m) lengths, requiring fewer joint splices than most other systems. Fewer joints means faster installation times for your team.

MOUNTING BRACKETS

WE OFFER VARIOUS BRACKETS FOR ALL OUR SYSTEMS:

- WORKSTATION CRANE BRACKETS
- WEB MOUNTED BRACKETS
- FLANGE MOUNTED BRACKETS for I-beams



OPEN CONDUCTOR BAR SYSTEMS

HEAVY DUTY SOLUTIONS UP TO 2360 AMPS (100% duty cycle)

IDEAL FOR

Heavy duty moving equipment in smelters, foundries, steel mills, ship yards, coking installations and cement plants.

THE ORIGINAL CONDUCTOR BAR

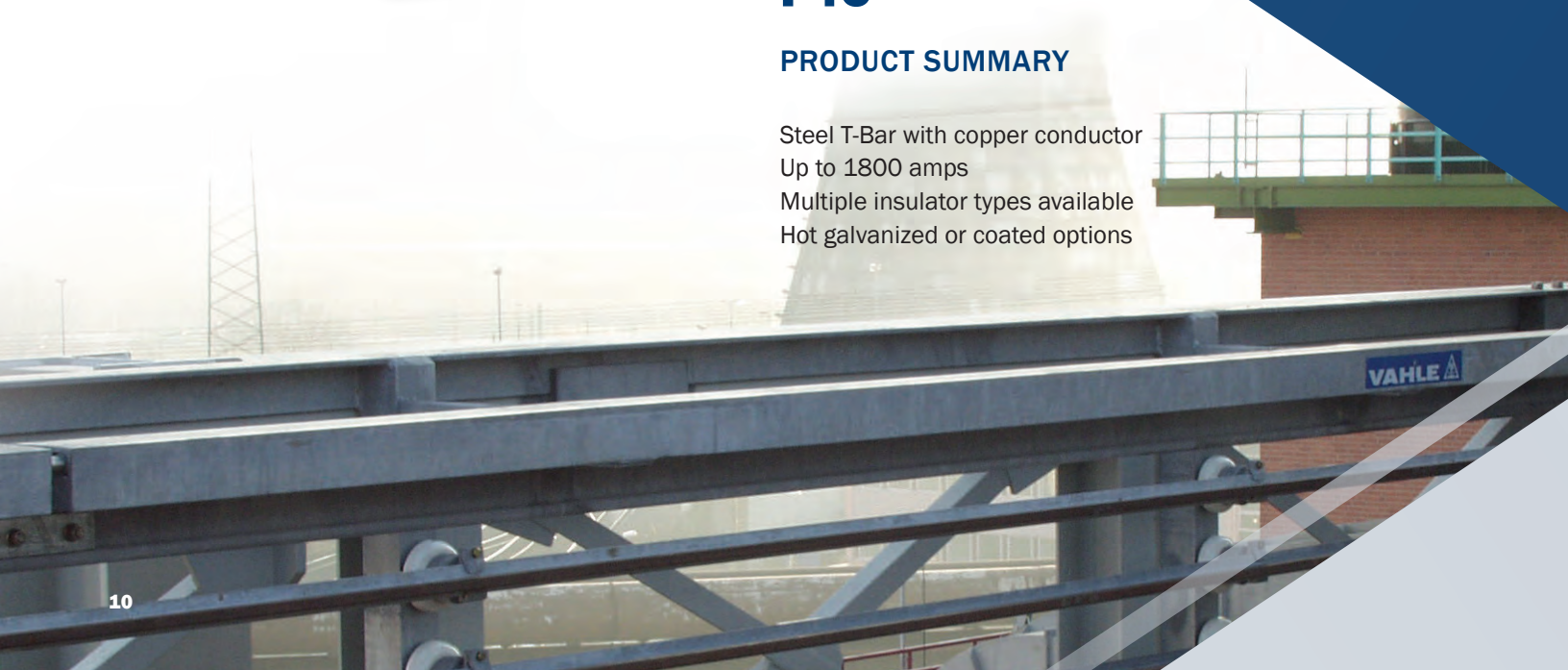
Our open conductor bars were originally developed by VAHLE in 1912. Featuring a time proven design, these conductor bars provide reliable and consistent electrification for the most demanding applications.



F45

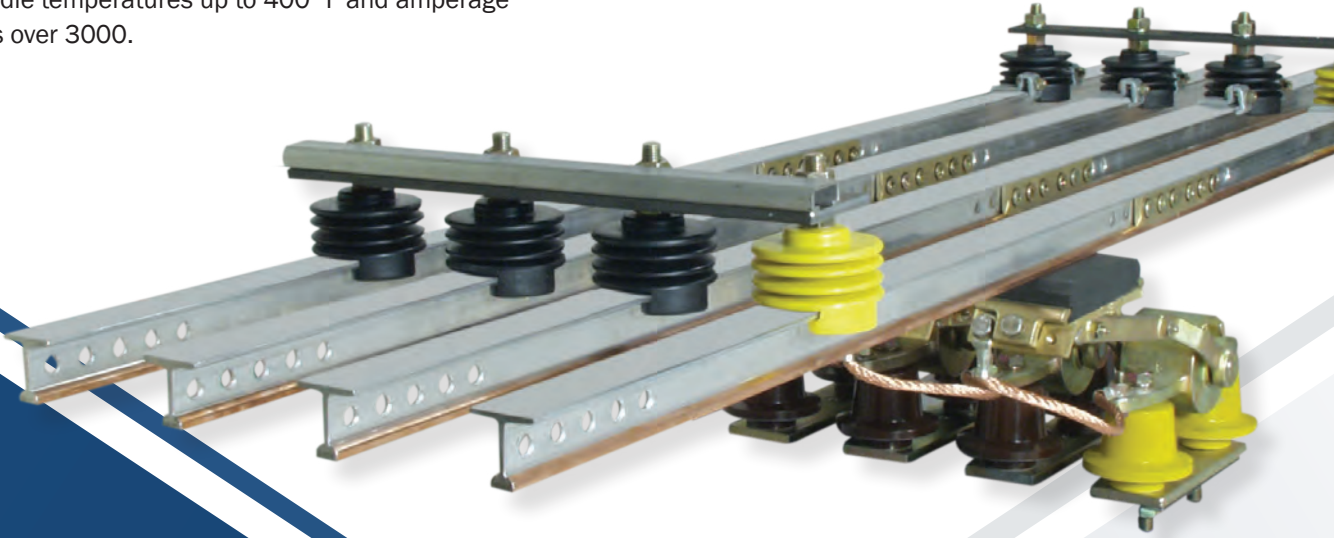
PRODUCT SUMMARY

Steel T-Bar with copper conductor
Up to 1800 amps
Multiple insulator types available
Hot galvanized or coated options



DEPENDABLE IN THE MOST DEMANDING CONDITIONS

Ideal for environments with extreme heat, corrosive conditions and intensive environmental hazards. Our open conductor bars can handle temperatures up to 400°F and amperage requirements over 3000.



RELIABLE PERFORMANCE

Featuring a robust design that has been perfected over 110 years of operation. Open conductors can handle the toughest jobs out there without complaint.

C45 and C60

PRODUCT SUMMARY

- Solid copper construction
- Up to 2360 amps
- Multiple insulator types available
- Ideal for the most demanding tasks





TRACK FESTOON SYSTEMS

LIGHT TO MEDIUM DUTY CABLE MANAGEMENT SOLUTIONS

KEY SPECS

- Multiple track types
- Indoor & outdoor use
- Curves possible
- Flat or round festoon cables
- Exclusive PVC track solution
- Galvanized steel sealed rollers

ECONOMIC & DEPENDABLE

Provide power and control signals for your standard light to medium duty crane with cost effective track options.



C-TRACK

PRODUCT SUMMARY

- Multiple track sizes available
- Heavy duty C-track (S2,S3) for larger cable packages
- Flat or round cable carriers
- Stainless steel versions available

COMMON APPLICATIONS

Light duty overhead crane & electric hoists.



DIAMOND TRACK

PRODUCT SUMMARY

- Square tube track festoon system
- Optimized for curves
- Flat or round cable carriers
- Stainless steel versions available

COMMON APPLICATIONS

Light duty crane & electric hoists requiring multiple track

QUICK TURN AROUND IN-STOCK SPARES

Avoid costly downtime with quick turn around on spare parts for maintenance requirements.

K1 TRACK

PRODUCT SUMMARY

Exclusive PVC construction
Ideal for corrosive & hazardous site conditions.
Glider style carrier available
Stainless steel accessories

COMMON APPLICATIONS

Light duty overhead crane & electric hoists
in hazardous or demanding site conditions.



GLIDE CARRIER SPECIALIZED FOR DEMANDING ENVIRONMENTS

VAHLE offers K1 as a specialized PVC track festoon solution for hazardous and corrosive environments.

I-BEAM CABLE CARRIERS

MEDIUM TO HEAVY DUTY APPLICATIONS

KEY SPECS

Medium duty carriers: W55, W65, W75

Heavy duty carriers: W125, W135, W145

Indoor & outdoor use including ocean climate

Travel speeds up to 1000 ft/min

Operating temperatures: -22°F to 122°F

Load capacity up to 1700lbs

Multiple saddle arrangements

Motorized options available

**NO MATTER THE SYSTEM,
WE'VE GOT YOUR CARRIER.**



FULL RANGE OF CARRIERS FOR ANY APPLICATION

MULTIPLE WHEEL TYPES

Steel, nylatron, and vulkollan wheels available.

TRAVEL SPEED UP TO 300 M/MIN

SIMPLE WHEEL REPLACEMENT

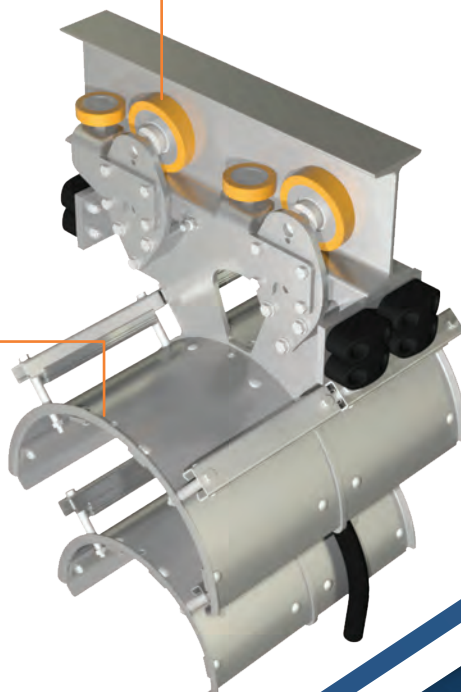
Without removing carrier from system.

MULTIPLE SADDLE OPTIONS

Galvanized steel and aluminum construction.

COMMON APPLICATIONS

Medium to heavy duty overhead cranes, stacker cranes, process cranes and STS cranes.



**SAVE TIME WITH
AVAILABLE PRE-ASSEMBLY**

AVAHLE
STEEL ROLLER SYSTEMS
No: 0345712/00
Type: P46-325 170-325-K
Beam:
OC: 264201-400
Hersteller: Rtr. St. 50774 Menden, Germany

ABSOLUTE POSITIONING SYSTEMS

PRECISE POSITIONING FOR AUTOMATION

Accurate and reliable positioning data is critical to implementing automated processes in your facility. VAHLE's line of vPOS products offer millimeter precise positioning and are easily integrated with our electrification solutions.

Implementing automation procedures to your facility can have many positive effects including increased production, reduced cost, increased worker safety and improved quality.

INDUSTRY 4.0 SOLUTIONS

Accurate and reliable positioning data is critical to implementing automated processes in your facility. VAHLE's line of vPOS products offer millimeter precise positioning and full integration with our electrification solutions.



EASY INSTALLATION WITH EXISTING CONDUCTOR BAR

APOS contactless installs directly into the existing housing of KBH and MKH. No additional profiles or materials are required.

APOS CONTACTLESS

PRODUCT SUMMARY

System length: Up to 260m
Travel speed: 6m/s
Temperature range: 32°F - 122°F
Resistant to dirt, dust and humidity
Integrates seamlessly with KBH & MKH

COMMON APPLICATIONS

Process and operation cranes requiring semi or full automation capabilities. Full retrofit capabilities for existing applications.

SIMPLE & RELIABLE TECHNOLOGY

VAHLE's positioning systems operate in a similar manner to conductor bar. Utilizing the same profiles, the conductive material is replaced with a magnetic code band. In place of the traditional current collector, a readhead travels along the magnetic code band and transmits positioning data to your system.



U20 APOS MAGNETIC

PRODUCT SUMMARY

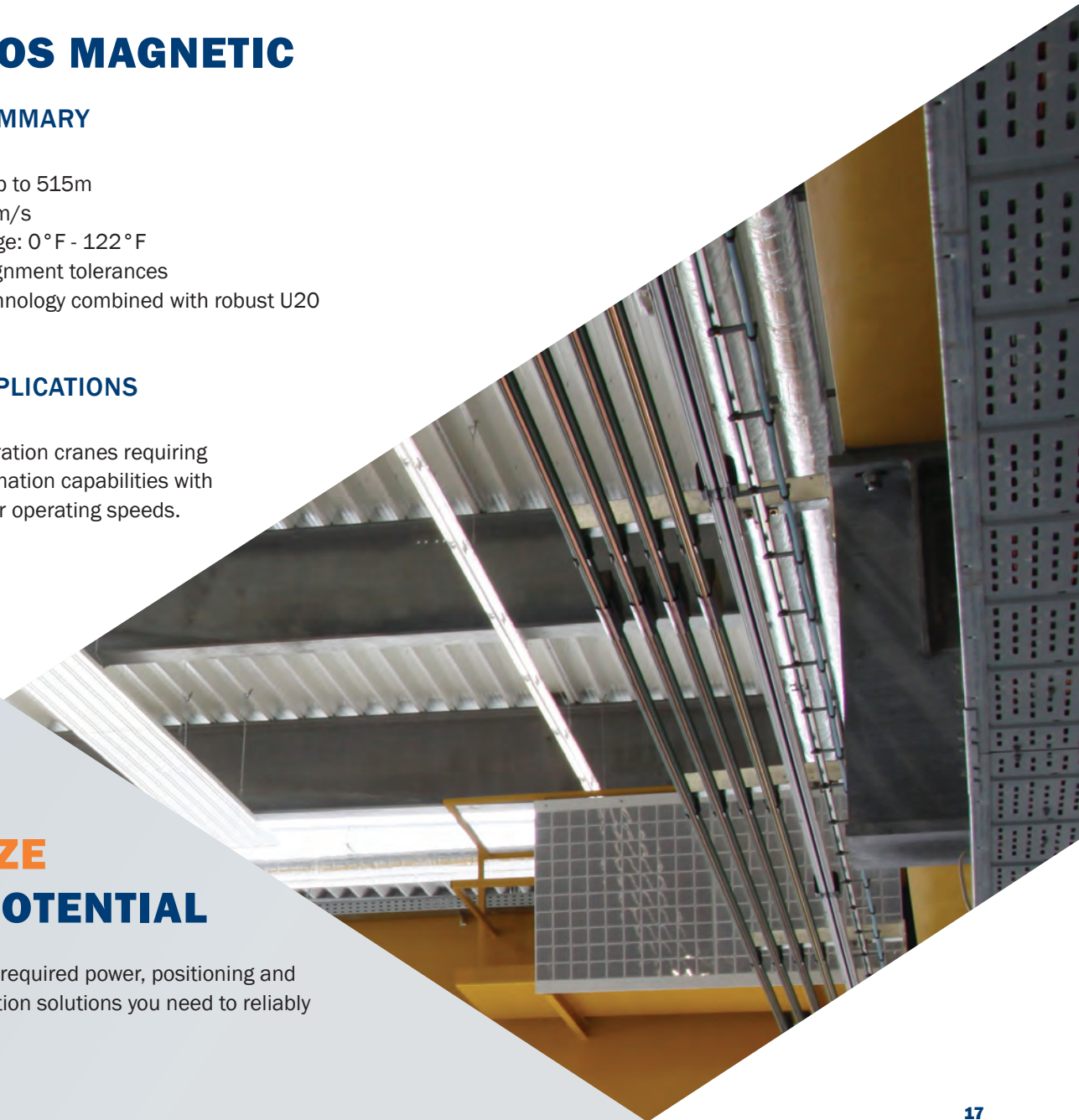
System length: Up to 515m
Travel speed: 12m/s
Temperature range: 0°F - 122°F
Increased misalignment tolerances
Proven APOS technology combined with robust U20 profile

COMMON APPLICATIONS

Process and operation cranes requiring semi or full automation capabilities with curves and higher operating speeds.

OPTIMIZE YOUR POTENTIAL

VAHLE offers the required power, positioning and data communication solutions you need to reliably automate your equipment.



DATA COMMUNICATION SYSTEM

FULLY SECURE DATA TRANSMISSION

SMGX

PRODUCT SUMMARY

Data rate: 100 Mbit/s
System length: Up to 500m
Travel speed: Max. 130m/min
Temperature: 0°F - 122°F
Indoor and outdoor use

COMMON APPLICATIONS

Process and operation cranes requiring semi or fully automation capabilities and remote operation.

**DEMANDING DATA:
MORE EFFICIENCY.
LESS DOWNTIME.**

SMG-X features an extruded aluminum profile with protective treatment applied to withstand the harshest environments. Available for use inside or outside, it is unaffected by wind, frost, salt or other debris.



COMPLETE SOLUTIONS FROM A SINGLE PROVIDER

All of VAHLE's conductor bar, positioning and data communication solutions can fully integrate to provide a complete electrification and automation package from a single source.

SAFE & SECURE DATA COMMUNICATION

Traditional data communication platforms such as WIFI and leaky coax are subject to interference issues. VAHLE's vCOM solutions offer fully secure high speed communication within a specially designed wave guide. Your data signal is fully contained within the SMG-X profile, removing interference issues while increasing performance and worker safety.

SMGX ANTENNA

Multi node connection.
Ready for 800 MHz frequency bandwidth.

SPECIAL ROLLER DESIGN

For guiding the antenna within the SMGX waveguide, these rollers ensure a reliable connection of data signals between the mobile consumer and stationary source.



Bearings for high velocity
operation > 300 m/min. (> 980 ft/min.)

High tolerances allow consistent
performance in any environment.



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