# **Electrical Short- and LongLines – the basics**

**Overview** 

### **Primary Cargo Hook Master Link**

**DB Special Fittings** 

#### **Shock Absorber**

**DB Shock Absorber** 

Interface to Primary Cargo Hook on the Helicopter

Interface to the Socket on the Helicopter

Elongation < 1% - very low rebound

resistant to UV light, hydrocarbons, alkalis, acids Core protected against sand, salt, dust, liquids etc. compact, round and slim - best flight behavior high visibility for daily operations due to neon colors

or muted colors (camouflage) for tactical applications

Interface compliant with primary cargo hook requirements

Elongation > 10% - hard shock loads are reduced easy to handle for maintenance and replacement of load-bearing rope

**Transport Short- and LongLine** DB SL-LL

### Ask for compliance with regulation/requirements

- Machinery Directive 2006/42/EC
- DGUV Information 214-911
- EASA CS-27/29
- STANAG 3542
- Other

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**Hood** 

**Swivel** 

**Remote Cargo Hook** 

Protective Hood (line side) with quick-release fastener, without tools. Interface to the swivel. Protects the electrical wires.

lightweight - WLL 14 kN / length 50 m =  $\sim$  22 kg without Sleeve

Swivel. Protects the lines from torsion and damage. Quick release device with bolts to the protective Hood

Remote Cargo Hook for the electrical release of loads and slings.

Interface to various Slinging Equipments or traffic Loads

# The flying lines from A&H Equipment - feel experience and safety.

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25.03.2022 First created Index A Last modified Author ER **DB Short/LongLine electrical** 

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# **Questionaire I**

Is very helpful for a quick clarification of your needs

### 1 Helicopter

what type of helicopter do you fly (e.g. AS350B3, BELL 407, ...)?

### **2 Primary Cargo Hook**

which type of primary cargo hook is installed (e.g. Onboard 258-020-11, ...)?

#### 3 Load

what is the permissible payload of the primary cargo hook system (e.g. 1400 kg)? Please send us the AFM SUPP to PCH installation

#### 4 Limitations

are there any limits? If yes, which?

### 5 Engagements

what types of operations do you want to carry out?

☐ HESLO 1 ☐ HESLO 2 ☐ HESLO 3 (Logging included)

☐ HESLO 3 special logging (cut down standing trees)

☐ Government ☐ Military Support ☐ Fire Fighting

☐ Disaster Management ☐ other

### 6 Length of Short- or LongLines

What length do you want to fly (minimum - maximum)?

### 7 Visibility

Do you want good visibility or muted colors (camouflage)?

### 8 Colors

what color of rope do you want?

- □ Neon Green (standard)
- ☐ red (R), red/withe (R/W), yellow (Y)

special colors with 10% surcharge

muted colors olive (OL), grey (GR), black (BK)

15% surcharge

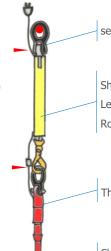
### 9 Special Requirements

Do we have to consider any other special requirements?

10 other needs or questions?

## **Technical Features I**

The most important key data



see Data Sheet DB Special Fittings

Shock Absorber – always the first element

Length 1.5 - 2.2 m

Rope made of Polyamide

Thimble compliant to Primary Cargo Hook

ShortLine < 20m

LongLine > 20m

elongation under load < 1%

made of Dyneema®

with polyester cover

core protected

L: 5 to 50 m

other lengths on request

WLL 10 to 120 kN

standard colour Neon Green (NG)

special colours:

- red (R), red/with (R/W), yellow (Y)

Military look (muted color)

- olive (OL), grey (GR), black (BK)

Swivel on the load hook. Protects the lines from torsion and damage.

! signal colour - mass - swivel (anti torque)!

Remote Cargo Hook, mass 18 - 50 kg.

# The flying lines from A&H Equipment - feel experience and safety.

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# **Questionaire II**

Is very helpful for a quick clarification of your needs

### 11 Plug and Socket

Which type of connector do you prefer (please specify the type as precisely as possible)?

### 12 Uper Line End

you can choose between a casted head and a thimble

#### 13 Bottom Line End

you can choose between a casted head and a thimble (for a Hood, we select a casted head)

### 14 Line Extension

you have the possibility of 3 extensions:

- cast to protective hood
- thimble to protective hood

### **15 Extension Fittings**

in combination with a Short- or LongLine with Hood, you can supply and operate a Bambi bucket or other device electrically (without swivel)

### **16 Electrical Wire**

you have the choice between 3 standard electrical wires: 4 x AWG16 or 4 x AWG14. We can talk about all other requirements.

### 17 Safety Hooks

we equip all thimbled ropes with safety hooks

#### 18 Remote Cargo Hooks

we are open to many solutions. Here, too, the goal is: Conformity with the Machinery Directive 2006/42/EG (Europe)

### 19 Bags and Sleeve

choose from a large selection of bags and sleeve. We also manufacture special solutions on request

### 20 Special needs

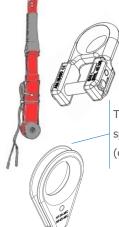
Do we have to consider any other special needs?

### **Technical Features II**

The most important key data



robust plugs and sockets with 4 pins electric spiral cable 2 – 8 pins



Thimble V4A or 1.4301, milled, special designs forged (e.g. AM\_KAU\_NH90)

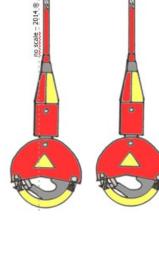


28 VDC, 16 A (impulse) 3 % elongation Up to 120 m LongLine Details see DB SL-LL









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## Your choise - our offer

The flying lines from A&H Equipment – what else? \_\_\_, WLL \_\_\_\_\_, Customer (KZK): \_\_\_\_\_, AD: \_ Helicopter model: \_ Offer position 1 Article: **Primary Cargo Hook Master Link** P/N: **DB Special Fittings** Offer position 2 Article: **Shock Absorber** P/N: **DB Shock Absorber** Article: P/N: Article: P/N: Offer position 3 Article: **Transport Short- and LongLine** P/N: DB SL-LL Article: P/N: Offer position 4 Article: Hood P/N: Offer position 5 Article: **Swivel** P/N: Offer position 6 Article: **Remote Cargo Hook** P/N:

> Offer position 7 **Slinging Equipment**



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Article and P/N see offer