





**PA 12**  
适用高柔性应用以及室外应用  
for very flexible applications, outdoor



**PA 12-D**  
厚壁  
适用重载应用以及室外应用  
thick walled, for heavy applications, outdoor



**PA 12-F**  
最佳防火等级  
尤其适用轨道交通行业  
best fire protection, esp. for the railway industry



**PU**  
适用高柔性应用耐油  
very flexible applications, oil / fuel resistant



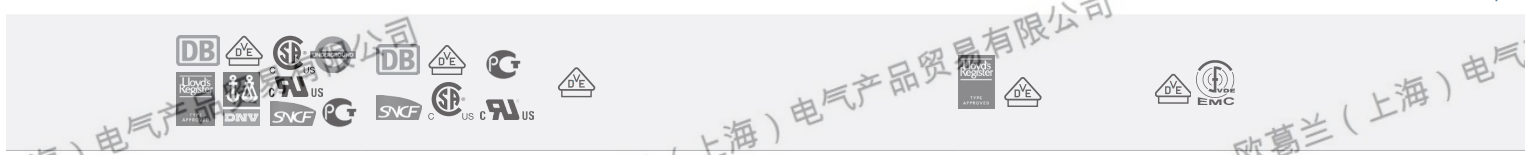
**PP**  
适用非柔性应用  
节省成本  
non-flexible economic applications



**PA 6-CU**  
铜CU编织带  
适用EMC屏蔽应用  
CU braiding EMC applications



**DUO PA 6|PP**  
两件套软管  
可轻松打开闭合  
two-pieces, dividable and recloseable

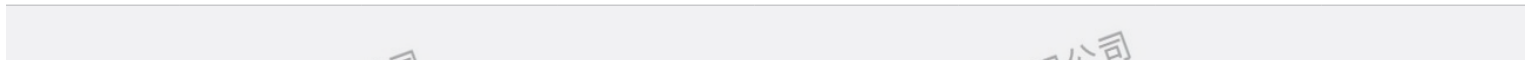


10 – 54,5      10 – 54,5      10 – 54,5      13 – 54,5      10 – 54,5      13 – 54,5      10 – 79,0

聚酰胺 PA12 Polyamide 12      聚酰胺 PA12 Polyamide 12      聚酰胺 PA12 Polyamide 12      聚氨酯 PU Polyurethane      聚丙烯 PP Polypropylene      聚酰胺 PA6 Polyamide 6      聚酰胺 PA6 | 聚丙烯 PP Polyamide 6 | PP

-50°C ... +100°C      -50°C ... +100°C      -50°C ... +100°C      -40°C ... +120°C      -40°C ... +120°C      -40°C ... +120°C      -40°C ... +120°C PA 6  
-25°C ... +120°C PP

V2 [UL 94]      V2 [UL 94]      V2 [UL 94]      HB [UL 94]      HB [UL 94]      HB [UL 94]      HB | V2 [UL 94]



|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| ✓ | ✓ | - | ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | - | - | - | - |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | - | ✓ | ✓ | ✓ | - |
| ✓ | ✓ | - | ✓ | ✓ | ✓ | - |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| - | - | - | - | - | - | ✓ |



**RQBK90DR-M|PiN**  
03.29



**RQB1 90-M**  
03.30



**RQLB1 90-M|P**  
03.31



**RQB45-M|PiN**  
03.32



**RQBK45-M|P**  
03.33



**RQB1 45-M|N**  
03.34



**RQLB1 45-M**  
03.35



**RQW-M|PiCIN**  
03.36-37



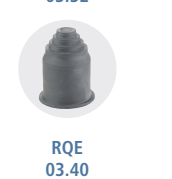
**RQW1-M|PiN**  
03.38



**RQW-F**  
03.39



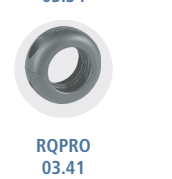
**RQF2-M**  
03.39



**RQE**  
03.40



**RQA**  
03.40



**RQPRO**  
03.41



**MULTI-GFP**  
03.42



**MULTI-WFP**  
03.43



**RQT**  
03.44



**RQY**  
03.45



**RQK**  
03.46



**RQGR**  
03.47



**RQH | RQHG**  
03.48



**RQS**  
03.49



**RQM | RQMS**  
03.50



**RQMR**  
03.51

## 软管产品介绍

## Product overview

### 金属保护软管

### PROTECTIVE METAL CONDUITS



SPR-AS  
S轮廓  
S profile



SPR  
S轮廓  
S profile



SPR-VA  
S轮廓  
S profile



FLEXAgraff®-AS  
Agraff轮廓  
Agraff profile

\* 可提供特殊尺寸

\* Special dimensions deliverable 对应选型样本页码 | page

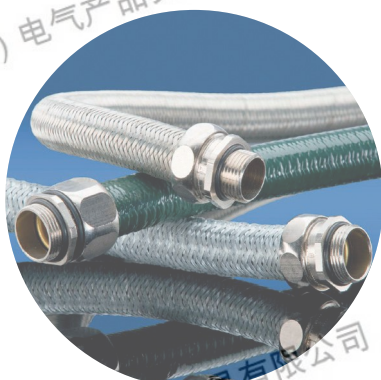
04.2

04.2

04.3

04.6

| 认证<br>Recognition                       |  <b>BWB</b>  |  |   |                         |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 外径尺寸<br>Size range OD                   | 10 – 56*                                                                                                                                                                       | 5 – 13*                                                                             | 2,5 – 56*                                                                                                                                                               | 10 – 56                 |
| 材料<br>Material                          | 镀锌钢<br>galvanized steel                                                                                                                                                        | 镀锌钢<br>galvanized steel                                                             | 不锈钢<br>stainless steel                                                                                                                                                  | 镀锌钢<br>galvanized steel |
| 温度范围<br>Temperature range               | -50° C ... +250° C                                                                                                                                                             | -50° C ... +250° C                                                                  | +200° C... +600° C                                                                                                                                                      | -50° C ... +250° C      |
| 防护等级<br>Protective system               | IP 40                                                                                                                                                                          | IP 40                                                                               | IP 40                                                                                                                                                                   | IP 40                   |
| 应用<br>Applications                      |                                                                                                                                                                                |                                                                                     |                                                                                                                                                                         |                         |
| 机械/生产设备<br>Machine / Plant Construction | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 轨道交通行业<br>Railway Industry              | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 汽车行业<br>Automotive                      | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 造船业<br>Shipbuilding                     | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 自动化<br>Automation                       | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 电气安装<br>Electrical Installations        | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |
| 传感技术<br>Sensor Technology               | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | -                       |
| Ex防爆领域<br>Ex-Area                       | ✓                                                                                                                                                                              | ✓                                                                                   | ✓                                                                                                                                                                       | ✓                       |



### 软管接头 | CONNECTORS



US-MIP  
08.2



US2-M  
08.8



USDR-M  
08.10



USZ-M  
08.12



USZ-EX-M  
08.14



LI-MIP  
08.18



LIF-MIP  
08.19



USW-MIP  
08.20



金属保护软管-外包金属编织网  
PROTECTIVE METAL CONDUITS WITH BRAIDING



FLEXAgraff®-VA  
Agraff轮廓  
Agraff profile



SPR-CU-AS  
S轮廓  
镀锡铜编织网  
S profile  
tinned copper wire braiding



SPR-EDU-AS  
S轮廓  
镀锌钢编织网  
S profile  
galvanized steel wire braiding



FLEXAgraff®-CU-AS  
Agraff轮廓  
镀锡铜编织网  
Agraff profile  
tinned copper wire braiding

04.7

04.5

04.4

04.8

|                        |    |    |    |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 – 56                 | 10 – 56                                                                                                                                                                                                                                               | 10 – 56                                                                                                                                                                                                                                                | 14 – 56                                                                                                                                                                                                                                                     |
| 不锈钢<br>stainless steel | 镀锌钢<br>galvanized steel                                                                                                                                                                                                                               | 镀锌钢<br>galvanized steel                                                                                                                                                                                                                                | 镀锌钢<br>galvanized steel                                                                                                                                                                                                                                     |
| -200° C ... +600° C    | -50° C ... +250° C                                                                                                                                                                                                                                    | -50° C ... +250° C                                                                                                                                                                                                                                     | -50° C ... +250° C                                                                                                                                                                                                                                          |
| IP 40                  | IP 40                                                                                                                                                                                                                                                 | IP 40                                                                                                                                                                                                                                                  | IP 40                                                                                                                                                                                                                                                       |

|   |   |   |   |
|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | - | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ |
| - | ✓ | - | ✓ |
| ✓ | - | ✓ | ✓ |

软管附件| ACCESSORIES



MSD  
08.31



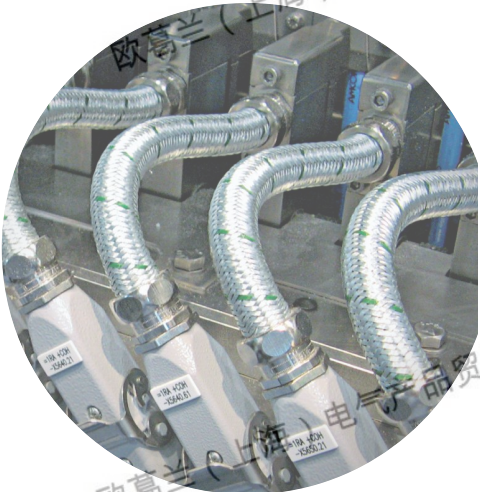
TED  
08.31



EK  
08.32



EEM  
08.33

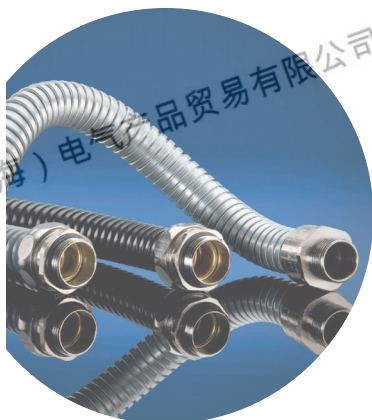


## 软管产品介绍

## Product overview

### 金属保护软管 | 金属防水软管

### PROTECTIVE METAL CONDUITS | LIQUID TIGHT



SPR-PVC-AS  
SPR-PVC

S轮廓  
PVC保护层  
S profile  
PVC sheathing



SPR-PA

S轮廓  
PA保护层  
S profile  
PA sheathing



SPR-PU-AS

S轮廓  
耐油PU保护层  
S profile  
oil-resistant  
PU sheathing



SPR-PU-F

S轮廓  
阻燃PU保护层  
S profile  
flame retardant  
PU sheathing



SPR-PVC-  
EDU-AS

S轮廓  
PVC保护层  
镀锌钢编织网  
S profile, PVC sheathing,  
galvanized steel wire  
braiding



FLEXAgraff®-  
PU-AS

Agraff轮廓  
耐油PU保护层  
Agraff profile  
oil-resistant  
PU sheathing

对应选型样本页码 | page

05.2|3

05.4

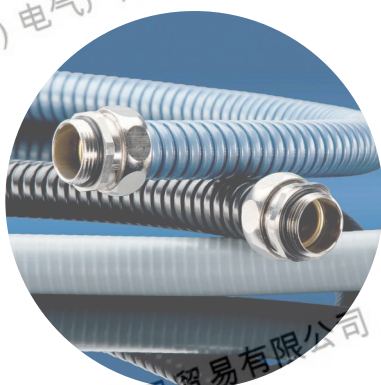
05.5

05.6

05.7

05.8

| 认证<br>Recognition                       |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 外径尺寸<br>Size range OD                   | 10 – 56   7 - 12                                                                   | 10 – 56                                                                            | 10 – 56                                                                            | 10 – 56                                                                            | 10 – 56                                                                            | 14 – 56                                                                            | 10 – 56                                                                             |                                                                                      | 14 – 56                                                                              |                                                                                      | 10 – 56                                                                              |                                                                                      |
| 材料<br>Material                          | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                            | 镀锌钢<br>galvanized steel                                                             |                                                                                      | 镀锌钢<br>galvanized steel                                                              |                                                                                      | 镀锌钢<br>galvanized steel                                                              |                                                                                      |
| 温度范围<br>Temperature range               | -25° C ... +90° C                                                                  | -50° C ... +120° C                                                                 | -50° C ... +100° C                                                                 | -50° C ... +100° C                                                                 | -50° C ... +100° C                                                                 | -25° C ... +90° C                                                                  | -50° C ... +100° C                                                                  |                                                                                      | -25° C ... +90° C                                                                    |                                                                                      | -50° C ... +100° C                                                                   |                                                                                      |
| 防护等级<br>Protective system               | IP 68                                                                              | IP 68                                                                              | IP 68                                                                              | IP 68                                                                              | IP 68                                                                              | IP 68                                                                              | IP 68                                                                               |                                                                                      | IP 68                                                                                |                                                                                      | IP 68                                                                                |                                                                                      |
| 应用<br>Applications                      |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                    |                                                                                     |                                                                                      |                                                                                      |                                                                                      |                                                                                      |                                                                                      |
| 机械/生产设备<br>Machine / Plant Construction | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                   |                                                                                      | ✓                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 轨道交通应用<br>Railway Industry              | -                                                                                  | -                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | -                                                                                  | ✓                                                                                   |                                                                                      | -                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 汽车行业<br>Automotive                      | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                   |                                                                                      | ✓                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 造船业<br>Shipbuilding                     | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                   |                                                                                      | ✓                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 自动化<br>Automation                       | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                   |                                                                                      | ✓                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 电气安装<br>Electrical Installations        | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                  | ✓                                                                                   |                                                                                      | ✓                                                                                    |                                                                                      | ✓                                                                                    |                                                                                      |
| 餐饮行业<br>Food and Beverage Industry      | -                                                                                  | -                                                                                  | -                                                                                  | -                                                                                  | -                                                                                  | -                                                                                  | -                                                                                   |                                                                                      | -                                                                                    |                                                                                      | -                                                                                    |                                                                                      |



### 软管接头 | CONNECTORS



US-MIP  
08.2



US2-M  
08.8



USDR-M  
08.10



USZ-M  
08.12



US-FOOD-M  
08.26



EG-MIP  
08.27



LI-MIP  
08.18



LIF-MIP  
08.19



USD-MIP  
08.16



USW-MIP  
08.20



EW 45-MIP  
08.28



EW 90-MIP  
08.29



金属保护软管 | 金属防水软管  
PROTECTIVE METAL CONDUITS | LIQUID TIGHT



FLEXAgraff®-PU-F

Agraff轮廓  
阻燃PU保护层  
Agraff profile  
flame retardant  
PU sheathing

05.9



10 – 56

镀锌钢  
galvanized steel

-50°C ... +100°C

IP 68



FLEXAgraff®-SI-ASF

Agraff轮廓  
SI保护层  
Agraff profile  
SI sheathing

05.10



14 – 56

镀锌钢  
galvanized steel

-50°C ... +180°C

IP 68



FLEXAgraff®-CU-PU

Agraff轮廓  
镀锡铜编制网  
PU保护层  
Agraff profile, tinned  
copper wire braiding  
PU sheathing

05.11



14 – 56

镀锌钢  
galvanized steel

-50°C ... +100°C

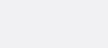
IP 68



LIQUID-Tight-FOOD

光滑PU保护层  
高防护等级  
食品安全级  
smooth PU sheathing  
extra liquid tight  
food-safe

05.15



1/2" – 1 1/4"

镀锌钢  
galvanized steel

-40°C ... +80°C

IP 68



LIQUID-Tight-EF

光滑PVC保护层  
高防护等级  
smooth PVC sheathing  
extra liquid tight

05.12



5/16" – 2"

镀锌钢  
galvanized steel

-25°C ... +90°C

IP 68



LIQUID-Tight-UL-CSA

铜接地线  
光滑PVC保护层  
copper ground lead  
smooth PVC sheathing

05.14



3/8" – 2"

镀锌钢  
galvanized steel

-25°C ... +90°C

IP 68

软管附件 | ACCESSORIES



MSD  
08.31



TED  
08.31



EK  
08.32



EEM  
08.33



## 软管产品介绍

## Product overview

### 塑料保护软管

### PROTECTIVE PLASTIC CONDUITS



**AIRflex®-  
KUW-PVC-AS**

弹簧钢丝螺旋  
Inside helix of  
spring steel wire



**AIRflex®-  
KUW-PU-AS**

弹簧钢丝螺旋  
Inside helix of  
spring steel wire



**AIRflex®-  
KUW-EDU**

PVC保护层  
镀锌钢编织网  
PVC sheathing  
galvanized steel wire  
braiding



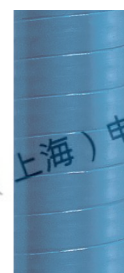
**AIRflex®-K**

硬质塑料螺旋  
内表面光滑  
helix of rigid plastic  
plain inside surface



**AIRflex®-GRS**

硬质塑料螺旋  
内外表面光滑  
helix of rigid plastic  
plain inside/outside



**AIRflex®-GRS-  
FOOD**

硬质塑料螺旋  
PVC保护层  
食品安全级  
helix of rigid plastic  
PVC, food-safe

对应选型样本页码 | page

06.2

06.3

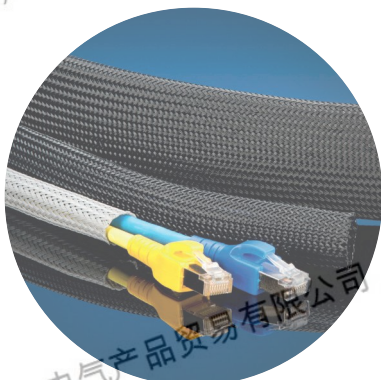
06.4

06.5

06.6

06.7

| 认证<br>Recognition                     |  |  |  |  |  |  |
|---------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 外径尺寸<br>Size range OD                 | 10 – 56                                                                           | 10 – 56                                                                           | 14 – 56                                                                            | 10 – 56                                                                             | 14 – 56                                                                             | 1/2" – 1 1/4"                                                                       |
| 材料<br>Material                        | 弹簧钢丝   PVC<br>spring steel wire   PVC                                             | 弹簧钢丝   PU<br>spring steel wire   PU                                               | PVC   镀锌钢<br>PVC   galv. steel wire                                                | 硬质塑料   PVC<br>rigid plastic   PVC                                                   | 硬质塑料   PVC<br>rigid plastic   PVC                                                   | 硬质塑料   PVC<br>rigid plastic   PVC                                                   |
| 温度范围<br>Temperature range             | -25°C ... +90°C                                                                   | -40°C ... +100°C                                                                  | -25°C ... +90°C                                                                    | -25°C ... +90°C                                                                     | -25°C ... +90°C                                                                     | -25°C ... +50°C                                                                     |
| 防护等级<br>Protective system             | IP 68                                                                             | IP 68                                                                             | IP 68                                                                              | IP 68                                                                               | IP 68                                                                               | IP 68                                                                               |
| 应用<br>Applications                    |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| 机械/生产设备<br>Machine/Plant Construction | ✓                                                                                 | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| 轨道交通行业<br>Railway Industry            | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   | -                                                                                   |
| 汽车行业<br>Automotive                    | ✓                                                                                 | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | -                                                                                   |
| 自动化<br>Automation                     | ✓                                                                                 | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| 电气安装<br>Electrical Installations      | ✓                                                                                 | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| 作为排水管<br>As suction hose              | ✓                                                                                 | ✓                                                                                 | -                                                                                  | ✓                                                                                   | ✓                                                                                   | -                                                                                   |
| 波导技术<br>Beam wave guide Technology    | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   | -                                                                                   |
| 医疗技术<br>Medical Technology            | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   | -                                                                                   |
| 餐饮行业<br>Food and Beverage Industry    | -                                                                                 | -                                                                                 | -                                                                                  | -                                                                                   | -                                                                                   | ✓                                                                                   |



### 软管接头 CONNECTORS



**USK-M/P  
08.24**



**LKI-M/P  
08.25**



**US2-M  
08.8**



**USDR-M  
08.10**



**US-FOOD-M  
08.26**



**US-M/P  
08.2**



**USZ-M  
08.12**



**NIMS-M/P  
08.30**



**USW-M/P  
08.20**



## 编织套管 BRAIDINGS



HG-PA

丝状圆形编织  
wire braiding  
round braiding

07.2



HG-PET022

丝状圆形编织  
wire braiding  
round braiding

07.3



HG-CU  
HG-CU-K

丝状圆形编织  
wire braiding  
round braiding

07.4/5



HG-EDU

丝状圆形编织  
wire braiding  
round braiding

07.6



PS-VA  
PS-L-VA

玻璃纤维编织  
SI保护层  
fiber glass braiding  
SI sheathing

07.7



FLEXAhightemp

硅酸钙编织  
SI保护层, 阻燃  
calcium-silicate braiding  
SI sheathing,  
fire protection

07.8



FLEXAspiral PE  
FLEXAspiral PA12

螺旋套管  
spiral bindings

07.10/11



NW | ID 5 – 50

聚酰胺PA  
polyamide monofilaments

-50°C ... +120°C

NW | ID 4 – 50

涤纶树脂PVC  
PET monofilaments

-50°C ... +150°C

NW | ID 6 – 35

镀锡铜丝  
tinned copper wires

-50°C ... +250°C

NW | ID 6 – 35

镀锌钢丝  
galvanized steel wires

-50°C ... +250°C

NW | ID 2,5 – 8,0  
NW | ID 3,3 – 7,7

不锈钢V2A  
stainless steel V2A

-50°C ... +180°C

NW | ID 10 – 60

硅酸钙  
calcium-silicate/silicone

-50°C ... +350°C

NW | ID 6 – 12

聚酰胺PA12  
PA 12

-40°C ... + 90°C  
-40°C ... +100°C

IP 68

IP 68

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## 软管附件 | ACCESSORIES



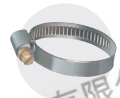
MSD  
08.31



TED  
08.31



EK  
08.32



SGL  
08.30



EEM  
08.33



AK  
08.32

