# Simply Smart Systems Automation & Robotics



The brand murrplastik®

# Industry-focused Future-proof Customized

Manufacturing is the driving force in our fast-moving, connected world. Moreso than nearly any other sector of the economy, industry lies at the heart of continuous innovation and change. To survive long term, you have to be able to react to ever-changing developments and conditions flexibly and with foresight. The highest level of economic know-how is just as indispensable here as powerful machines and reliable production facilities.

With over 60 years of experience in the development, production and sale of smart cable management systems and individual components, at murrplastik<sup>®</sup> we support companies worldwide in optimizing their work processes.

For the customers, this means protected investments, long-lasting machines and shorter downtimes as the basis for a future-proof, up-to-date corporate development.





#### Automation and Robotics

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#### murrplastik worldwide

Who we are

# We create room for progress Simply Smart Systems

Building on the development of the first computer-assisted labeling system and our decades of experience in the field of intelligent cable management, murrplastik<sup>®</sup> offers not only individual solutions but also complete cable management solutions - everything from one source.

In close cooperation with our experts, we will find the optimum solution for you and your requirements. Comprehensive consulting is just as much a part of our service portfolio as the rapid implementation, maintenance and support of the systems in case of a service issue.

That is how we can ensure the basis for the modern, future-proof, progressive growth of your company.





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Our entire range at a click

shop.murrplastik.de/en



murrplastik.de/en/industries



# Industries and application areas

Service

# Working together to develop and implement solutions The complete solution

# **Strong together** murrplastik<sup>®</sup> at your side

In our complex and fast-moving world, the development of innovative solutions and a comprehensive understanding of the challenges of tomorrow determine which companies will continue to be successful in the future.

#### Our promise:

Customized system solutions in an automated world.

In addition to the fast and uncomplicated provision of individually manufactured components and complete systems, we work on your projects with you.

Together with our experts from different departments, we develop the perfect solution for your requirements and ensure long-term growth.



# **Flexible holder** system

The flexible holder system FHS guarantees a highly flexible, safe and easy to assemle energy supply to Cobots. It is versatile and modular and adapts individually to the requirements of each application.

hook-and-lotape in different lengths (optionally also plications of the flexible holder system. With the help strain reliefs and ball joints), an enormous variety of sured at all times.

murrplastik is the only manufacturer whose holder compensation of the energy supply system up to 150 mm. We also offer jointly defined, specific FHS complete sets for robot manufacturers. These can be attached to the Cobots and small robots without



# **Cobot Configurator** For cable routing without compromises





#### Secure and quick assembly

- Simple replacement of the corrugated conduits
- Suitable up to NW 29

# **FHS-SH**

#### Flexible cable routing

- For low to medium travel speed

- ✓ With cable-friendly strain relief

# **FHS-RS**

#### Compact design: Simple and space-saving solution

- Target application: Ideal for small robots
- with FHS-hook-and-loop holders
- Highest holding times

# SHS

- Easy to assemble
- 🕢 Durable



Find all matching Cobots in our Cobot Configurator











More info on FHS-C can be found in our online shop

#### Infinite, direct connection

- Secure and cable-friendly direct fastening without holder
- Without tools and loose components



More info on FHS-UHE can be found in our online shop

- Indetachable" clamping bracket, as one piece
- In order to avoid axial displacement of the corrugated conduit
- For dynamic, light applications



More info on FHS-SH can be found in our online shop

- ✓ For routing and stabilizing cable packages up to NW 70
- For initial equipment and subsequent installation
- ✓ For sliding or fixed mounting on the corrugated conduit



More info on FHS-RS can be found in our online shop

- Length compensation: Provides compensation of up to 10 mm
- Tool-free installation: Fast attachment directly to the robot
- Quick and easy replacement of the dresspack



lore information on SHS can be found in ou online shor

#### Ideal for welding applications and harsh environmental conditions

Suitable for nominal width M25 to 70 Jumbo ✓ For all SH system holders made of plastic without metal lock Automation & Robotics

# For an industry on the move

# The murrplastik<sup>®</sup> smart cable protection made of abrasion-resistant special fabric.

Industrial robots guarantee maximum precision and performance, even under extreme conditions. The use of robust holders and routing systems is essential for the reliable protection of conduits and cables. "Made by murrplastik®" stands for the highest quality. The PR/AS protector is used as abrasion protection for cable protection conduits and energy packages. The PR/AS makes the movement sequences more dynamic, increasing the flexibility of the dresspack and extending its service life at the same time.

- Hard-wearingLow noise
- ✓ Material-friendly
- Seasy assembly





# **Cu**stomized robotics equipment systems





# **Diversity in retraction systems**

Preventing unnecessary movement, is the basic requirement for a long service life for energy packages of industrial robots. Especially for the installations from axis 3 to axis 6, the lines must be routed to allow utmost flexibility, to make all necessary movements possible.

This is where the murrplastik<sup>®</sup> recirculation systems come into play. As a rule, they are mounted on axis 3, will keep the energy package cables taut at all times, yet allowing free movements at all times.

Premium single components, comprehensive performance packages and dresspacks. Our many years of experience in the business will increase the performance of your robots Guaranteed!

#### Corrugated conduits overview Robotics:

Description	Order No.	NW	Inside diameter
EWX-PAE M25/P21 MURRFLEX, SW	83182058	21	18.3 mm
EWX-PAE M32/P29 MURRFLEX, SW	83182060	29	23.1 mm
EWX-PAE M40/P36 MURRFLEX, SW	83182062	36	28.5 mm
EWX-PAE M50/P48 MURRFLEX, SW	83182064	48	36.7 mm
EWX-PAE 56 MURRFLEX JUMBO, SW	83182078	56	52.2 mm
EWX-PAE 70 MURRFLEX JUMBO, SW	83182080	70	64 mm
EWX-PAE 80 MURRFLEX JUMBO, SW	83182081	80	76 mm
EWX-PAE 95 MURRFLEX JUMBO, SW	83182082	95	88.2 mm
EW-PAE M25/P21 MURRFLEX, SW	83181660	21	21.8 mm
EW-PAE M32/P29 MURRFLEX, SW	83181662	29	27.8 mm
EW-PAE M40/P36 MURRFLEX, SW	83181664	36	34.9 mm
EW-PAE M50/P48 MURRFLEX, SW	83181666	48	46.3 mm
EW-PAE 56 MURRFLEX JUMBO, SW	83181678	56	56 mm
EW-PAE 70 MURRFLEX JUMBO, SW	83181680	70	67.4 mm
EW-PAE 80 MURRFLEX JUMBO, SW	83181681	80	79 mm
EW-PAE 95 MURRFLEX JUMBO, SW	83181682	95	89.7 mm



#### **R-TEC BOX**

Optional guided for the energy packets from axis 3 to axis 6 at industry robots. Secure, low-wear and effective cable management in the smallest spaces.

Stroke	270 m
0:	M40/P
Size	M50/P
Stroke	400 m
0-	56 Jur
Size	70 Jur





Stroke

Size NW 56 NW 70 NW 80 NW 95

**R-TEC LINER** 

The linear retraction system by murrplastik protects your energy package against damage and wear **Stroke** 350 mm 550 mm



#### **Retraction system**

The light and space-saving retraction system for small robots such as Fanuc M20iA or Kuka KR6.

Stroke	160 mr
Size	M32/P
Cine	M25/P

#### Center ball joints



 Application for fixing the energy package
 Allows rotational movement as well as tilting movement (KMG/F)
 The corrugated conduit is statically fixed

cally fixed

#### KMG/G / Trumpet

Application for the routing of the energy package
Enables the corrugated conduit to slide through the longitudinal axis













P21

29

m

#### End ball oints



#### KEG-ZL / SRF-ZL

strain relief

- Application at the end of the energy package
  Wires and cables are secured by cable ties to the integrated
- **KEG-K + strain relief** Application at the end of the energy package
   Can be adapted to the diameter of the
- Can be adapted to the diameter of the cables
- Cable-friendly strain relief
- No ingress of dirt into the corrugated conduit

# Innovation meets hygiene

Engineers are constantly challenged to develop new and better solutions to achieve optimum results in hygiene-sensitive industries. In cooperation with Stäubli Robotics, Murrplastik Systemtechnik GmbH has developed HygienicLine Dynamics, an innovative cable retraction system that will significantly change the future of the food industry.

In collaboration with Stäubli Robotics, HygienicLine Dynamics was developed - a cable retraction system that completely dispenses with protective sleeves and opts instead for innovative materials and Hygienic Design. Using high quality stainless steel and blue materials ensures optimum FDA compliance, consistent hygienic design, long life and easy maintenance. The use of detectable material ensures a high level of production reliability, as direct action can be taken in case of complications.

# $\oslash$

**FDA compliance** 

Using high quality stainless steel and blue materials ensures optimum FDA compliance.

# Easy assembly

 $\oslash$ 

The ease of assembly allows for greater efficiency and cost savings.





# **Production safety**

The use of detectable material ensures a high level of production reliability, as direct action can be taken in case of complications.





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The cable retraction system completely dispenses of protective sleeves and opts instead for innovative materials and Hygienic Design.

# **Robotics kit UNI**

Variants: 2





Conformity



#### **Product information**

Sets specially adapted to the cable routing on cobots and small robots. The robot kit UNI offers the possibility of professional cable routing on almost all models. The assembly includes the protective conduit, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. Hook-and-loop tapes in four different lengths are included for each fixing point, from which the appropriate one can be selected.

PRODUCT

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For an easier installation of pre-assembled cables, the protective conduit in slit version is included in the FHS-C set  $\dot{\text{UNI-LS}}.$ 

#### Advantages:

- · low interference contour
- tool-free installation
- secure hold, even on conical surfaces
- quick routing adjustment is possible during implementation

## **Robotics kit TM**

Variants: 8





Conformity RoHS

#### **Robotics kit UR**

Variants: 18





#### **Product information**

Especially designed sets for cable routing on robots of the Universal Robots Company.

PRODUCT

The assembly includes the protective conduit, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit version type LS.

The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories:

- R-SSR tension clamp for axis 6
- SH-P M25-M32 system holder
- KEG/ZL or KEG/K strain relief

### **Robotics kit Franka Robotics**

Variants: 4



Franka Robotics Company. The assembly includes the protective hose, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories: • SH-P M25-M32 - system holder • KEG/ZL or KEG/K - strain relief



Conformity RoHS



Conformity



#### **Product information**

Sets, especially designed for cable routing on robots of the TM Company.

The assembly includes the protective hose, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit LS.

The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories:

• R-SSR - tension clamp for axis 6

- SH-P M25-M32 system holder
- KEG/ZL or KEG/K strain relief



#### **Product information**

Sets, especially designed for cable routing on robots of the

## System holder clamp SHS

Variants: 5







# Conformity

#### **Product information**

The system holder clamps type SHS offer the option of attaching our plastic system holders simply and securely to cylindrical robots. The folding hinge bolt clamp makes installation easier.

PRODUCT

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Ideal for welding applications and harsh environmental conditions.

- Easy to assemble
- Durable
- Suitable for nominal width M25 to 70 Jumbo
- · For all SH system holders made of plastic without metal lock • Variant "LO" has a raised console to reduce electromagnetic interference

## **Robotics kit Hanwha**

Variants: 3





# 🕢 Hanwha



Variants: 6

### **Robotics kit Kassow**

Variants: 5









Sets specially adapted to the cable routing on robots from Kas-SOW.

PRODUCT

The assembly includes the protective hose, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit LS.

The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories:

- KKU-Fix hook-and-loop tape silicone-free
- KBM 840 Metal cable ties



**Robotics kit Doosan** 









#### **Product information**

Sets specially designed for cable routing on Hanwha robots. The assembly includes the protective hose, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. The set offers a lowest possible interference contour for a low risk of damage.

• Optional accessories: • R-SSR - tension clamp for axis 6 • SH-P M25-M32 - system holder • KEG/ZL or KEG/K - strain relief



#### **Product information**

Sets specially adapted to the cable routing on robots from Doosan.

The assembly includes the protective conduit, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit LS.

The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories: R-SSR - tension clamp for axis 6 SH-P M25-M32 - system holder KEG/ZL or KEG/K - strain relief

## **Robotics kit Mitsubishi**

Variants: 3







Especially designed sets for cable routing on robots of the Mitsubishi Electric Company.

PRODUCT

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The assembly includes the protective conduit, end sleeves and the appropriate fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit version type LS.

The set offers a lowest possible interference contour for a low risk of damage.

#### Optional accessories:

- R-SSR tension clamp for axis 6
- SH-P M25-M32 system holder
- KEG/ZL or KEG/K strain relief

## FHS-C support bracket

Variants: 9









#### **Robotics kit Fanuc**

Variants: 4

Conformity

RoHS







#### **Product information**

Sets specially adapted to the cable routing on robots from Fanuc.

PRODUCT

The assembly of the includes the protective conduit, end sleeves and the suitable fastening with non-slip hook-and-loop tape. For an easier installation of pre-assembled cables, the protective conduit is available in slit LS.

The set offers a lowest possible interference contour for a low risk of damage.

Optional accessories:

- R-SSR tension clamp for axis 6
- SH-P M25-M32 system holder
- KEG/ZL or KEG/K strain relief

#### FHS-SH support bracket

Variants: 8











The FHS-SH fixes the proven SH-P M25-M32 system holder without tools and without much effort to nearly any small robots and cobots. For smaller cable packages and low to medium travel speed, this is the way to provide secure hold and maximum flexibility for the applications. The respective protective conduits can be installed fixed, sliding in axial direction or with strain relief by using additional system components in M25 or M32 sizes.

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#### **Product information**

The FHS-C has been designed for the direct insertion of lines or protective conduits.

The hook-and-loop tape has a slip-resistant coating and wraps around the cable packet as well as the robot. The variable lengths of hook-and-loop tape and the special contour of the base element makes the system exceptionally well suited for assemblies on a variety of robot models and machine compo-

- Advantages:
- low interference contour
- saves space
- low weight
- secure hold, even on conical surfaces
- quick fit, without pre-drilling
- quick routing adjustment is possible during implementation



#### **Product information**

Optional accessories:

- KEG/ZL strain relief with cable ties
- KEG/K strain relief with cable star
- KMG/G sliding channel guide
- KMG/F axial channel guide

Variants: 10





#### Product information

The FHS-UHE makes fixing the cable protection conduit quick and possible without tools. The conduit is fixed with especially low cable wear for light, dynamic applications and without axial movement of the attachment.

PRODUCT

The specially coated hook-and-loop tape and the unique shape of the base element gives the system a tight fit on almost any contour. This makes the FHS-UHE suitable for nearly all small robot cable routings.

Advantages:

- no additional components required
- especially gentle on cables
- secure hold, even on conical surfaces
- quick fit, without pre-drilling
- quick routing adjustment is possible during implementation

**Hook-and-loop tape, slip-resistant** Variants: 14



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#### FHS Retraction system 21/29

Variants: 4

Conformity

RoHS





Conformity Rolls Made in Germany

# PRODUCT

#### Product information

The retraction system is a simple and space-saving system and can handle a length adjustment of 150 mm. The system is used on small robots such as UR5 & UR10 from Universal Robots.

The retraction system can be mounted directly on the robot with FHS-hook-and-loop holders.

#### Hook-and-loop tape, silicone-free Variants: 12



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> Adv • t









#### **Product information**

The KKR-Fix hook-and-loop tapes are used for the quick and easy fastening of our flexible holder systems, as well as for bundling and fixing of cable strands.

Applications range from their use in robotics throughout mechanical engineering and on to house installations.

The back side of the hook-and-loop tape has been specially siliconized. This ensures a tight and slip-resistant grip of the tape on almost any surface. These special properties of the KKR-Fix makes it quite a gentle solution for low torque fastening of cables.

Advantages:

- tool-free installation
- secure hold without slipping
- no restriction of sensitive cables
- no risk of damage due to sharp edges



#### **Product information**

The KKU-Fix hook-and-loop tapes are used for the quick and easy fastening of our flexible holder systems, as well as for bundling and fixing of cable strands.

Their special silicone-free coating ensures a secure hold almost all surfaces.

They are particularly suitable for areas of application in which silicone-containing working materials must be completely avoided.

Advantages:

- tool-free installation
- secure hold without slipping
- no restriction of sensitive cables
- no wet paint impairments

Variants: 4





Metal cable ties made of durable stainless steel. Suitable for fixing the FHS base bodies as an alternative to hook-and-loop

The KBW/M cable tie tool is required for correct installation.

This tensions the cable ties and automatically cuts off the pro-

truding end. The preload is infinitely adjustable.

#### **R-Tec Liner** Variants: 16







#### **Retraction system set**

Variants: 4









Conformity

# **R-Tec Box**

Variants: 14





Conformity RoHS Made in Germany



#### **Product information**

**Product information** 

tape.

With their R-Tec Box design, Murrplastik has succeeded in creating a new system for optimum management of energy packages from axis 3 to axis 6 of industrial robots. In this specially designed housing with the unique, integrated spring return system, the energy packet is transported safely and effectively in a low-wear manner within the smallest space.

Conformity



#### **Product information**

- With the R-Tec Liner, Murrplastik has succeeded in creating a new linear system for the optimum guidance of energy packages from axis 3 to axis 6 on industrial robots.
- In the specially manufactured aluminium housing with the integrated and patented spring return system, the energy package is guided effectively and with low wear.
- extremely strong aluminium housing
- the system can be installed without base plate on selected robots
- Compact design
- highest holding times
- quick and easy replacement of the dresspack
- closed system; the guidance system is protected from ingress of dirt
- preferred for conduit harnesses from axis 1-6



#### **Product information**

The retraction system serves as a simple, space-saving alternative to the Murrplastik R-Tec Box-S and creates a length compensation of 150 mm. The system is very suitable for small robots, such as FANUC M20iA or KUKA KR6/KR10.

As long as the hole pattern fits, the retraction system can be mounted directly on the robot or attached with spacer sleeves. If the hole pattern does not match, an additional adapter plate will be necessary for the installation.

## HygienicLine Dynamics systems

Variants: 1







#### Product information

The HygienicLine Dynamics retraction system is manufactured in Hygienic Design and was specially developed for hygienically sensitive industries.

PRODUCT

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The use of electro-polished stainless steel and high-performance plastics makes the surface even smoother and ensures an abrasion-resistant application.

Further advantages:

• Easy cleaning without dirt edges due to Hygienic Design

- Resistance to acids and alkaline
- Use of FDA compliant and detectable material
- System meets the requirements of EG 1935/2004, EG 10/2011 and EG 2023/2006
- Resistance to high temperatures and pressures
- High quality due to the use of stainless steel
- Easy handling and minimization of assembly errors
- Subsequent assembly and disassembly of cables and wires possible
- Good torsional stability and high dynamics ensure longer service life of all components



Variants: 17







### HygienicLine Dynamics cable routing

Variants: 1





#### Product information

The cable guides are attached to the retraction system HygienicLine Dynamics, to ensure the safe routing of cables and wires.

PRODUCT

The use of high-performance plastics makes the surface even smoother and ensures an abrasion-resistant application.

Further advantages:

- Easy cleaning without dirty edges due to Hygienic Design
- Use of FDA compliant and detectable material
- Subsequent assembly and disassembly of cables and wires possible
- Simplified maintenance











Conformity





#### **Product information**

The EWX-PAE cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

With its excellent flexural fatigue strength, this product is ideal for robotics engineering and in the area of handling systems. For extremely dynamic applications involving medium to high mechanical loads.

The EWX-PAE cable protection conduits have a higher corrugation and feature the following advantages:

- Very good flexibility
- Excellent flexural fatigue strength
- Less wear
- Good crush resistance



#### **Product information**

The EWX-PAE-LS cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

With its excellent flexural fatigue strength, this product is ideal for robotics engineering and in the area of handling systems. For installation of pre-assembled cables, retrofitting or repair of cables. For dynamic applications involving light to medium mechanical loads.

The EWX-PAE-LS cable protection conduits have a higher corrugation and feature the following advantages:

- Very good flexibility
- Excellent flexural fatigue strength
- Less wear
- Good crush resistance
- Subsequent installation possible

# Type EF (rectangular conduit)

Variants: 2







#### Product information

The rectangular Energoflex EF cable protection conduits are made of specially modified thermoplastic elastomer. The material is halogen, phosphor and cadmium-free. The Energoflex EW cable protection conduits are characterised by excellent flexibility and good flexural fatigue strength. With its rectangular shape, the EF conduit can be used as a cost-effective alternative to cable drag chains. For dynamic applications involving light to medium mechanical loads in mechanical and plant engineering.

PRODUCT

Advantages of the Energoflex include:

- Little relative movement of the cables
- Low-wear interior
- Simultaneous traversing in multiple axes possible
- Higher stability compared to a conduit

System affiliation:

#### Holder EF/B 26/42

• Flange connection FL-EF 26042

## SH system holder

Variants: 11







# FL-EF

Variants: 1





Conformity



#### Product information

The FL-EF flange connection is made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free.

PRODUCT

The connection can be used only for the rectangular conduit Type EF and features the following unique advantages: • Flat construction

- Split
- Quick and easy assembly with a sliding lock

#### **KEG-AK telescopic joint**

Variants: 2



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#### **Product information**

The SH system holder is the optimally aligned main component which, especially in conjunction with Murrflex cable protection conduits and the inlays, is able to promise excellent performance in terms of stability, operational flexibility and durability, even under high dynamic loads.

The SH 56/70 & SH 56/70-M system holder is made of a modified, impact resistant polyamide, whereas the SH 56/70-A is made of black anodized aluminium.

Suitable for initial equipment, subsequent installations or repairs

- Excellent system stability
- Easy assembly of inlays and the cable protection conduit without tools
- Suitable for 4 different applications
- Simple and easy configuration for dynamic or rigid applications

Cost reduction - only one system holder for every application
Versatile mounting options



#### **Product information**

The extendible KEG/AK telescopic joint makes a length adjustment of approx. 30 mm possible. The conduit connection piece can be pivoted by approx. 20° in all directions and can therefore adapt to the dresspack movements.

If used in conjunction with the strain-relief systems ZS-70 or ZS-70-KB it provides optimum wear protection, even when using heavy media packages.

Variants: 10







#### **Product information**

The KEG-K is used wherever cables or cords exit from the cable protection conduit. The type KEG-K ball joint, which can be installed into the SH system holder easily and guickly, is the optimum fit for cords, cables and conduit throughputs; especially because its integratable strain relief is freely configurable to the needs of the application.

PRODUCT

The KEG-K is the ideal connection of the Murrflex cable protection conduit to the SH system holder. The cables are sealed and strain is relieved at the same time.





## Ball joint KEG/ZL - Hose ring SRF/ZL

Variants: 6





Conformity RoHS Made in Germany



PRODUCT

#### **Product information**

The KEG-ZL and SRF/ZL is used wherever cords or cables exit from the cable protection conduit with strain relief. The separable ball end joint type KEG/ZL and the separable hose ring type SRF/ZL with integrated strain relief are simply and quickly inserted into the SH system holders and thus connect the Murrflex cable protection conduits to the robot. The cords, conduits and cables are connected to the integrated strain relief with cable ties.

# Strain relief cable star

Variants: 27







## KMG/F ball bearing - SRF hose ring

Variants: 14











#### **Product information**

The cable star grommet is the optimum and most cord friendly strain relief for your cables, also offering the highest degree of tear-out resistance. The elongated KB version is fastened with an additional conduit clamp to facilitate even extreme loads. Another benefit of the cable star grommet is its preventive properties against the ingress of contamination into the dresspack.

Simply drill holes of the appropriate cable diameter into the

Or, with a minimum order of 10 pieces, we can produce your customised hole pattern, using our waterjet technology. Talk to us!



#### Product information

de.

The KMG/F and SRF have been designed for robot applications and other moving handling equipment.

The SH system holder can be mounted easily and quickly in the detachably connected inlays and is the perfect fit for fixing Murrflex cable protection conduits.

The KMG-F and SRF are made of especially modified polyami-

The special advantages of the KMG-F centre ball joint and of the SRF hose ring are:

• Suitable for conversions or subsequent installation

• May be used statically fixed (KMG-F + SRF) or detachable at the axis (KMG-F)

Long service life

• easy assembly and disassembly

• Murrflex cable protection conduits are firmly fastened and are therefore securely routed

# KMG/G ball bearing

Variants: 4







#### **Product information**

The KMG-G is mainly used for dynamic applications, as you may find in robots and other movable handling devices. The detachably connected type KMG-G centre ball joint can be mounted at the SH system holder easily and quickly. The KMG-G facilitates a smooth gliding movement through the longitudinal axis whenever the cable protection conduit is moving in the longitudinal direction. This makes the KMG-G the perfect fastening system of the Murrflex cable protection conduits to the SH system holder. Therefore lines and cables can be routed and protected with absolute process protection and length adaptability, even in highly dynamic applications.

PRODUCT







## Trumpet

Variants: 1





Conformity RoHS Made in Germany



#### **Product information**

Trumpet for sliding guidance and spring return of jumbo-sized dresspacks.

The TRO-70 is detachably connected, made of durable plastic, and is latched with safety clips.

# **KMG-F H ball bearing**

Variants: 6







# **Type PR/SV**

Variants: 32











#### **Product information**

The detachably connected KMG/F-H is the perfect fixation for coiled heat conduits.

Our ball joint can be placed into the SH-system holder quickly and easily and is mostly used for robot applications and other smaller handling equipment.

This way your heat conduits are routed and protected for any application with absolute process safety.



#### **Product information**

The PR/SV protectors are made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free. The protectors are used for impact protection and connecting cable protection conduits and also protect against wear. The PR/SV protectors feature the following advantages:

• Flat construction

• Simple assembly with a sliding lock and optional lock screw assembly

• High tear-out strength

# Heat protection

Variants: 2





Simple heat protection for corrugated conduits. Protects the cable package from radiant heat and welding splatters. The heat protection can also be easily retrofitted. Durable pressure heads securely close the longitudinal slit. The standard length of 150 cm can be shortened individually if required.

PRODUCT

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8



Variants: 6





Conformity

LABS



#### Product information

The protector PR/AS serves as abrasion protection of cable protection conduits and energy packages. The PR/AS makes the motion sequences more dynamic, increasing the flexibility of the dresspacks and at the same time increasing the service life.

Further advantages:

- Minimization of noise development
- Tool-free and subsequent mounting due to attached hookand-loop tape
- No loose parts
- Robot-friendly due to the use of abrasion-resistant special fabric

# Flange clamp

Variants: 4



Product The flam pipes R Clampin The flam with a s adjusta With th rigidly. For the vel bea holder.





# Type m-cut

Variants: 12











#### **Product information**

The flange clamps allow tension clamps R-SSR and precision pipes R-RG or R-RW to be connected with other components. Clamping on the entire pipe circumference.

The flange clamp R-FKD can be used to mount system holders with a swivel range of 36°. The position of the swivel range is adjustable. This prevents bending of the protection conduit.

With the flange clamp type R-FKE, the system holder is fixed rigidly.

For the flange clamps R-FKM, the base plate R-FKG or the swivel bearing R-DZM is additionally required for fixing a system holder.



#### **Product information**

With the corrugated conduit cutter type m-cut, the cable protection conduits from Murrplastik can be cut to length easily and safely.

The application can be used by both the right and left-handed. A sturdy double-edged blade has been used to achieve perfectly cut edges.

• Furthermore, the corrugated conduit cutter features the following advantages:

• Extremely easy handling

Faster and more secure blade exchange -> blades are available as spare parts

• Low weight



#### **Product information**

The KE wire insertion tool is made of specially modified poly-amide. It facilitates the subsequent insertion of cables into slit and split cable protection conduits and features the following advantages:

PRODUCT

- Very easy handling
  Fast insertion of cables
  No unnecessary deformation of the conduit



Webshop

# **Simply Smart Systems** shop.murrplastik.de

Are you already familiar with the murrplastik<sup>®</sup> online shop? There, you will find a practical overview of all our products. Additional information and smart functions, such as individual configuration and 3D models, will help you in your selection and ordering.



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