

AEROSUSA



CABLE PROTECTION SYSTEMS



SENSOR TECHNOLOGY
FOR PRECISION APPLICATIONS

www.aerosusa.com



PROFESSIONAL SOLUTIONS FOR CRITICAL APPLICATIONS

CABLE PROTECTION SYSTEMS DESIGNED and MANUFACTURED in Germany

- Metal and plastic conduit systems, made to match your individual requirements.
- Guide chain systems designed for extended lifetime for standard and heavy applications, simply handling with standard tools.
- Cable entry systems to feed cables and wires into machines or into control cabinets in a confined space.

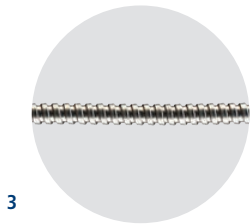
ALL PRODUCTS MEET THE HIGHEST STANDARDS AND HAVE RECEIVED WORLDWIDE APPROVALS

aerosusa.com
717.238.1444

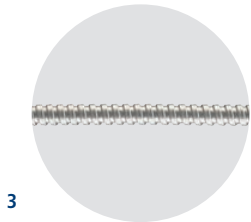
IRIS
Certification



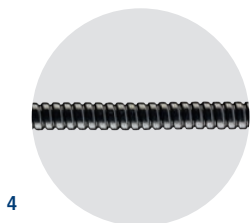
SPR
Galvanized steel
S profile



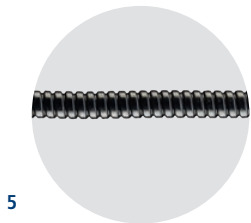
SPR-VA
Stainless steel
S profile



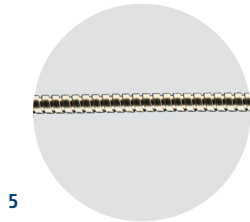
SPR-PVC | SPR-VA-PVC
Galvanized steel | Stainless steel
S profile
PVC sheathing



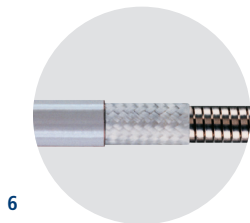
SPR-PVC-EL
Galvanized steel
S profile
PVC sheathing



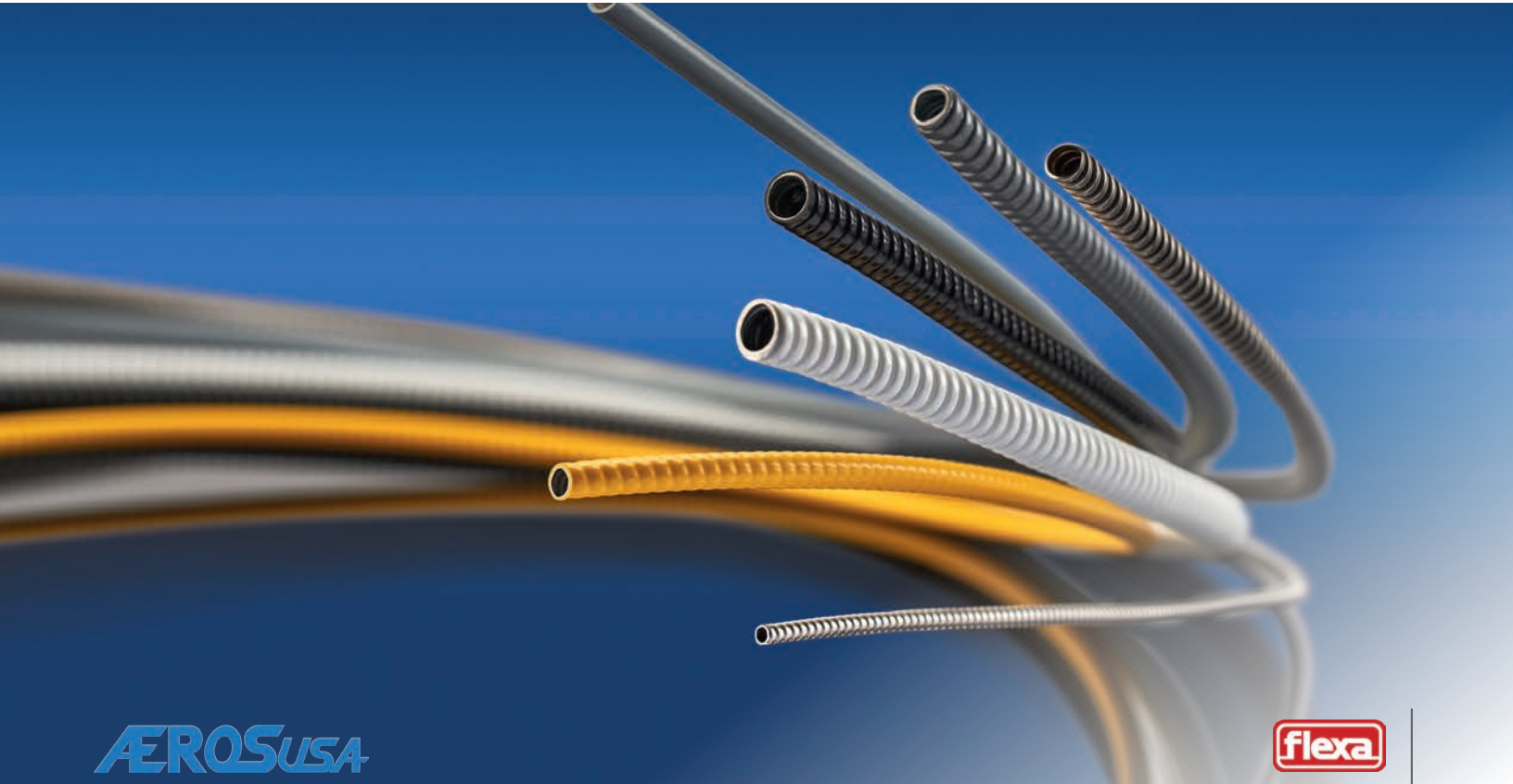
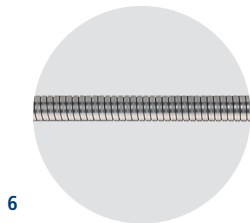
FLEXAgraff®-VA
Stainless steel
Double-overlapped profile



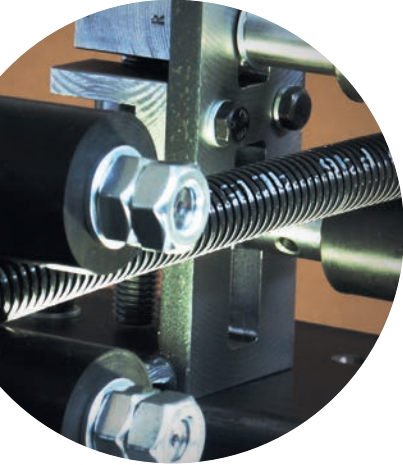
PS-VA | PSL-VA
Helix made of stainless steel
Fiber glass braiding
Silicone-rubber sheathing



FDW-VA
Flat helix
Stainless steel



Flexibility and a wide range of products



OUR PRODUCT RANGE SETS STANDARDS.

No matter which protective tubing system you require –AEROSUSA can supply the ultimate solution from one source. We offer cable protection devices made of plastics or metal including the appropriate connectors featuring any customary type of thread. AEROSUSA's products are liquid-tight, resistant to solvents and UV light, or coated with silicone. They can be applied at temperatures of between -60°C and $+300^{\circ}\text{C}$ and are approved for up to IP69 K. AEROSUSA's cable protection systems protect data lines against electromagnetic impacts and safeguard laser-optical wave guides against physical damage. In a clinical setting, they meet strictest hygienic requirements and are easy to sterilize.

So AEROSUSA's portfolio covers manifold applications in mechanical engineering, automotive, rail traffic, aviation or even in wind power stations or in the medicine sector. Protective tubings made by FLEXA are applied in technical plants all over the world.

RELIABILITY CREATES TRUST.

Quality has always been the credo at FLEXA. An entire team is entrusted with quality assurance and regularly checks of all products thoroughly in FLEXA's own test lab. In addition to the standard test procedures such as tensile tests, endurance tests, or tests on solvent resistance, FLEXA also carries out random tests on their production processes.

Quality management at FLEXA is certified as per DIN EN ISO 9001. Moreover, every member of their staff is subjected to corresponding further training at least once a year. The focus on quality is a firmly integrated part of FLEXA's work processes. Therefore, you can count on a permanent high quality level of our products as well as on the fact that they will fully meet your customer-specific requirements.

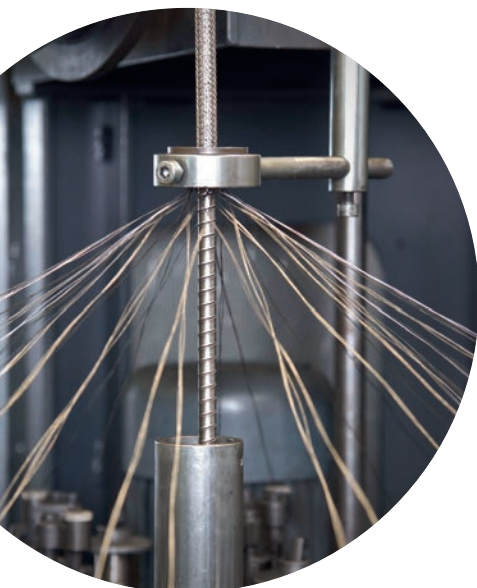
INNOVATIVE MACHINERY.

FLEXA's production plant is equipped with state-of-the-art machines and that insure constant and superior quality. FLEXA's expertise is not limited to metal and plastic processing only but also allows us to process silicone professionally. Our machinery is capable of meeting most diverging requirements and is thus as individual as the requests submitted by their customers.

- Fully automatic tubing machines
- Automatic winders
- Extruders
- Spiral winding machines
- Semi-automatic bar machines
- Wire winding machines
- Braiding machines
- Production plant for corrugated tubes
- Hose production machines
- Injection moulding machines

CUSTOMIZED SOLUTIONS IN LINE WITH DEMAND.

AEROSUSA offers a lot more than just standardized protective tubing systems. After all, some application fields require special adaptations. FLEXA's experienced and ambitious development engineers accept any challenge and are eager to pursue application-specific products engineered to benefit customers' requirements. This focus as well as FLEXA's latest CAD equipment, allows FLEXA to design customized solutions in 3D. FLEXA is constantly striving to stretch their lead, by investing a considerable portion of their annual turnover in the extension and maintenance of our machinery as well as in further training for their competent personnel.



STRUCTURE
strip-wound
S profile

MATERIAL
galvanized steel

PROPERTIES

- highly flexible
- stretch resistant
- lateral compression resistant
- DIN 49012, structural shape G, acc. to DIN EN IEC 61386-23

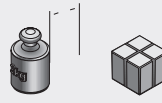
APPLICATION

- opto-electronics
- beam wave guide technology
- technical endoscopy
- sensor technology

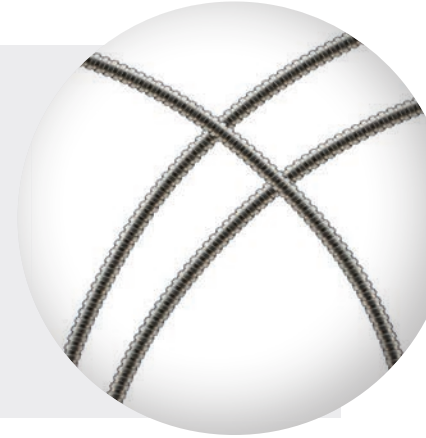
EN / IEC 61386-23



Part No.



| | mm | stat | dyn | kg/m | m |
|--------------|-------------|------|-----|-------|----|
| 1010.101.003 | 3,0 x 4,9 | 10 | 25 | 0,037 | 50 |
| 1010.101.004 | 4,0 x 6,0 | 12 | 30 | 0,038 | 50 |
| 1010.101.005 | 4,8 x 7,0 | 19 | 45 | 0,046 | 50 |
| 1010.101.006 | 6,0 x 8,0 | 20 | 50 | 0,048 | 50 |
| 1010.101.007 | 7,0 x 9,3 | 25 | 65 | 0,052 | 50 |
| 1010.101.009 | 9,0 x 11,0 | 30 | 75 | 0,068 | 50 |
| 1010.101.010 | 10,0 x 13,0 | 32 | 80 | 0,090 | 50 |



STRUCTURE
strip-wound
S profile

MATERIAL
stainless steel

PROPERTIES

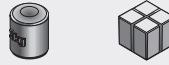
- highly flexible
- stretch resistant
- lateral compression resistant

APPLICATION

- opto-electronics
- beam wave guide technology
- technical endoscopy
- sensor technology



Part No.



| | mm | stat | dyn | kg/m | m |
|---------------|-------------|------|-----|-------|----|
| 1010.801.008 | 7,8 x 10,0 | 20 | 50 | 0,080 | 50 |
| 1010.801.011 | 11,0 x 14,0 | 28 | 70 | 0,120 | 50 |
| 1010.801.014 | 14,0 x 17,0 | 30 | 75 | 0,150 | 50 |
| 1010.801.016 | 16,0 x 19,0 | 35 | 90 | 0,185 | 50 |
| 1010.801.018 | 18,0 x 21,0 | 40 | 100 | 0,200 | 50 |
| 1010.801.023 | 23,0 x 27,0 | 48 | 120 | 0,280 | 50 |
| 1010.801.031 | 31,0 x 36,0 | 60 | 150 | 0,500 | 25 |
| 1010.801.040 | 40,0 x 45,0 | 82 | 205 | 0,620 | 25 |
| 1010.801.051 | 51,0 x 56,0 | 100 | 250 | 0,780 | 25 |
| End position | | | | | |
| 1019.801.112* | 1,2 x 2,3 | 25 | 65 | 0,012 | 50 |
| 1019.801.115* | 1,5 x 2,6 | 25 | 65 | 0,013 | 50 |
| 1019.801.118* | 1,8 x 2,9 | 22 | 55 | 0,015 | 50 |
| 1019.801.122* | 2,2 x 3,4 | 20 | 50 | 0,016 | 50 |
| 1019.801.126* | 2,6 x 3,8 | 20 | 50 | 0,019 | 50 |
| 1018.801.003 | 3,0 x 5,0 | 10 | 25 | 0,041 | 50 |
| 1018.801.004 | 4,0 x 6,0 | 12 | 30 | 0,049 | 50 |
| 1018.801.005 | 5,0 x 7,0 | 20 | 50 | 0,043 | 50 |
| 1018.801.006 | 6,0 x 8,0 | 22 | 55 | 0,055 | 50 |
| 1018.801.007 | 7,0 x 9,0 | 25 | 65 | 0,062 | 50 |
| 1018.801.008 | 8,0 x 10,0 | 20 | 50 | 0,077 | 50 |
| 1018.801.009 | 9,0 x 11,0 | 30 | 75 | 0,092 | 50 |
| 1018.801.010 | 10,0 x 13,0 | 32 | 80 | 0,110 | 50 |



*Delivery time and minimum order quantity on request

SPR-PVC | SPR-VA-PVC

IP 68
-25°C ... +90°C ^ +100°C

Protective metal conduit
galvanized steel | stainless steel
PVC sheathing, non flame propagating
acc. to DIN EN IEC 61386-23

STRUCTURE

strip-wound
S profile, PVC sheathing

MATERIAL

Conduit: cold strip DC 03/04
acc. to EN 10139, galvanized, Fe/Zn 3
or stainless steel
Sheathing: PVC
Further materials on request

PROPERTIES

- weatherproof
- watertight
- widely resistant to seawater, acids and oils
- free of silicone and cadmium
- very flexible
- stretch-resistant
- compression-resistant

APPLICATION

- opto-electronics
- beam wave guide technology
- technical endoscopy
- sensor technology



Part No.

SPR-PVC

black



mm



stat dyn



m



kg/m



m



| | | | | | | |
|--------------|------------|----|-----|-----|-------|----|
| 2010.102.004 | 4,0 x 7,0 | 17 | 45 | 500 | 0,060 | 50 |
| 2010.102.005 | 5,0 x 8,0 | 20 | 50 | 500 | 0,062 | 50 |
| 2010.102.006 | 6,0 x 9,0 | 24 | 60 | 500 | 0,070 | 50 |
| 2010.102.008 | 7,5 x 11,0 | 35 | 90 | 500 | 0,085 | 50 |
| 2010.102.009 | 9,0 x 12,0 | 40 | 100 | 500 | 0,105 | 50 |

Further dimensions and colours on request

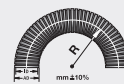
Part No.

SPR-VA-PVC

black



mm



stat dyn



m



kg/m



m



| | | | | | | |
|--------------|------------|----|-----|-----|-------|----|
| 2010.182.003 | 3,0 x 6,0 | 15 | 37 | 500 | 0,040 | 50 |
| 2010.182.004 | 4,0 x 7,0 | 17 | 45 | 500 | 0,050 | 50 |
| 2010.182.005 | 5,0 x 8,0 | 20 | 50 | 500 | 0,060 | 50 |
| 2010.182.006 | 6,0 x 9,0 | 25 | 60 | 500 | 0,080 | 50 |
| 2010.182.008 | 8,0 x 11,0 | 35 | 90 | 500 | 0,090 | 50 |
| 2010.182.009 | 9,0 x 12,0 | 38 | 100 | 500 | 0,105 | 50 |

Further dimensions and colours on request

SPR–PVC–EL

IP 68
 -25°C ... +80°C ^ +100°C

Protective metal conduit
 galvanized steel
 PVC sheathing, electrically conductive
 specific surface resistivity
 < 10⁶ Ω

STRUCTURE

strip-wound
 S profile
 electrically conductive PVC sheathing

MATERIAL

Conduit: cold strip DC 03/04
 acc. to EN 10139, galvanized, Fe/Zn 3
 Sheathing: PVC

PROPERTIES

- V2 acc. to UL94
- weatherproof
- watertight
- widely resistant to seawater, acids and oils
- free of silicone and cadmium
- very flexible
- stretch-resistant
- compression-resistant

APPLICATION

- opto-electronics
- beam wave guide technology
- technical endoscopy
- sensor technology

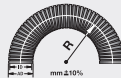


Part No.

black



mm



stat

dyn



kg/m



m



| | | | | | |
|--------------|------------|----|----|-------|----|
| 2010.902.004 | 4,0 x 7,0 | 17 | 45 | 0,060 | 50 |
| 2010.902.005 | 5,0 x 8,0 | 20 | 50 | 0,062 | 50 |
| 2010.902.006 | 6,0 x 9,0 | 24 | 60 | 0,070 | 50 |
| 2010.902.008 | 8,0 x 11,0 | 35 | 90 | 0,085 | 50 |

FLEXAgraff® –VA

IP 40
 -200°C... +600°C

STRUCTURE

strip-wound
 double overlapped profile [Agraff]

MATERIAL

stainless steel
 304 [AISI]
 316L [AISI] on request

PROPERTIES

- very flexible
- stretch resistant
- lateral compression resistant

APPLICATION

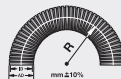
- opto-electronics
- beam wave guide technology
- technical endoscopy
- sensor technology



Part No.



mm



stat

dyn



kg/m



m

| | | | | | |
|---------------|-------------|----|-----|-------|----|
| 1080.801.004* | 4,0 x 6,0 | 40 | 100 | 0,055 | 50 |
| 1080.801.005* | 5,0 x 7,0 | 45 | 115 | 0,071 | 50 |
| 1080.801.006 | 6,0 x 8,0 | 25 | 65 | 0,085 | 50 |
| 1080.801.008 | 8,0 x 10,0 | 60 | 150 | 0,106 | 50 |
| 1080.801.010* | 10,0 x 13,0 | 65 | 160 | 0,290 | 50 |
| 1080.801.012* | 12,0 x 14,0 | 75 | 190 | 0,370 | 50 |

* Delivery time and minimum order quantity on request

FDW-VA

🔥 -200°C ... +600°C

Special protective conduit helix for sensor technology | beam wave guide technology

STRUCTURE

Helix made of stainless steel

MATERIAL

stainless steel 304 [AISI]

PROPERTIES

- flexible
- temperature resistant
- widely resistant to solvents and chemicals

APPLICATION

- opto-electronics
- medical technology
- beam wave guide technology
- technical endoscopy
- measuring instruments
- sensor technology



mm



stat

dyn



kg/m



m

Part No.



auf Kunststoffspule
on a plastic coil

| Part No. | mm | stat | dyn | kg/m | m |
|--------------|-----------|------|-----|-------|----|
| 0131.801.002 | 2,5 x 3,1 | 14 | 35 | 0,019 | 50 |
| 0131.801.003 | 3,0 x 3,6 | 20 | 50 | 0,029 | 50 |
| 0131.801.004 | 4,0 x 4,8 | 25 | 65 | 0,037 | 50 |
| 0131.801.005 | 5,0 x 6,0 | 25 | 65 | 0,050 | 50 |
| 0131.801.006 | 6,0 x 7,0 | 35 | 90 | 0,065 | 50 |
| 0131.801.007 | 7,0 x 8,2 | 45 | 110 | 0,088 | 50 |
| 0131.801.008 | 8,0 x 9,6 | 45 | 110 | 0,110 | 50 |

*Delivery time and minimum order quantity on request

PS-VA

🔥 IP 68
🔥 -50°C ... +180°C

Special protective conduit for sensor technology | beam wave guide technology

STRUCTURE

Helix made of stainless steel
fiber glass braiding
silicone-rubber sheathing

MATERIAL

Helix stainless steel 304 [AISI]
Braiding fiber glass
Sheathing silicone-rubber

PROPERTIES

- flexible
- stretch resistant
- air- and liquid-tight
- temperature resistant
- low flammability
- no appearance of toxic and corrosive fire gases
- widely resistant to solvents and chemicals
- free of halogen and cadmium

APPLICATION

- opto-electronics
- medical technology
- beam wave guide technology
- technical endoscopy
- measuring instruments
- sensor technology

Special colours on request
500 m min



stat

dyn



kg/m



m

Part No.

grey

mm



| Part No. | mm | stat | dyn | kg/m | m |
|--------------|------------|------|-----|-------|------------------------------|
| 0133.900.002 | 2,5 x 4,4 | 14 | 35 | 0,028 | Inquire for delivery lengths |
| 0133.900.003 | 3,0 x 5,3 | 20 | 50 | 0,044 | |
| 0133.900.013 | 3,5 x 5,8 | 20 | 50 | 0,050 | |
| 0133.900.004 | 4,0 x 6,5 | 25 | 65 | 0,065 | |
| 0133.900.014 | 4,5 x 7,0 | 25 | 65 | 0,072 | |
| 0133.900.005 | 5,0 x 7,5 | 25 | 65 | 0,079 | |
| 0133.900.006 | 6,0 x 8,9 | 35 | 90 | 0,108 | |
| 0133.900.007 | 7,0 x 10,1 | 45 | 110 | 0,141 | |
| 0133.900.008 | 8,0 x 11,6 | 45 | 110 | 0,191 | |

*Delivery time, reel lengths, and minimum order quantity on request.

The World of Sensors



VIBRATION/FORCE/TORQUE

Vibration, force and torque encompass the measurements of shock, vibration, gravity, velocity, angle, force and reaction/rotating torque. Signal outputs are typically voltage with some digital outputs available.



FLUID PROPERTY

Measure real-time fluid monitoring under diverse pressure, flow and temperature conditions.



PIEZO-FILM

Provides durable vibration, accelerometer or dynamic switch elements for a wide range of markets and applications.



HUMIDITY

Provides accurate measurement of dew point and absolute humidity.



TEMPERATURE

Customized temperature sensors for measurement, control and compensation applications.

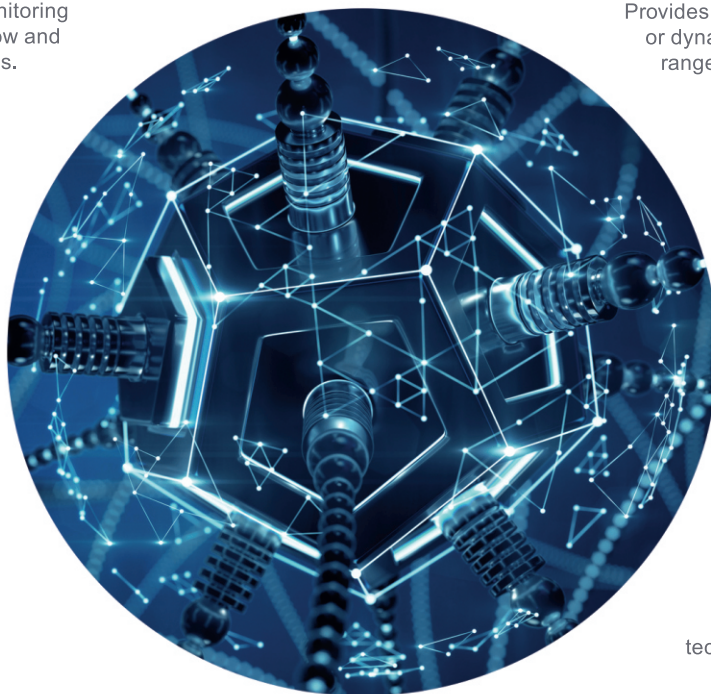


PHOTO OPTIC

Optic based sensors include both photo optic components and complete sensor solutions.



PRESSURE

Using MEMS and silicon strain gauge technologies, our products measure pressure, ranging from inches of water to 100K psi.



POSITION

Includes industrial linear, angular, tilt and fluid level sensors measuring inductive, potentiometric, magnetoresistive, hall effect reed switch, electrolytic and capacitive sensing with analog or digital outputs.



SPEED

Detect the speed of an object reporting on-board diagnostics and as an input for modeling other sensor data. The technology can be found in powertrains and increases engine power/performance, lowers emissions, fuel consumption and costs.

Important Information

Recommendations for any areas of applications, products, or product combinations are issued to the best of FLEXA's knowledge and experience. The user is requested to check applicability of FLEXA products to specific applications and purposes prior to the use of the particular products.

Product liability by FLEXA will be ineffective when FLEXA products are combined with or applied together with non-FLEXA products.

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