

# SKINTOP®

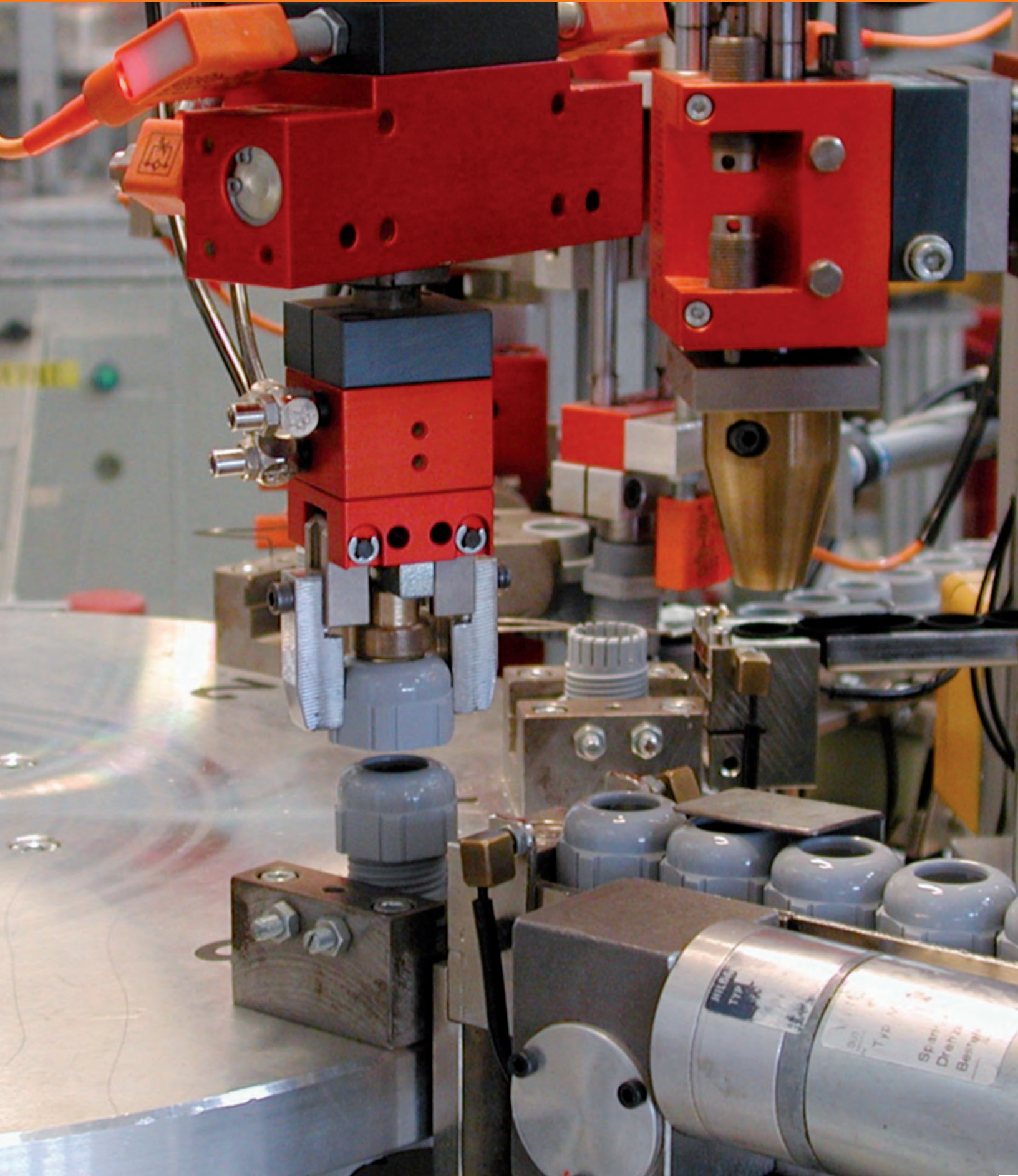
Strain Relief Cable Glands



make the right connection

 **LAPP GROUP**

make the right connection





## The right connection without compromise.

Power and control connections play a critical role in your manufacturing or industrial operation. You can't afford to have your productivity compromised by any of the components used in your operation. The failure of even the smallest part could be devastating. That is why Lapp Group's customers depend on the quality, performance, and durability of our SKINTOP® Strain Relief Glands to keep their facilities and lines up and running, even in the most demanding conditions.

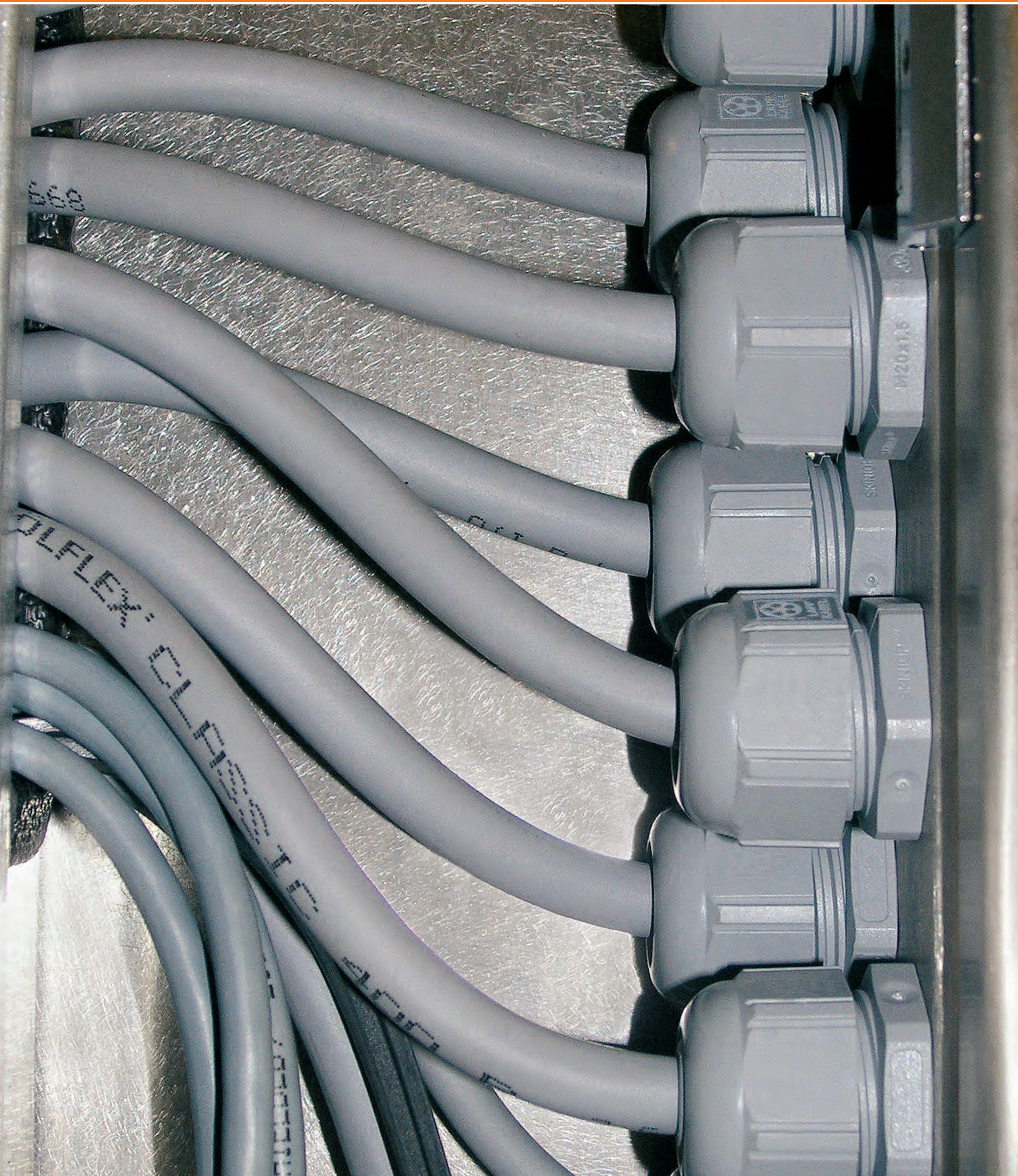
The SKINTOP® line's proven level of performance is achieved through our deep understanding of the challenges you face every day, combined with advanced design engineering. This results in products with anti-vibration protection, better sealing, gripping and clamping, and maximum protection from dirt, oils, and water. When you combine SKINTOP® with Lapp Group's cable products, you have an installation that will keep you up and running.

## SKINTOP® is hard at work around the globe.

You'll find Lapp Group's SKINTOP® products in just about every manufacturing application in a myriad of industries. In every case, businesses depend on their durability and proven performance to help maintain productivity.

- Automotive
- Food and beverage
- Oil and gas
- Machinery and equipment
- Wind energy
- Mining
- Pulp and paper
- Logistics centers
- Steel and metal
- Water sewage and waste
- Robotics
- Leisure and entertainment

make the right connection





## Connect with unrivaled capabilities.

When you choose SKINTOP® from Lapp Group, you connect with a billion dollar global organization established in Germany in the 1950's and the US in 1976. You connect to not only a proven line of strain relief glands, but over 40,000 products, including cable, connectors, and accessories. You connect with a company that combines international capabilities with domestic manufacturing, which ensures the highest quality standards and optimum product availability. And you connect with a rich history of helping our customers achieve optimum productivity and greater business success.

## The personal connection.

Connecting to the people behind Lapp Group's SKINTOP® products will be an extremely rewarding experience. Our industry specialists understand the unique challenges our customers face, and consult with them to determine the ideal products for their particular needs. Once our products are in operation, we are always available to help ensure that your systems perform optimally—which saves both time and money. And Lapp Group will support you with access to dedicated product managers, local and district sales managers, customer support specialists, and an extensive field team.

# the SKINTOP® advantage

When you compare SKINTOP® to other strain relief products, you'll discover a large number of advantages that will ensure uptime, increase productivity, minimize concerns, make your job easier, and save you time and money.

## Anti-vibration protection

The SKINTOP® integrated locking mechanism includes an internal ratchet inside the sealing portion of the cord grip. This provides a self-locking and vibration-proof element that prevents the cap from loosening even when subjected to severe vibration.

## Resistance to temperature extremes

SKINTOP® cable glands can withstand temperatures as low as -70°C and as high as 100°C.

## Optimum seal

Complete liquid-tight seal is ensured by the uniquely designed molded sealing ring and flange nut that are combined with a neoprene bushing and domed sealing cap.

## Superior design

SKINTOP® outperforms other connectors because the design consists of three parts that do not require dismantling before use. The internal ratchet mechanism allows the cap to be tightened without twisting the cord as it compresses. In tightening the cap, the lamellar fingers are pushed together to form a liquid-tight seal with the neoprene compression bushing.

## Quick and easy installation

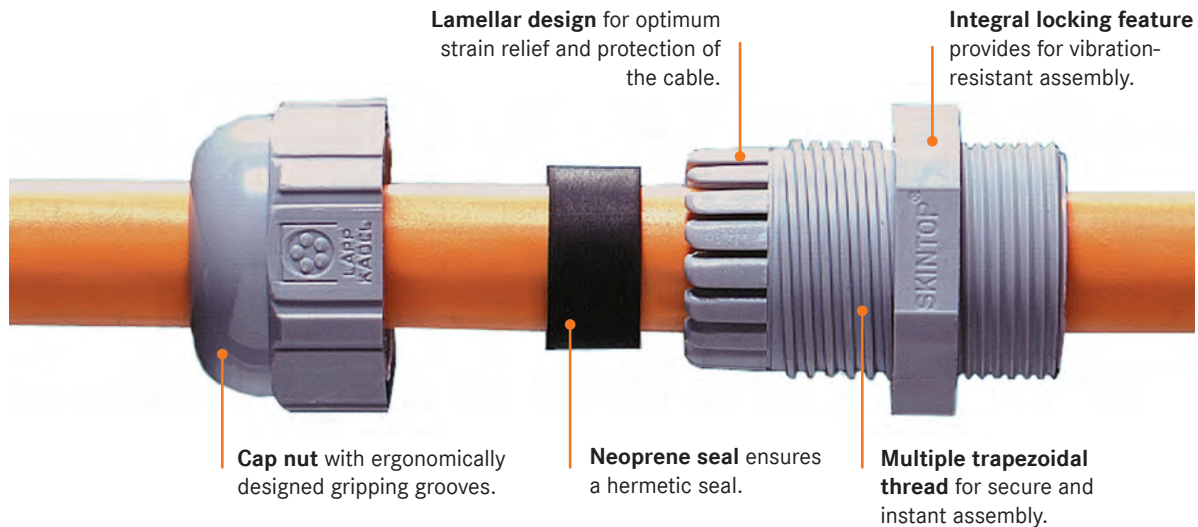
The multi-trapezoidal thread requires just one twist to tighten the dome cap, automatically adjusting to the size of the cable and providing optimum strain relief and a liquid-tight seal.

## Proven performance

SKINTOP® glands can be found hard at work in a wide range of manufacturing and industrial applications. They have proven time and time again to ensure long lasting performance and durability.



This illustration demonstrates the integrated components of SKINTOP® glands. With SKINTOP® you can install the cable in an instant, by simply feeding in the cable and turning the nut until tight. In no time, your cable is centered, hermetically sealed, and completely strain relieved.



## Technical Data

<p><b>Material:</b> Polyamide: flame retardant, self-extinguishing nylon with CR bushing</p> <p><b>Temperature Range:</b></p> <ul style="list-style-type: none"> <li>- NPT &amp; PG: -20°C to +80°C up to +100°C (short term)</li> <li>- Metric: <ul style="list-style-type: none"> <li>- static: -40°C to +100°C</li> <li>- dynamic: -20°C to +100°C</li> </ul> </li> </ul> <p><b>IP Protection:</b> up to 70 PSI</p> <ul style="list-style-type: none"> <li>- Seal*: IP68 (Ingress Protection), comparable to NEMA 6 classification</li> <li>- First digit (0 - 6): Dust protection</li> <li>- Second digit (0 - 9K): Water protection</li> </ul> <p>(* All IP ratings are dependent on proper installation by the user.)</p>	<p><b>Resistance:</b> Salt water, weak acids, weak alkalis, alcohol, ester, ketones, ether, benzene, gas, mineral oil, animal and vegetable oils, gasoline, oil, grease, and common solvents.</p> <p><b>Testing:</b> SKINTOP® Incandescent wire test to IEC 695, Part 2-1: 750°C</p> <ul style="list-style-type: none"> <li>- Strain relief: to DIN VDE 0619</li> <li>- Protection class: IP68* Tested to DIN 40050 &amp; 40052</li> </ul> <p><b>Approvals:</b> UL #E146370 CSA #LR50370-10 VDE #57986 (metric threads) SEV #100989</p>
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## Chemical Resistance

**KEY:**

- + resistant
- o limited resistance
- not resistant

- Acids, strong	+ Esters	+ Ketones
+ Acids, weak	+ Ethers	+ Motor fuels
+ Alcohols	+ Grease, animal/vegetable	+ Petroleum oils
- Alkali solutions, strong	+ Hydrocarbons, aromatic	+ Trichloroethylene
+ Alkali solutions, weak	o Hydrocarbons, chlorinated	
+ Benzene	+ Hydrocarbons, fluorinated	

Additional information on chemical resistance of plastics can be found in the Technical Section of Lapp North America main catalog.

# SKINTOP® product features

	SKINTOP® SL/SLR	SKINTOP® SLM/SLRM	SKINTOP® CLICK/CLICK-R	SKINTOP® SLM FLEX	SKINTOP® SL FLEX/SLR FLEX	SKINTOP® SLN FLEX/SLRN FLEX	SKINTOP® CLICK FLEX	SKINTOP® CUBE	SKINTOP® CUBE MULTI	SKINTOP® MS-NPT/MSR-NPT	SKINTOP® MS/MSR	SKINTOP® MS-XL/MSR-XL	SKINTOP® MS-M/MSR-M	SKINTOP® INOX/INOX-R	SKINTOP® MS-SC	SKINTOP® MS-NPT/MS-M BRUSH
page	12	13	14	15	15	15	17	18	20	22	23	24	25	26	27	29
<b>Properties</b>																
IP protection rating/NEMA	68	68/69	68	68	68	68	68	64	65	68	68	68/69	68/69	68/69	68	68/69
NPT thread						■				■					■	
PG thread	■				■						■					
Metric thread		■		■								■	■	■		■
For round cables	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
For flat cables								■								
Metal							■	■	■	■	■	■	■	■	■	■
Plastic	■	■	■	■	■	■		■	■							
Angled																
Strain relief	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Vibration protection	■	■	■	■	■	■	■	■	■							
Anti-kink protection				■	■	■	■									
Shield connection															■	■
<b>Approvals</b>																
UL	■				■			■		■					■	
cULus		■	■	■			■					■	■			■
UR	■				■					■					■	
cURus		■	■	■			■					■	■			
CSA	■				■					■					■	
TÜV	■	■														
VDE		■	■	■			■					■	■			■
DNV		■	■	■			■					■	■			■



## Non-Metallic Strain Relief Cable Glands



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Strain Relief with NPT Thread

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Strain Relief with PG Thread

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Spiral Strain Relief with NPT, PG & Metric Thread

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**SKINTOP® CUBE** ..... 18  
Multi-Cable Bushing System

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## Metallic Strain Relief Cable Glands



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Nickel-Plated Brass Strain Relief with NPT Thread

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Stainless Steel Strain Relief with Metric Thread

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## EMC Strain Relief Cable Glands



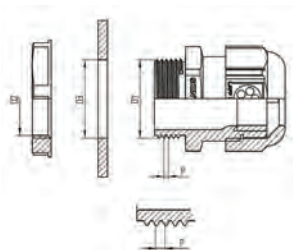
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## Technical Data




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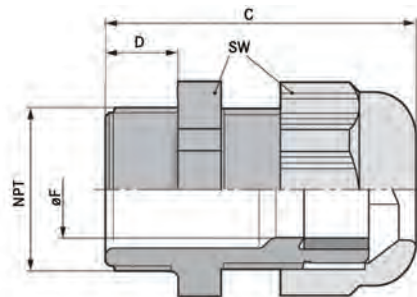
SKINTOP® SLN/SLRN

Strain Relief with NPT Thread



**Similar Products**  
 • SKINTOP® FLEX

**Complete the Installation**  
 SKINTOP® DIX Bushing: page 29  
 Plugs: page 550 (Catalog)



SKINTOP® SLN/SLRN is a durable, liquid-tight, easy-to-assemble strain relief cable gland with NPT thread that is universally suited for all types of machinery & equipment, including automation, motion control, process control, and robotics.




**Application Advantage**

- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection
- Multi-trapezoidal thread requires just one twist to tighten
- Generous high-quality neoprene bushing provides a liquid-tight and dust-proof hermetic seal

**Approvals**



**Technical Data**

 <b>Material:</b>		<b>RAL Color:</b>	Black (RAL 9005), UV resistant Gray (RAL 7001)
- Body:	Polyamide		
- Bushing:	CR		
 <b>Locknuts:</b>	Not included, add GMP locknuts, page 26	<b>IP Protection:</b>	70 PSI IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
- Seal:			
 <b>Temperature Range:</b>			
- Static:	-40°C to +80°C		
- Dynamic:	-20°C to +80°C		

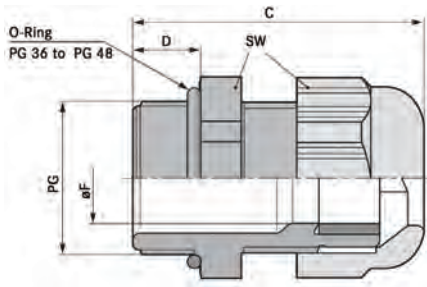
Part Number without Locknut		Thread Type & Size	UL Status	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
Black	Gray			(in)	(mm)				
<b>SKINTOP® SLN: Standard</b>									
S2138	S1138	NPT 3/8"	Recognized	0.138 - 0.315	3.5 - 8.0	0.748	1.693	0.591	100
S2112	S1112	NPT 1/2"	Listed	0.197 - 0.472	5.0 - 12.0	0.945	1.772	0.591	100
S2134	S1134	NPT 3/4"	Listed	0.512 - 0.709	13.0 - 18.0	1.299	2.087	0.591	50
S2101	S1101	NPT 1"	Listed	0.748 - 1.000	19.0 - 25.4	1.654	2.362	0.591	25
<b>SKINTOP® SLRN: Reducer Bushing</b>									
S2238	S1238	NPT 3/8"	Recognized	0.079 - 0.236	2.0 - 6.0	0.748	1.693	0.591	100
S2212	S1212	NPT 1/2"	Listed	0.157 - 0.354	4.0 - 9.0	0.945	1.772	0.591	100
S2234	S1234	NPT 3/4"	Listed	0.354 - 0.630	9.0 - 16.0	1.299	2.087	0.591	50
S2201	S1201	NPT 1"	Listed	0.551 - 0.827	14.0 - 21.0	1.654	2.362	0.591	25

Orders of 2000 pieces or more per item will be bulk packaged unless otherwise requested.

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

SKINTOP® SL/SLR

Strain Relief with PG Thread



**Similar Products**

- SKINTOP® FLEX

**Complete the Installation**

SKINTOP® DIX Bushing: page 30

Plugs: page 550 (Catalog)



SKINTOP® SL/SLR is a durable, liquid-tight, easy-to-assemble strain relief cable gland with PG thread that is universally suited for all types of machinery & equipment, including automation, motion control, process control and robotics.

**Application Advantage**

- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection
- Multi-trapezoidal thread requires just one twist to tighten
- Generous high-quality neoprene bushing provides a liquid-tight and dust-proof hermetic seal

**Approvals\***



**Technical Data**

<b>Material:</b>	Body: Polyamide Bushing: CR	<b>RAL Color:</b>	Black (RAL 9005), UV resistant Gray (RAL 7001)
<b>Locknuts:</b>	Included for 'S' part numbers	<b>IP Protection:</b>	70 PSI - Seal: IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Temperature Range:</b>	- Static: -40°C to +80°C - Dynamic: -20°C to +80°C		

Part Number with Locknut		Part Number without Locknut*		Thread Type & Size	UL Status	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
Black	Gray	Black	Gray			(in)	(mm)				
<b>SKINTOP® SL: Standard</b>											
S2107	S1107	53015200	53015000	PG 7	Recognized	0.098 - 0.256	2.5 - 6.5	0.591	1.260	0.315	100
S2109	S1109	53015210	53015010	PG 9	Recognized	0.138 - 0.315	3.5 - 8.0	0.748	1.417	0.315	100
S2111	S1111	53015220	53015020	PG 11	Recognized	0.157 - 0.394	4.0 - 10.0	0.866	1.496	0.315	100
S2113	S1113	53015230	53015030	PG 13	Listed	0.236 - 0.472	6.0 - 12.0	0.945	1.614	0.354	100
S2116	S1116	53015240	53015040	PG 16	Listed	0.354 - 0.551	9.0 - 14.0	1.063	1.732	0.394	50
S2121	S1121	53015250	53015050	PG 21	Listed	0.512 - 0.709	13.0 - 18.0	1.299	1.929	0.433	50
S2129	S1129	53015260	53015060	PG 29	Recognized	0.551 - 0.984	14.0 - 25.0	1.654	2.205	0.433	25
S2136	S1136	53015270	53015070	PG 36	Listed	0.945 - 1.260	24.0 - 32.0	2.087	2.598	0.512	10
S2142	S1142	53015280	53015080	PG 42	Recognized	1.378 - 1.496	35.0 - 38.0	2.362	2.677	0.512	5
S2148	S1148	53015290	53015090	PG 48	Listed	1.535 - 1.732	39.0 - 44.0	2.559	2.717	0.551	5
<b>SKINTOP® SLR: Reducer Bushing</b>											
S2207	S1207	53015300	53015100	PG 7	Recognized	0.059 - 0.197	1.5 - 5.0	0.591	1.260	0.315	100
S2209	S1209	53015310	53015110	PG 9	Recognized	0.079 - 0.236	2.0 - 6.0	0.748	1.417	0.315	100
S2211	S1211	53015320	53015120	PG 11	Recognized	0.079 - 0.276	2.0 - 7.0	0.866	1.496	0.315	100
S2213	S1213	53015330	53015130	PG 13	Listed	0.157 - 0.354	4.0 - 9.0	0.945	1.614	0.354	100
S2216	S1216	53015340	53015140	PG 16	Listed	0.236 - 0.472	6.0 - 12.0	1.063	1.732	0.394	50
S2221	S1221	53015350	53015150	PG 21	Listed	0.354 - 0.630	9.0 - 16.0	1.299	1.929	0.433	50
S2229	S1229	53015360	53015160	PG 29	Recognized	0.433 - 0.787	11.0 - 20.0	1.654	2.205	0.433	25
S2236	S1236	53015370	53015170	PG 36	Listed	0.669 - 1.024	17.0 - 26.0	2.087	2.598	0.512	10
S2242	S1242	53015380	53015180	PG 42	Recognized	0.866 - 1.220	22.0 - 31.0	2.362	2.677	0.512	5
S2248	S1248	53015390	53015190	PG 48	Listed	1.024 - 1.378	26.0 - 35.0	2.559	2.717	0.551	5

Orders of 2000 pieces or more per item will be bulk packaged unless otherwise requested.

\* If the end-use application consists of inserting the SKINTOP® cable gland through a non-threaded hole, then the use of a locknut is required per UL.

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SKINTOP® SLM/SLRM  
Strain Relief with Metric Thread



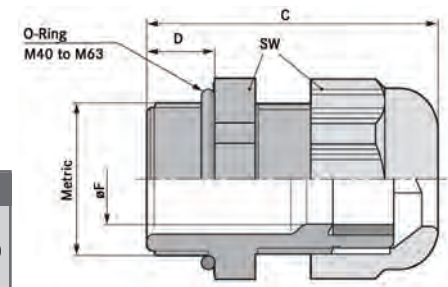
**Similar Products**

- SKINTOP® FLEX

**Complete the Installation**

SKINTOP® BRUSH Add-on: pg 547 (Catalog)

Plugs: page 550 (Catalog)



SKINTOP® SLM/SLRM is a durable, liquid-tight, easy-to-assemble strain relief cable gland with metric thread that is universally suited for all types of machinery & equipment, including automation, motion control, process control, and robotics.

**Application Advantage**

- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection
- Multi-trapezoidal thread requires just one twist to tighten
- Generous high-quality neoprene bushing provides a liquid-tight and dust-proof hermetic seal

**Approvals\***



**Technical Data**

<b>Material:</b>	- Body: Polyamide - Bushing: CR	<b>Color:</b>	Black (RAL 9005), UV resistant Gray (RAL 7001)
<b>Locknuts:</b>	Included for 'S' part numbers	<b>IP Protection:</b>	70 PSI IP69K IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Temperature Range:</b>	- Static: -40°C to +100°C - Dynamic: -20°C to +100°C		

Part Number with Locknut		Part Number without Locknut*		Thread Type & Size	UL Status	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
Black	Gray	Black	Gray			(in)	(mm)				
<b>SKINTOP® SLM: Standard</b>											
S2507	S1507	53111200	53111000	M12 x 1.5	Recognized	0.138 - 0.276	3.5 - 7.0	0.591	1.181	0.315	100
S2509	S1509	53111210	53111010	M16 x 1.5†	Recognized	0.177 - 0.394	4.5 - 10.0	0.748	1.339	0.315	100
S2513	S1513	53111220	53111020	M20 x 1.5†	Listed	0.276 - 0.512	7.0 - 13.0	0.984	1.457	0.354	100
S2516	S1516	53111230	53111030	M25 x 1.5†	Listed	0.354 - 0.669	9.0 - 17.0	1.181	1.575	0.394	50
S2521	S1521	53111240	53111040	M32 x 1.5	Listed	0.433 - 0.827	11.0 - 21.0	1.417	1.850	0.394	25
S2529	S1529	53111250	53111050	M40 x 1.5	Listed	0.748 - 1.102	19.0 - 28.0	1.811	2.047	0.394	10
S2536	S1536	53111260	53111060	M50 x 1.5	Listed	1.063 - 1.378	27.0 - 35.0	2.165	2.441	0.472	5
S2542	S1542	53111270	53111070	M63 x 1.5	Listed	1.339 - 1.772	34.0 - 45.0	2.598	2.795	0.472	5
<b>SKINTOP® SLRM: Reducer Bushing</b>											
S2607	S1607	53111300	53111100	M12 x 1.5	Recognized	0.039 - 0.197	1.0 - 5.0	0.591	1.181	0.315	100
S2609	S1609	53111310	53111110	M16 x 1.5†	Recognized	0.079 - 0.276	2.0 - 7.0	0.748	1.339	0.315	100
S2613	S1613	53111320	53111120	M20 x 1.5†	Listed	0.197 - 0.394	5.0 - 10.0	0.984	1.457	0.354	100
S2616	S1616	53111330	53111130	M25 x 1.5†	Listed	0.236 - 0.512	6.0 - 13.0	1.181	1.575	0.394	50
S2621	S1621	53111340	53111140	M32 x 1.5	Listed	0.276 - 0.591	7.0 - 15.0	1.417	1.850	0.394	25
S2629	S1629	53111350	53111150	M40 x 1.5	Listed	0.591 - 0.906	15.0 - 23.0	1.811	2.047	0.394	10
S2636	S1636	53111360	53111160	M50 x 1.5	Listed	0.866 - 1.142	22.0 - 29.0	2.165	2.441	0.472	5
S2642	S1642	53111370	53111170	M63 x 1.5	Listed	1.102 - 1.535	28.0 - 39.0	2.598	2.795	0.472	5

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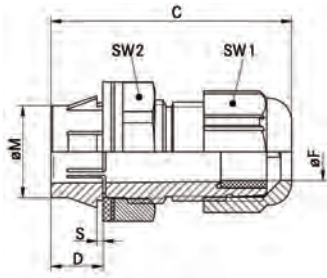
\* If the end-use application consists of inserting the SKINTOP® cable gland through a non-threaded hole, then the use of a locknut is required per UL.

† Metric sizes M16, M20, and M25 also available in an extended thread version. To maintain UL rating, please use a locknut.

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# SKINTOP® CLICK/CLICK-R

Strain Relief with Quick "CLICK" Insertion System



### Similar Products

- SKINTOP® CLICK FLEX

### Complete the Installation



SKINTOP® DIX  
Bushings:  
page 30



Plugs:  
page 550  
(Catalog)



SKINTOP® CLICK is an innovative cable insertion system that provides fast, highly flexible assembly. Easy snap-in-place installation results in fixed, centered, strain relief with maximum protection in seconds. Mounting hole is based on metric thread.

### Recommended Applications:

Applications where locknut installation is difficult to reach or to secure, such as dual wall enclosures and temperature controlled assemblies where insulation is used

### Application Advantage

- Up to 70% installation time savings due to innovative CLICK system
- Ideal for hard-to-reach dual wall enclosures and limited access spaces
- Reduced inventory as no locknuts are required
- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection

### Approvals



1 disassembly tool included per pack

### Technical Data

#### Material:

- Body: Special polyamide
- Seal: Special elastomer

#### RAL Color:

Black (RAL 9005), UV resistant  
Gray (RAL 7001)

#### Temperature Range:

- Static: -40°C to +100°C
- Dynamic: -20°C to +100°C

#### IP Protection:

- M12: IP68, 4 bar
- M16 to M32: IP68, 5 bar  
(Exceeds NEMA 6/6P pressure rating)

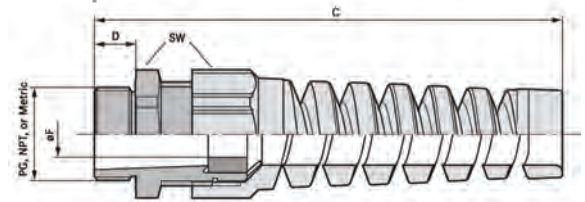
Part Number*	Mounting Hole Size	UL Status	øF Clamping Range		SW1/SW2 Wrenching Flats	C Overall Length (in)	D Thread Length (in)	øM Hole (in)	Standard Pack Size	
			(in)	(mm)						
<b>SKINTOP® CLICK: Standard</b>										
53112923	53112921	M12	Recognized	0.138 - 0.276	3.5 - 7.0	0.591/0.709	1.576	0.315	0.484 (-.008)	50
53112882	53112876	M16	Recognized	0.197 - 0.354	5.0 - 9.0	0.748/0.866	1.654	0.315	0.642 (-.008)	50
53112883	53112877	M20	Listed	0.276 - 0.512	7.0 - 13.0	0.985/1.063	1.792	0.315	0.799 (-.008)	25
53112884	53112878	M25	Listed	0.354 - 0.669	9.0 - 17.0	1.182/1.339	1.910	0.315	0.996 (-.008)	25
53112924	53112922	M32	Listed	0.433 - 0.827	11.0 - 21.0	1.417/1.576	2.167	0.315	1.272 (-.008)	25
<b>SKINTOP® CLICK-R: Reducer Bushing</b>										
53112929	53112927	M12	Recognized	0.039 - 0.197	1.0 - 5.0	0.591/0.709	1.576	0.315	0.484 (-.008)	50
53112885	53112879	M16	Recognized	0.157 - 0.276	4.0 - 7.0	0.748/0.866	1.654	0.315	0.642 (-.008)	50
53112886	53112880	M20	Listed	0.197 - 0.394	5.0 - 10	0.985/1.063	1.792	0.315	0.799 (-.008)	25
53112887	53112881	M25	Listed	0.236 - 0.512	6.0 - 13	1.182/1.339	1.910	0.315	0.996 (-.008)	25
53112931	53112928	M32	Listed	0.276 - 0.591	7.0 - 15	1.417/1.576	2.167	0.315	1.272 (-.008)	25

\* Suitable for wall thickness of 1 - 4 mm (0.039 - 0.157 inches)

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

## SKINTOP® FLEX

## Spiral Strain Relief with NPT Thread



SKINTOP® FLEX is a liquid-tight, spiral strain relief that offers additional safety against overstress and conductor breakage. It is ideally suited for hand held equipment, moving machinery, and robotics.

#### Approvals: NPT



#### Application Advantage

- Superior bending protection for cable conservation and functional reliability
- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection
- Multi-trapezoidal thread requires just one twist to tighten
- Generous high-quality neoprene bushing provides a liquid-tight and dust-proof hermetic seal

#### Technical Data

<b>Material:</b>	- Body: Polyamide - Bushing: CR	<b>Color:</b>	Black (RAL 9005), UV resistant Gray (RAL 7001)
<b>Locknuts:</b>	Add GMP Locknuts, page 26	<b>IP Protection:</b>	70 PSI - Seal: IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Temperature Range:</b>	-20°C to +80°C		

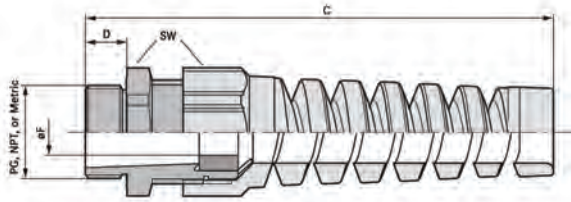
Part Number without Locknut		Thread Type & Size	UL Status	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
Black	Gray			(in)	(mm)				
<b>SKINTOP® SLN FLEX: Standard NPT</b>									
S2338	S1338	NPT 3/8"	Recognized	0.137 - 0.315	3.5 - 8.0	0.748	3.230	0.591	100
S2312	S1312	NPT 1/2"	Listed	0.197 - 0.472	5.0 - 12.0	0.945	4.097	0.591	100
S2334	S1334	NPT 3/4"	Listed	0.512 - 0.709	13.0 - 18.0	1.300	5.240	0.591	50
<b>SKINTOP® SLRN FLEX: Reducer NPT</b>									
S2438	—	NPT 3/8"	Recognized	0.079 - 0.236	2.0 - 6.0	0.748	3.228	0.591	100
S2412	S1412	NPT 1/2"	Listed	0.157 - 0.354	4.0 - 9.0	0.945	4.094	0.591	50
S2434	S1434	NPT 3/4"	Listed	0.354 - 0.630	9.0 - 16.0	1.299	5.236	0.591	25

Orders of 2000 pieces or more per item will be bulk packaged unless otherwise requested.

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SKINTOP® FLEX

Spiral Strain Relief with PG & Metric Thread



SKINTOP® FLEX is a liquid-tight, spiral strain relief that offers additional safety against overstress and conductor breakage. It is ideally suited for hand held equipment, moving machinery, and robotics.

Approvals: PG\*



Approvals: Metric\*



Application Advantage

- Superior bending protection for cable conservation and functional reliability
- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection
- Multi-trapezoidal thread requires just one twist to tighten
- Generous high-quality neoprene bushing provides a liquid-tight and dust-proof hermetic seal

Technical Data

<b>Material:</b>	- Body: Polyamide - Bushing: CR	<b>RAL Color:</b>	Black (RAL 9005), UV resistant Gray (RAL 7001)
<b>Locknuts:</b>	Included for 'S' part numbers	<b>IP Protection:</b>	70 PSI - Seal: IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Temperature Range:</b>	- PG: -20°C to +80°C - Metric: -20°C to +100°C		

Part Number with Locknut		Part Number without Locknut*		Thread Type & Size	UL Status	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
Black	Gray	Black	Gray			(in)	(mm)				
<b>SKINTOP® SL FLEX: Standard PG</b>											
S2307	S1307	53015800	53015600	PG 7	Recognized	0.098 - 0.256	2.5 - 6.5	0.591	2.442	0.315	100
S2309	S1309	53015810	53015610	PG 9	Recognized	0.137 - 0.315	3.5 - 8.0	0.748	2.895	0.315	100
S2311	S1311	53015820	53015620	PG 11	Recognized	0.157 - 0.394	4.0 - 10.0	0.866	3.388	0.315	100
S2313	S1313	53015830	53015630	PG 13	Listed	0.236 - 0.472	6.0 - 12.0	0.945	3.861	0.354	50
S2316	S1316	53015840	53015640	PG 16	Listed	0.354 - 0.551	9.0 - 14.0	1.063	4.393	0.394	25
S2321	S1321	53015850	53015650	PG 21	Listed	0.512 - 0.709	13.0 - 18.0	1.300	5.082	0.433	25
<b>SKINTOP® SLR FLEX: Reducer PG</b>											
S2407	S1407	53015900	53015700	PG 7	Recognized	0.059 - 0.197	1.5 - 5.0	0.591	2.441	0.315	100
S2409	S1409	53015910	53015710	PG 9	Recognized	0.079 - 0.236	2.0 - 6.0	0.748	2.894	0.315	100
S2411	S1411	53015920	53015720	PG 11	Recognized	0.079 - 0.276	2.0 - 7.0	0.866	3.386	0.315	100
S2413	S1413	53015930	53015730	PG 13	Listed	0.157 - 0.354	4.0 - 9.0	0.945	3.858	0.354	50
S2416	S1416	53015940	53015740	PG 16	Listed	0.236 - 0.472	6.0 - 12.0	1.063	4.399	0.394	25
S2421	S1421	53015950	53015750	PG 21	Listed	0.354 - 0.630	9.0 - 16.0	1.299	5.079	0.433	25
<b>SKINTOP® SLM FLEX: Standard Metric</b>											
S2707	S1707	53111700	53111600	M12 x 1.5	Recognized	0.137 - 0.275	3.5 - 7.0	0.591	2.521	0.315	100
S2709	S1709	53111710	53111610	M16 x 1.5	Recognized	0.177 - 0.394	4.5 - 10.0	0.748	3.388	0.315	100
S2713	S1713	53111720	53111620	M20 x 1.5	Listed	0.275 - 0.512	7.0 - 13.0	0.985	3.979	0.315	50
S2716	S1716	53111730	53111630	M25 x 1.5	Listed	0.354 - 0.669	9.0 - 17.0	1.182	4.925	0.354	25
S2721	S1721	53111740	53111640	M32 x 1.5	Listed	0.433 - 0.827	11.0 - 21.0	1.418	5.870	0.394	25

Orders of 2000 pieces or more per item will be bulk packaged unless otherwise requested.

\* If the end-use application consists of inserting the SKINTOP® cable gland through a non-threaded hole, then the use of a locknut is required per UL.

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SKINTOP® CLICK FLEX

Spiral Strain Relief with Quick "CLICK" Insertion System



SKINTOP® CLICK FLEX is an innovative cable insertion system that provides fast, highly flexible assembly. Easy snap-in-place installation results in fixed, centered, strain relief with maximum protection in seconds. Liquid-tight spiral strain relief offers additional safety against overstress and conductor breakage for applications such as hand-held equipment, moving machinery, and robotics. Mounting hole is based on metric thread.

Application Advantage

- Up to 70% installation time savings due to innovative CLICK system
- Ideal for hard-to-reach dual wall enclosures and limited access spaces
- Reduced inventory as no locknuts are required
- The heavy duty SKINTOP® design provides great pullout strength and very reliable strain relief
- Superior integrated locking mechanism includes an internal ratchet for vibration-proof protection

Approvals



Accessories



1 disassembly tool per pack included

Similar Products

- SKINTOP® FLEX

Technical Data

<b>Material:</b> - Body: Special polyamide - Seal: Special elastomer	<b>RAL Color:</b> Black (RAL 9005), UV resistant Gray (RAL 7001)
	<b>IP Protection:</b> - M12: IP68, 4 bar - M16 to M32: IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Temperature Range:</b> -20°C to +100°C	

Part Number	Mounting Hole Size	UL Status	øF Clamping Range		SW Wrenching Flats		C Overall Length (in)	D Thread Length (in)	øM Hole (in)	Standard Pack Size	
			(in)	(mm)	SW1	SW2					
Black      Gray											
<b>SKINTOP® CLICK FLEX</b>											
53112936	53112934	M12	Recognized	0.138 - 0.276	3.5 - 7.0	0.591	0.709	2.915	0.315	0.484 (-.008)	50
53112909	53112906	M16	Recognized	0.197 - 0.354	5.0 - 9.0	0.748	0.866	3.703	0.315	0.642 (-.008)	50
53112911	53112907	M20	Listed	0.276 - 0.512	7.0 - 13.0	0.985	1.063	4.255	0.315	0.799 (-.008)	25
53112912	53112908	M25	Listed	0.354 - 0.669	9.0 - 17.0	1.182	1.339	5.003	0.315	0.996 (-.008)	25
53112937	53112935	M32	Listed	0.433 - 0.827	11.0 - 21.0	1.418	1.576	6.107	0.315	1.272 (-.008)	25

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SKINTOP® CUBE

Multi-Cable Bushing System

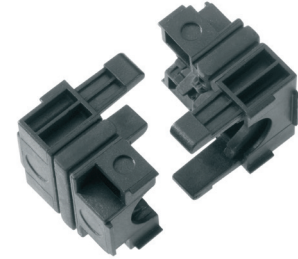
SKINTOP® CUBE



SKINTOP® CUBE Frame



SKINTOP® CUBE Modules



SKINTOP® CUBE provides an innovative approach to traditional multi-cable bushing systems, providing many great improvements and advancements including increased simplicity, ease of use, and safety.

The patented SKINTOP® CUBE flexible clip modules provide extremely quick and easy installation with far better sealing and clamping capabilities. Additionally, service to the cables is greatly simplified, as removing the frame from the enclosure is not necessary when replacing cables.

Application Advantage

- Faster and easier assembling and disassembling than other multi-cable bushing systems
- Cable diameters ranging from 4 - 16 mm are covered with just four SKINTOP® CUBE modules, greatly reducing inventory
- Securely fixed SKINTOP® CUBE modules can be assembled with the cable before installation in the frame
- Materials are oil, grease, UV, and ozone resistant; the perfect solution for industrial applications where harnessed cables need to be installed
- The SKINTOP® CUBE frame accommodates up to 10 cables and fits within standard 16- and 24-pole industrial connector entry holes

Approvals



**Complete the Installation**



Rectangular Hole Punch:  
pg 416 (Catalog)

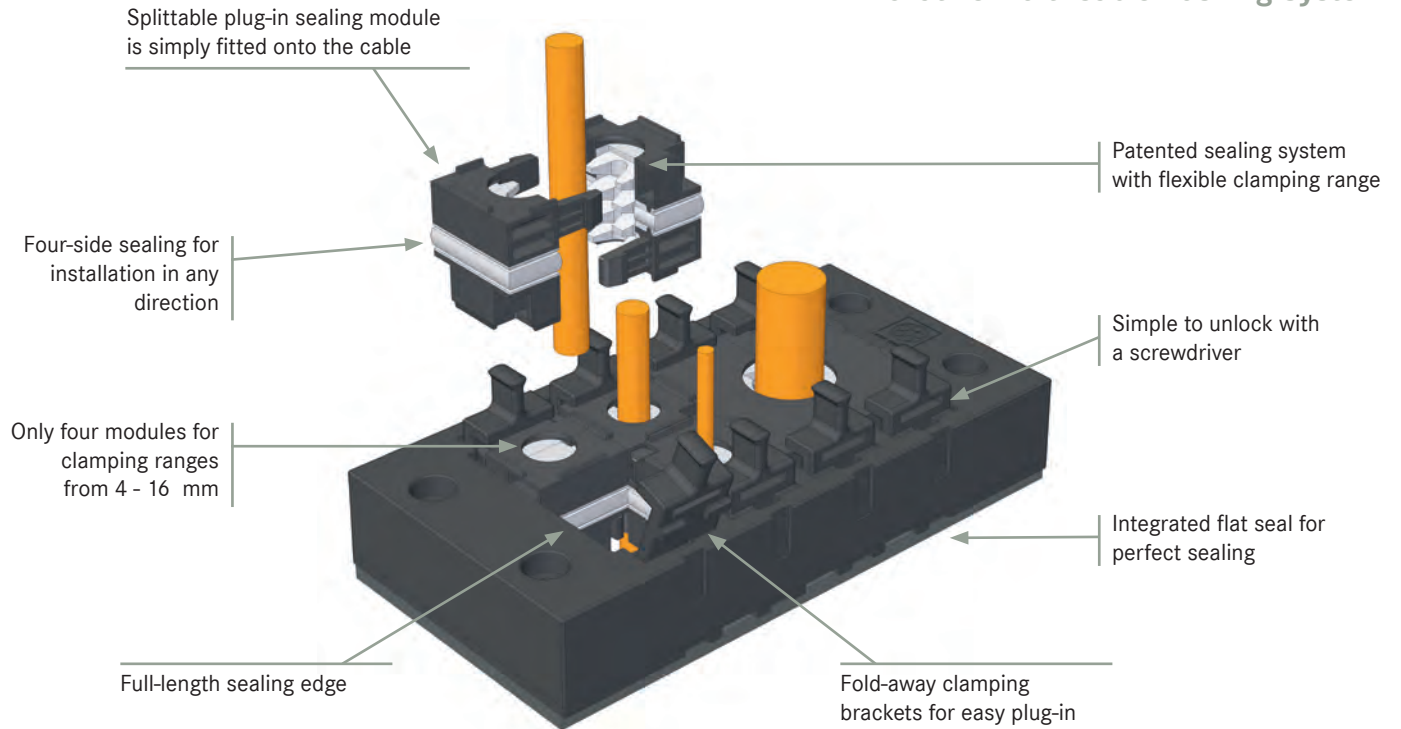
Technical Data

<b>Material:</b>		<b>Temperature Range:</b>	-20°C to +80°C
- Frame:	Glass fiber reinforced polyamide	<b>Color:</b>	Black
- Frame seal:	CR	<b>Protection:</b>	IP64
- Clip module:	Special polypropylene		
- Clip module seal:	LSE 2		

Part Number	Size	øF Clamping Range		Max. Number of Inserts	Standard Pack Size
		(in)	(mm)		
<b>Frame</b>					
52220000	16 Panel Cut-out (36 x 86 mm)	—	—	8	1
52220001	24 Panel Cut-out (36 x 112 mm)	—	—	10	1
<b>Module</b>					
52220004	20x20 Blank Module	0.039 - 0.118	1 - 3	—	5
52220002	20x20 Small Module	0.157 - 0.236	4 - 6	—	5
52220003	20x20 Large Module	0.236 - 0.354	6 - 9	—	5
52220040	20x20 AS-i Module	ASi bus cable	ASi bus cable	—	5
52220005	40x40 Small Module	0.354 - 0.472	9 - 12	—	5
52220006	40x40 Large Module	0.472 - 0.630	12 - 16	—	5
52220007	40x40 Blank Module	—	—	—	5

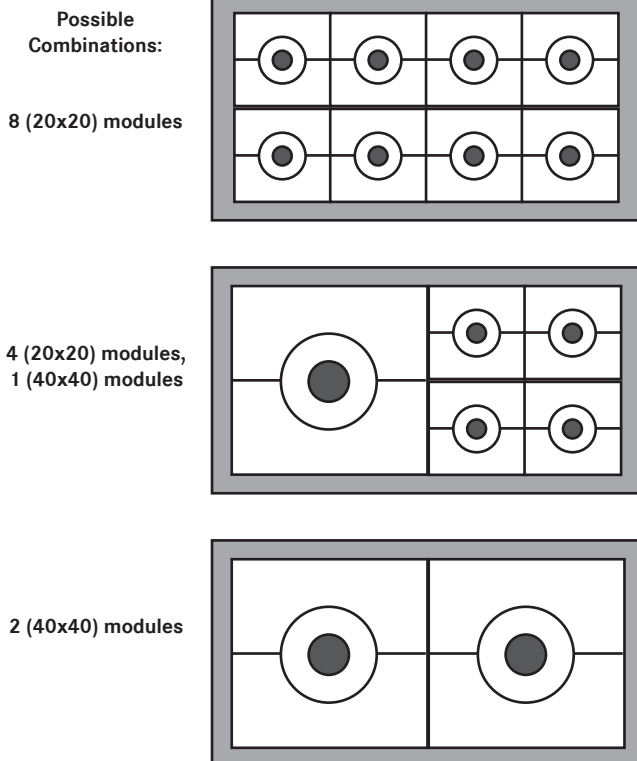
Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

**SKINTOP® CUBE**  
Innovative Multi-Cable Bushing System

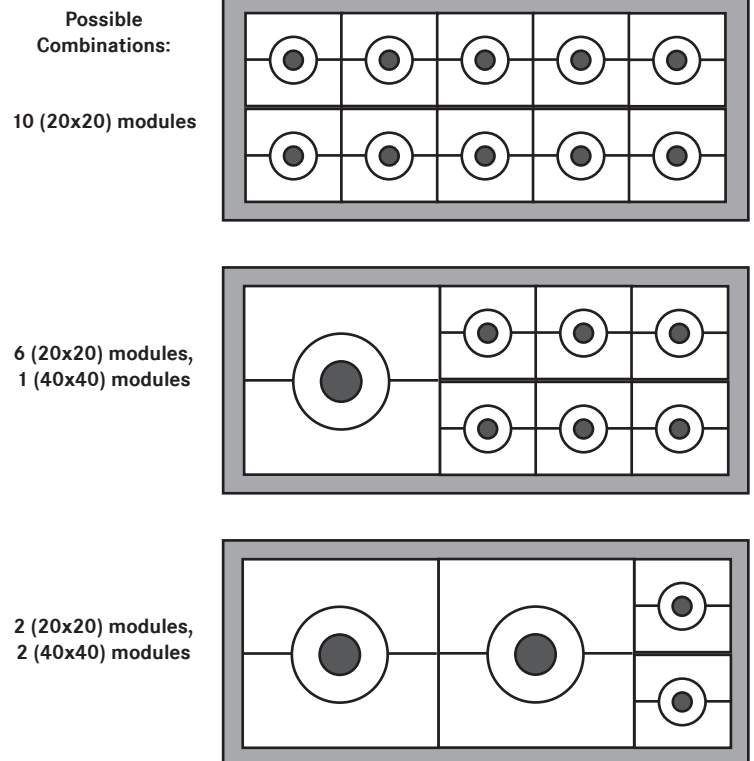


**SKINTOP® CUBE Module Combinations**

**SKINTOP® CUBE 16 Frame Module**



**SKINTOP® CUBE 24 Frame Module**



Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

# SKINTOP® CUBE MULTI

## High-Density Multi-Cable Bushing System

SKINTOP® CUBE MULTI



SKINTOP® CUBE Frame



SKINTOP® CUBE MULTI Inserts



SKINTOP® CUBE MULTI provides optimum sealing and strain relief, and maximum packing density. The high-strength gel bushing insert allows for easy installation and simplified cable removal. Cables are simply routed through the gel membrane; the static friction between the gel and the cable jacket ensures a secure grip and provides a reliable seal. It is not necessary to remove individual inserts to install cables, eliminating several work steps and saving time. The gel technology allows large variable clamping ranges and a very high packing density.

### Application Advantage

- Easy installation and simplified cable removal
- Cable diameters ranging from 3 - 16 mm are covered with just two SKINTOP® CUBE MULTI inserts, greatly reducing inventory
- Optimum strain relief due to high-strength gel insert
- Materials are oil, grease, UV, and ozone resistant; the perfect solution for industrial applications where harnessed cables need to be installed
- The SKINTOP® CUBE frame accommodates up to 23 cables and fits within standard 24-pole industrial connector entry holes

### Approvals



#### Complete the Installation



Rectangular Hole Punch:  
pg 416 (Catalog)

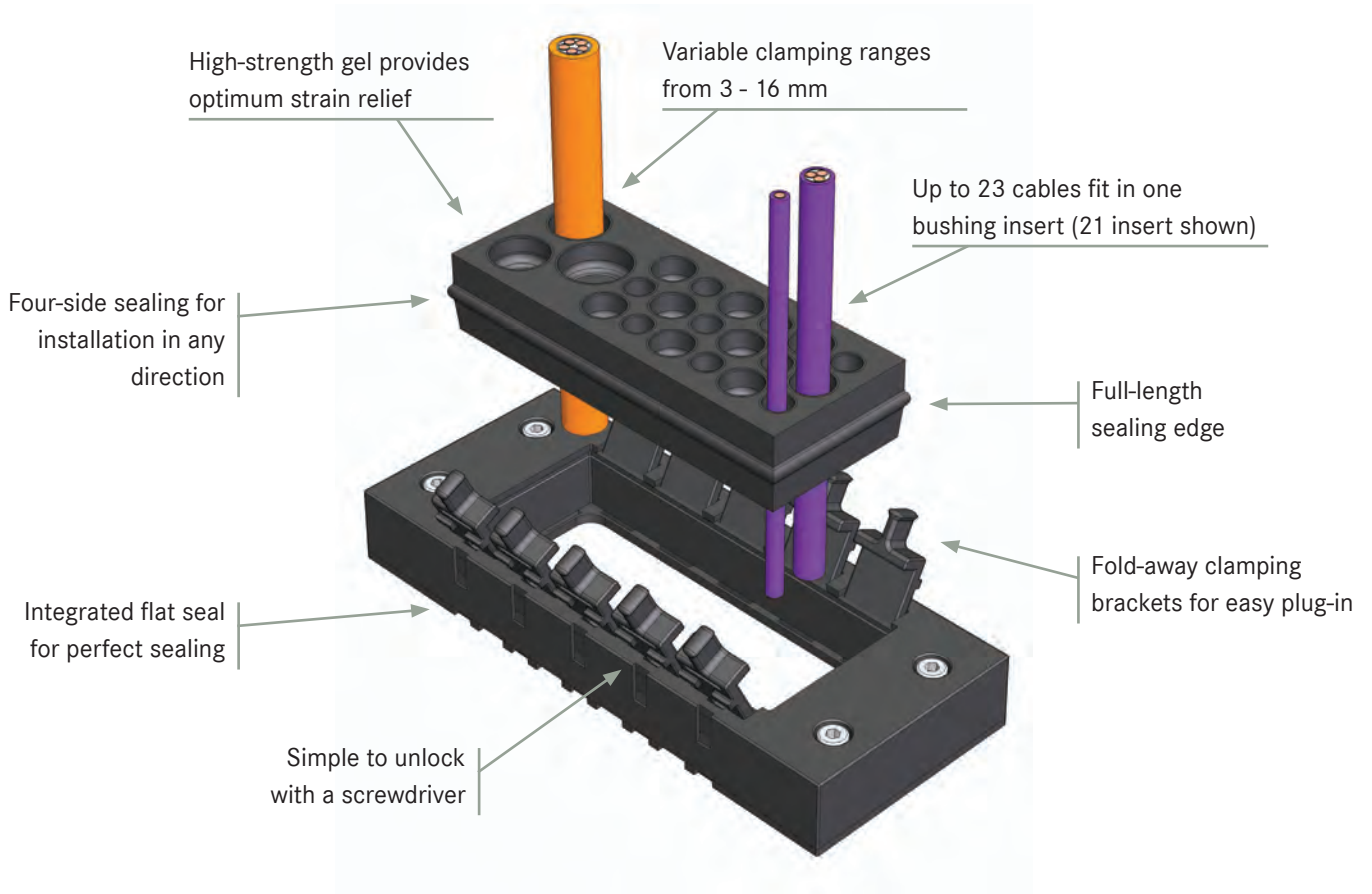
### Technical Data

<b>Material:</b>		<b>Temperature Range:</b>	-30°C to +100°C
- Frame:	Glass fiber reinforced polyamide	<b>Color:</b>	Black
- Frame seal:	CR	<b>Protection:</b>	IP65
- Insert:	Polycarbonate and gel		

Part Number	Description	Number of Cables x Cable Diameter				Max. Number of Cables
		(in)		(mm)		
<b>Frame</b>						
52220001	24 panel cut-out (36 x 112 mm)	-		-		-
<b>Insert</b>						
52220050	21-cable insert	9 x 0.118 - 0.236	2 x 0.354 - 0.512	9 x 3 - 6	2 x 9 - 13	21
52220053	23-cable insert	9 x 0.236 - 0.354	1 x 0.512 - 0.630	9 x 6 - 9	1 x 13 - 16	23
		23 x 0.236 - 0.354		23 x 6 - 9		
<b>Insert &amp; Frame</b>						
52220056	21-cable insert and frame	9 x 0.118 - 0.236	2 x 0.354 - 0.512	9 x 3 - 6	2 x 9 - 13	21
52220057	23-cable insert and frame	9 x 0.236 - 0.354	1 x 0.512 - 0.630	9 x 6 - 9	1 x 13 - 16	23
		23 x 0.236 - 0.354		23 x 6 - 9		

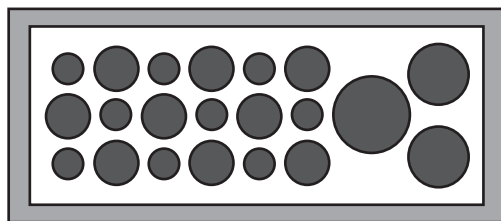
Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

**SKINTOP® CUBE MULTI**  
High-Density Multi-Cable Bushing System



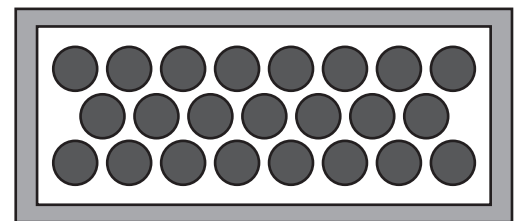
**SKINTOP® CUBE MULTI Insert Combinations**

SKINTOP® CUBE 24 Frame Module



**21-cable insert**

9 (3-6 mm)	2 (9-13 mm)
9 (6-9 mm)	1 (13-16 mm)



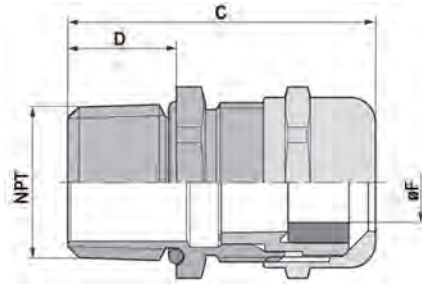
**23-cable insert**

23 (6-9 mm)

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

SKINTOP® MS-NPT/MSR-NPT

Nickel-Plated Brass Strain Relief with NPT Thread



**Similar Products**

- SKINTOP® MS-SC-NPT

**Complete the Installation**

SKINTOP® DIX Bushing: page 30

Plugs: page 550 (Catalog)

SKINTOP® MS-NPT/MSR-NPT is a superior quality, liquid-tight, metallic cable gland intended for applications where ruggedness and durability are required. These cable glands are suitable for a wide range of applications, from manufacturing machinery to measurement and control equipment, including automation and robotics.

**Application Advantage**

- Suitable for use in areas with high demands on mechanical and chemical stability
- The heavy duty SKINTOP® design provides great pull-out strength and very reliable strain relief
- Extended temperature range due to the nickel-plated brass body
- Generous high-quality neoprene bushing and perbunan O-ring provide a liquid-tight and dust-proof hermetic seal

**Approvals**



**Technical Data**

**Material:**

- Body: Nickel-plated brass
- Insert: Polyamide
- Bushing: CR
- O-ring: NBR

**Temperature Range:** -30°C to +100°C

**IP Protection:** IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)

**Locknuts:** Add NPT metal locknuts, page 27

Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
		(in)	(mm)				
<b>SKINTOP® MS-NPT: Standard</b>							
53112004	NPT 1/4"	0.137 - 0.275	3.5 - 7.0	0.630	1.418	0.591	100
53112014	NPT 3/8"	0.177 - 0.394	4.5 - 10.0	0.788	1.564	0.591	100
53112024	NPT 1/2"	0.275 - 0.512	7.0 - 13.0	0.945	1.674	0.591	50
53112034	NPT 3/4"	0.354 - 0.669	9.0 - 17.0	1.142	1.753	0.591	25
53112044	NPT 1"	0.433 - 0.827	11.0 - 21.0	1.418	1.930	0.591	25
53112054	NPT 1 1/4"	0.748 - 1.103	19.0 - 28.0	1.773	2.265	0.669	10
53112064	NPT 1 1/2"	1.063 - 1.379	27.0 - 35.0	2.127	2.423	0.669	5
53112074	NPT 2"	1.339 - 1.773	34.0 - 45.0	2.639	2.501	0.669	5
<b>SKINTOP® MSR-NPT: Reducer Bushing</b>							
53112006	NPT 1/4"	0.039 - 0.197	1.0 - 5.0	0.630	1.418	0.591	10
53112016	NPT 3/8"	0.078 - 0.275	2.0 - 7.0	0.788	1.564	0.591	100
53112026	NPT 1/2"	0.197 - 0.394	5.0 - 10.0	0.945	1.674	0.591	50
53112036	NPT 3/4"	0.236 - 0.512	6.0 - 13.0	1.142	1.753	0.591	25
53112046	NPT 1"	0.275 - 0.591	7.0 - 15.0	1.418	1.930	0.591	25
53112056	NPT 1 1/4"	0.591 - 0.906	15.0 - 23.0	1.773	2.265	0.669	10
53112066	NPT 1 1/2"	0.866 - 1.142	22.0 - 29.0	2.127	2.423	0.669	5
53112076	NPT 2"	1.103 - 1.536	28.0 - 39.0	2.639	2.501	0.669	5

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

## SKINTOP® MS/MSR

Nickel-Plated Brass Strain Relief with PG Thread

## Similar Products

- SKINTOP® MS-SC PG

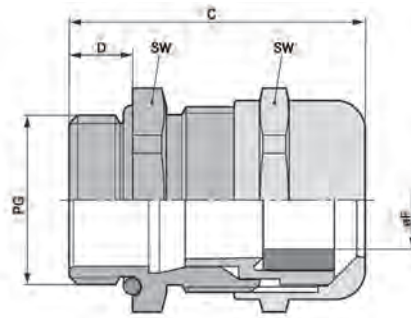
## Complete the Installation



SKINTOP® DIX  
Bushing:  
page 30



Plugs:  
page 550  
(Catalog)



SKINTOP® MS/MSR is a superior quality, liquid-tight, metallic cable gland intended for applications where ruggedness and durability are required. These cable glands are suitable for a wide range of applications, from manufacturing machinery to measurement and control equipment, including automation and robotics.

## Approvals



## Application Advantage

- Suitable for use in areas with high demands on mechanical and chemical stability
- The heavy duty SKINTOP® design provides great pull-out strength and very reliable strain relief
- Extended temperature range due to the nickel-plated brass body
- Generous high-quality neoprene bushing and perbunan O-ring provide a liquid-tight and dust-proof hermetic seal

## Technical Data

## Material:

- Body: Nickel-plated brass
- Insert: Polyamide
- Bushing: CR
- O-ring: NBR

## Temperature Range:

-30°C to +100°C

## IP Protection:

IP68, 5 bar  
(Exceeds NEMA 6/6P pressure rating)  
when used with O-ring

## Locknuts:

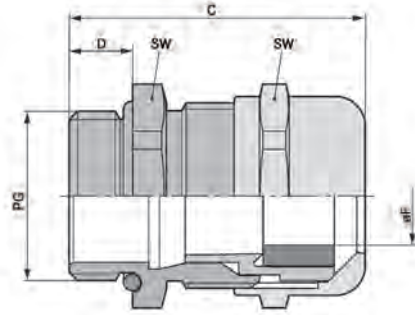
Add SM locknuts, page 27

Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
		(in)	(mm)				
<b>SKINTOP® MS: Standard</b>							
52015700	PG 7	0.078 - 0.256	2.0 - 6.5	0.551	0.985	0.197	100
52015710	PG 9	0.157 - 0.315	4.0 - 8.0	0.669	1.142	0.236	100
52015720	PG 11	0.157 - 0.394	4.0 - 10	0.788	1.260	0.236	50
52015730	PG 13	0.197 - 0.472	5.0 - 12.0	0.866	1.339	0.256	50
52015740	PG 16	0.315 - 0.551	8.0 - 14.0	0.945	1.379	0.256	50
52015750	PG 21	0.433 - 0.709	11.0 - 18.0	1.182	1.576	0.275	25
52015760	PG 29	0.630 - 0.985	16.0 - 25.0	1.576	1.891	0.315	25
52015765	PG 36	0.748 - 1.260	19.0 - 32.0	1.970	2.442	0.591	10
52015766	PG 42	1.103 - 1.497	28.0 - 38.0	2.245	2.442	0.591	5
52015767	PG 48	1.339 - 1.733	34.0 - 44.0	2.521	2.442	0.591	5
<b>SKINTOP® MSR: Reducer Bushing</b>							
52015770	PG 7	0.078 - 0.197	2.0 - 5.0	0.551	0.985	0.197	100
52015780	PG 9	0.078 - 0.236	2.0 - 6.0	0.669	1.142	0.236	100
52015790	PG 11	0.118 - 0.275	3.0 - 7.0	0.787	1.260	0.236	50
52015800	PG 13	0.157 - 0.354	4.0 - 9.0	0.866	1.339	0.256	50
52015810	PG 16	0.236 - 0.512	6.0 - 13.0	0.945	1.379	0.256	50
52015820	PG 21	0.315 - 0.630	8.0 - 16.0	1.182	1.576	0.275	25
52015830	PG 29	0.413 - 0.788	10.5 - 20.0	1.576	1.891	0.315	25
52015831	PG 36	0.748 - 1.024	19.0 - 26.0	1.970	2.442	0.591	10
52015832	PG 42	0.945 - 1.221	24.0 - 31.0	2.245	2.442	0.591	5
52015833	PG 48	1.103 - 1.379	28.0 - 35.0	2.521	2.442	0.591	5

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SKINTOP® MS-XL/MSR-XL

Nickel-Plated Brass Strain Relief with Extended PG Thread



**Similar Products**

- SKINTOP® MS/MSR

**Complete the Installation**

SKINTOP® DIX Bushing: page 30

Plugs: page 550 (Catalog)

SKINTOP® MS-XL/MSR-XL is a superior quality, liquid-tight, metallic cable gland intended for applications where ruggedness, durability and long threads are required. These cable glands are suitable for a wide range of applications, from manufacturing machinery to measurement and control equipment, including automation and robotics.

**Application Advantage**

- Ideal for heavy wall applications or for use with locknuts where tapped holes cannot be provided
- Suitable for use in areas with high demands on mechanical and chemical stability
- The heavy duty SKINTOP® design provides great pull-out strength and very reliable strain relief
- Extended temperature range due to the nickel-plated brass body
- Generous high-quality neoprene bushing and perbunan O-ring provide a liquid-tight and dust-proof hermetic seal

**Approvals**



**Technical Data**

<b>Material:</b>		<b>Temperature Range:</b>	-30°C to +100°C
- Body:	Nickel-plated brass	<b>IP Protection:</b>	70 PSI
- Insert:	Polyamide	Seal:	IP68, 5 bar (Exceeds NEMA 6/6P pressure rating) when used with an O-ring
- Bushing:	CR		
- O-ring:	NBR		
<b>Locknuts:</b>	Add SM locknuts, page 27		

Part Number	Thread Type & Size	øF Clamping Range (in) (mm)		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
<b>SKINTOP® MS-XL: Standard</b>							
52115700	PG 7	0.078 - 0.256	2.0 - 6.5	0.551	1.260	0.472	100
52115710	PG 9	0.157 - 0.315	4.0 - 8.0	0.669	1.379	0.472	100
52115720	PG 11	0.157 - 0.394	4.0 - 10.0	0.788	1.497	0.472	50
52115730	PG 13	0.197 - 0.472	5.0 - 12.0	0.866	1.556	0.472	50
52115740	PG 16	0.315 - 0.551	8.0 - 14.0	0.945	1.595	0.472	50
52115750	PG 21	0.433 - 0.709	11.0 - 18.0	1.182	1.773	0.472	25
52115760	PG 29	0.630 - 0.985	16.0 - 25.0	1.576	2.048	0.591	25
<b>SKINTOP® MSR-XL: Reducer Bushing</b>							
52115770	PG 7	0.078 - 0.197	2.0 - 5.0	0.551	1.260	0.472	100
52115780	PG 9	0.078 - 0.236	2.0 - 6.0	0.669	1.379	0.472	100
52115790	PG 11	0.118 - 0.275	3.0 - 7.0	0.788	1.497	0.472	50
52115800	PG 13	0.157 - 0.354	4.0 - 9.0	0.866	1.556	0.472	50
52115810	PG 16	0.236 - 0.512	6.0 - 13.0	0.945	1.595	0.472	50
52115820	PG 21	0.315 - 0.630	8.0 - 16.0	1.182	1.773	0.472	25
52115830	PG 29	0.413 - 0.788	10.5 - 20.0	1.576	2.048	0.591	25

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## SKINTOP® MS-M/MSR-M

## Nickel-Plated Brass Strain Relief with Metric Thread

## Similar Products

- SKINTOP® MS-SC

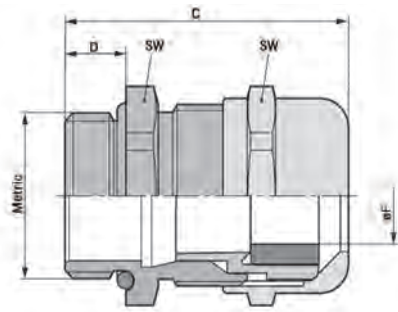
## Complete the Installation



SKINTOP® DIX  
Bushing:  
page 30



Plugs:  
page 550  
(Catalog)



SKINTOP® MS/MSR is a superior quality, liquid-tight, metallic cable gland intended for applications where ruggedness and durability are required. These cable glands are suitable for a wide range of applications, from manufacturing machinery to measurement and control equipment, including automation and robotics.

## Application Advantage

- Suitable for use in areas with high demands on special mechanical and chemical stability
- The heavy duty SKINTOP® design provides great pull-out strength and very reliable strain relief
- Extended temperature range due to the nickel-plated brass body
- Generous high-quality neoprene bushing and perbunan O-ring provide a liquid-tight and dust-proof hermetic seal

## Approvals\*



## Technical Data

## Material:

- Body: Nickel-plated brass
- Insert: Polyamide
- Bushing: CR
- O-ring: NBR

## Temperature Range:

- Static: -40°C to +100°C
- Dynamic: -30°C to +100°C

## Locknuts:

Add SM-M locknuts, page 27

## IP Protection:

- Seal: 70 PSI  
IP68, 5 bar  
(Exceeds NEMA 6/6P pressure rating)  
IP69K†

Part Number	Thread Type & Size	UL Status	øF Clamping Range (in) (mm)		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
<b>SKINTOP® MS-M: Standard</b>								
53112000	M12 x 1.5	Recognized	0.118 - 0.275	3.0 - 7.0	0.630	1.044	0.256	100
53112010	M16 x 1.5	Recognized	0.177 - 0.394	4.5 - 10.0	0.788	1.260	0.275	100
53112020	M20 x 1.5	Listed	0.275 - 0.512	7.0 - 13.0	0.945	1.398	0.315	50
53112030	M25 x 1.5	Listed	0.354 - 0.669	9.0 - 17.0	1.142	1.477	0.315	25
53112040	M32 x 1.5	Listed	0.433 - 0.827	11.0 - 21.0	1.418	1.662	0.354	25
53112050	M40 x 1.5	Listed	0.748 - 1.103	19.0 - 28.0	1.773	1.950	0.354	10
53112060	M50 x 1.5	Listed	1.063 - 1.379	27.0 - 35.0	2.127	2.048	0.394	5
53112070	M63 x 1.5	Listed	1.339 - 1.773	34.0 - 45.0	2.639	2.415	0.591	5
53112080	M63 x 1.5, plus	Listed	1.733 - 2.167	44.0 - 55.0	2.955	2.580	0.591	5
53112510	M75 x 1.5	Listed	2.285 - 2.679	58.0 - 68.0	3.743	4.137	0.591	1
53112512	M90 x 2.0	Listed	2.600 - 3.073	66.0 - 78.0	4.531	5.358	0.788	1
53112514	M110 x 2.0	Listed	3.388 - 3.861	86.0 - 98.0	5.319	6.067	0.985	1
<b>SKINTOP® MSR-M: Reducer Bushing</b>								
53112100	M12 x 1.5	Recognized	0.039 - 0.197	1.0 - 5.0	0.630	1.044	0.256	100
53112110	M16 x 1.5	Recognized	0.078 - 0.275	2.0 - 7.0	0.788	1.260	0.275	100
53112120	M20 x 1.5	Listed	0.197 - 0.394	5.0 - 10.0	0.945	1.398	0.315	50
53112130	M25 x 1.5	Listed	0.236 - 0.512	6.0 - 13.0	1.142	1.477	0.315	25
53112140	M32 x 1.5	Listed	0.275 - 0.591	7.0 - 15.0	1.418	1.662	0.354	25
53112150	M40 x 1.5	Listed	0.591 - 0.906	15.0 - 23.0	1.773	1.950	0.354	10
53112160	M50 x 1.5	Listed	0.866 - 1.142	22.0 - 29.0	2.127	2.048	0.394	5
53112170	M63 x 1.5	Listed	1.103 - 1.536	28.0 - 39.0	2.639	2.415	0.591	5
53112511	M75 x 1.5	Listed	2.088 - 2.482	53.0 - 63.0	3.743	4.137	0.591	1
53112515	M110 x 2.0	Listed	2.994 - 3.467	76.0 - 88.0	5.319	6.067	0.985	1

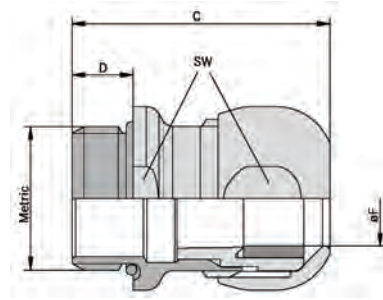
\* DNV pending for size M75; UL, CSA, DNV & VDE pending for sizes M90 & M110.

† IP69K pending for sizes M75, M90 & M110

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## SKINTOP® INOX/INOX-R

Stainless Steel Strain Relief with Metric Thread



SKINTOP® INOX is a stainless steel cable gland with special design features that prevent micro-organisms and bacteria from sticking to the surface. The gland has an IP68/69K rating and withstands high pressure and high-temperature wash downs. Typical applications can be found in the food & beverage and pharmaceutical industry.

### Application Advantage

- Highly corrosion-resistant
- Smooth surface
- No edges
- IP68/69K protection
- Wide variable clamping ranges

### Approvals

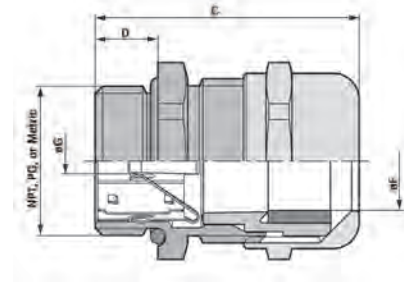


### Technical Data

<b>Material:</b>		<b>IP Protection:</b>	IP68, 5 bar (Exceeds NEMA 6/6P pressure rating) IP69K
- Body:	Stainless steel: V4.A (1.4404/316L)		
- Insert:	Polyamide		
- Sealing ring:	Silicone		
- O-ring:	Silicone	<b>Approvals:</b>	According to DIN EN ISO 14 159 According to DIN EN 1672-2 EHEDG
<b>Temperature Range:</b>	-40°C to +100°C		

Part Number	Thread Type & Size	øF Clamping Range (mm)		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Standard Pack Size
<b>SKINTOP® INOX</b>							
53806739	M12 x 1.5	0.157 - 0.275	4.0 - 7.0	0.630	1.154	0.256	5
53806740	M16 x 1.5	0.197 - 0.394	5.0 - 10.0	0.788	1.276	0.275	5
53806741	M20 x 1.5	0.275 - 0.512	7.0 - 13.0	0.945	1.398	0.315	5
53806742	M25 x 1.5	0.354 - 0.669	9.0 - 17.0	1.142	1.544	0.315	5
53806743	M32 x 1.5	0.433 - 0.827	11.0 - 21.0	1.418	1.757	0.354	5
<b>SKINTOP® INOX-R</b>							
53806749	M12 x 1.5	0.118 - 0.197	3.0 - 5.0	0.630	1.154	0.256	5
53806750	M16 x 1.5	0.177 - 0.275	4.5 - 7.0	0.788	1.276	0.275	5
53806751	M20 x 1.5	0.236 - 0.394	6.0 - 10.0	0.945	1.398	0.315	5
53806752	M25 x 1.5	0.275 - 0.512	7.0 - 13.0	1.142	1.544	0.315	5
53806753	M32 x 1.5	0.315 - 0.591	8.0 - 15.0	1.418	1.757	0.354	5

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SKINTOP® MS-SC is uniquely designed to address EMI concerns with its simplified grounding feature. In a few easy steps the cable is grounded, strain relieved, and sealed from moisture and dust in accordance with IP68. The cable glands' contact springs establish a continuous electrical path from the shield of the cable to the equipment ground, creating a secure shield connection.

#### Application Advantage

- Optimal EMC protection
- Suitable for braid-shielded cable
- Minimal assembly steps
- The contact springs' unique design can accept cable diameters with wide dimensional tolerances
- Available in both standard and long length threads for heavy wall applications

#### Approvals: NPT Thread



#### Approvals: PG Thread



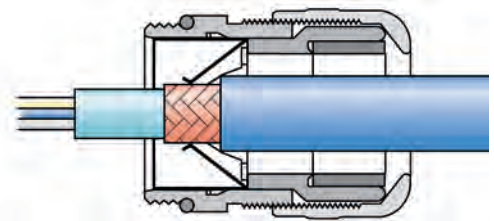
#### Approvals: Metric Thread



#### Assembly Instructions:

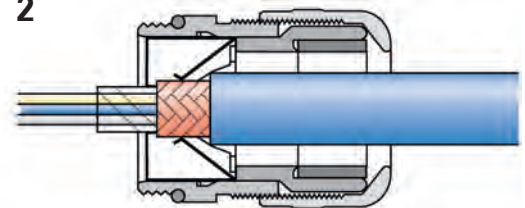
##### For standard contacting:

1



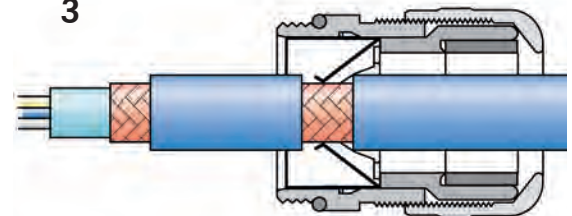
##### For thin wires without an inner sheath:

2



##### When routing cable screen to another connection:

3



#### Technical Data

##### Material:

- Body: Nickel-plated brass
- Insert: Polyamide
- Bushing: CR
- O-ring: NBR

##### Temperature Range:

-30°C to +100°C

##### IP Protection:

IP68, 5 bar  
(Exceeds NEMA 6/6P pressure rating)  
when used with an O-ring

##### Locknuts:

Add SM-PE locknuts, page 28

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

**SKINTOP® MS-SC NPT**

Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Min ø Above Braiding (in)	Standard Pack Size
		(in)	(mm)					
<b>SKINTOP® MS-SC: Standard NPT Thread</b>								
53112910	NPT 3/8"	0.177 - 0.394	4.5 - 10.0	0.788	1.564	0.591	0.158	100
53112920	NPT 1/2"	0.275 - 0.512	7.0 - 13.0	0.945	1.674	0.591	0.197	50
53112930	NPT 3/4"	0.354 - 0.669	9.0 - 17.0	1.142	1.753	0.591	0.296	25
53112940	NPT 1"	0.433 - 0.827	11.0 - 21.0	1.418	1.930	0.591	0.355	25
53112950	NPT 1 1/4"	0.748 - 1.103	19.0 - 28.0	1.773	2.264	0.669	0.591	10
53112960	NPT 1 1/2"	1.063 - 1.379	27.0 - 35.0	2.127	2.423	0.669	0.827	5

**SKINTOP® MS-SC & MS-SCL**

Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Min ø Above Braiding (in)	Standard Pack Size
		(in)	(mm)					
<b>SKINTOP® MS-SC: Standard PG Thread</b>								
53112210	PG 9	0.118 - 0.315	3.0 - 8.0	0.669	1.142	0.236	0.158	50
53112220	PG 11	0.157 - 0.394	4.0 - 10.0	0.787	1.260	0.236	0.158	50
53112230	PG 13	0.197 - 0.472	5.0 - 12.0	0.866	1.339	0.256	0.158	25
53112240	PG 16	0.315 - 0.551	8.0 - 14.0	0.945	1.378	0.256	0.236	25
53112250	PG 21	0.433 - 0.689	11.0 - 17.5	1.181	1.575	0.275	0.315	25
53112260	PG 29	0.630 - 0.985	16.0 - 25.0	1.575	1.890	0.315	0.512	10
53112270	PG 36	0.748 - 1.260	19.0 - 32.0	1.969	2.441	0.591	0.630	5
<b>SKINTOP® MS-SCL: Long PG Thread</b>								
53112310	PG 9	0.118 - 0.315	3.0 - 8.0	0.669	1.378	0.472	0.158	50
53112320	PG 11	0.157 - 0.394	4.0 - 10.0	0.787	1.496	0.472	0.158	50
53112330	PG 13	0.197 - 0.472	5.0 - 12.0	0.866	1.555	0.472	0.158	25
53112340	PG 16	0.315 - 0.551	8.0 - 14.0	0.945	1.594	0.472	0.236	25
53112350	PG 21	0.433 - 0.689	11.0 - 17.5	1.181	1.772	0.472	0.315	25
53112360	PG 29	0.630 - 0.985	16.0 - 25.0	1.575	2.047	0.591	0.512	10

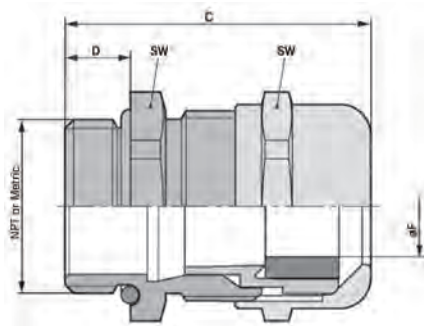
**SKINTOP® MS-M-SC & MS-M-SCL**

Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Min ø Above Braiding (in)	Standard Pack Size
		(in)	(mm)					
<b>SKINTOP® MS-M-SC: Standard Metric Thread</b>								
53112610	M12 x 1.5	0.137 - 0.275	3.5 - 7.0	0.630	1.043	0.256	0.079	50
53112620	M16 x 1.5	0.177 - 0.354	4.5 - 9.0	0.788	1.299	0.275	0.158	50
53112630	M20 x 1.5	0.275 - 0.492	7.0 - 12.5	0.945	1.457	0.315	0.197	25
53112640	M25 x 1.5	0.354 - 0.650	9.0 - 16.5	1.142	1.516	0.315	0.296	25
53112650	M32 x 1.5	0.433 - 0.827	11.0 - 21.0	1.418	1.791	0.354	0.355	25
53112660	M40 x 1.5	0.748 - 1.103	19.0 - 28.0	1.773	1.890	0.354	0.591	10
53112670	M50 x 1.5	1.063 - 1.379	27.0 - 35.0	2.127	2.185	0.394	0.827	5
<b>SKINTOP® MS-M-SCL: Long Metric Thread</b>								
53112625	M16 x 1.5	0.177 - 0.354	4.5 - 9.0	0.788	1.496	0.472	0.158	50
53112635	M20 x 1.5	0.275 - 0.492	7.0 - 12.5	0.945	1.614	0.472	0.197	25
53112645	M25 x 1.5	0.354 - 0.650	9.0 - 16.5	1.142	1.673	0.472	0.296	25
53112655	M32 x 1.5	0.433 - 0.827	11.0 - 21.0	1.418	2.028	0.591	0.355	25
53112665	M40 x 1.5	0.748 - 1.103	19.0 - 28.0	1.773	2.126	0.591	0.591	10
53112675	M50 x 1.5	1.063 - 1.379	27.0 - 35.0	2.127	2.382	0.591	0.827	5

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## SKINTOP® MS-NPT BRUSH/MS-M BRUSH

Nickel-Plated Brass Strain Relief for EMC Applications with NPT &amp; Metric Thread



The SKINTOP® MS-NPT/MS-M BRUSH provides centered, fixed strain relief with a liquid-tight and dust-proof seal, all in one step. Simply insert the cable, push the screen braid under the innovative EMC brush, tighten the cap, and the connection is made.

The SKINTOP® MS-M BRUSH PLUS sizes offers extra large clamping ranges.

#### Approvals: NPT Thread



#### Approvals: Metric Thread



#### Application Advantage

- Faster, easier, reliable screen contact
- Maximum assembly and adjustment possibilities
- 360° contact area allows for optimal low-resistance current return ground path

#### Special Features

SKINTOP® sizes M75 x 1.5 to M110 x 2.0 feature the innovative double lamella gasket for easier assembling of cables with large diameters.

#### Technical Data

<b>Material:</b>		<b>Temperature Range:</b>	-30°C to +100°C
- Body:	Nickel-plated brass	<b>IP Protection:</b>	- NPT: IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
- Brush:	Brass		
- Insert:	Polyamide	- Metric:	IP69K
- Bushing:	Special elastomer	- M25 - M63:	IP68, 5 bar
- O-ring:	Special elastomer	- M63 plus and larger:	IP68, 5 bar (Exceeds NEMA 6/6P pressure rating)
<b>Locknuts:</b>	Add SM-PE-M locknuts for metric glands, page 28		

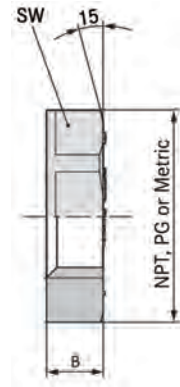
Part Number	Thread Type & Size	øF Clamping Range		SW Wrenching Flats (in)	C Overall Length (in)	D Thread Length (in)	Min ø above braiding (in)	Standard Pack Size
		(in)	(mm)					
<b>SKINTOP® MS-NPT BRUSH</b>								
53112037	NPT ¾"	0.354 - 0.669	9.0 - 17.0	1.142	1.694	0.591	0.236	10
53112047	NPT 1"	0.433 - 0.827	11.0 - 21.0	1.418	1.891	0.591	0.315	1
53112057	NPT 1¼"	0.748 - 1.103	19.0 - 28.0	1.773	2.265	0.669	0.394	1
53112067*	NPT 1½"	1.063 - 1.379	27.0 - 35.0	2.127	2.323	0.669	0.551	1
53112077*	NPT 2"	1.339 - 1.773	34.0 - 45.0	2.639	2.482	0.669	0.787	1
53112087*	NPT 2"	1.733 - 2.167	44.0 - 55.0	2.955	2.836	0.669	0.984	1
<b>SKINTOP® MS-M BRUSH</b>								
53112676	M25 x 1.5	0.354 - 0.669	9.0 - 17.0	1.142	1.418	0.315	0.236	10
53112677	M32 x 1.5	0.433 - 0.827	11.0 - 21.0	1.418	1.663	0.354	0.315	1
53112678	M40 x 1.5	0.748 - 1.103	19.0 - 28.0	1.773	2.344	0.354	0.394	1
53112679	M50 x 1.5	1.063 - 1.379	27.0 - 35.0	2.127	2.049	0.394	0.551	1
53112680	M63 x 1.5	1.339 - 1.773	34.0 - 45.0	2.639	2.415	0.591	0.788	1
53112681	M63 x 1.5, plus	1.733 - 2.167	44.0 - 55.0	2.955	2.719	0.591	0.985	1
53112501	M75 x 1.5	2.088 - 2.482	53.0 - 63.0	3.743	4.137	0.591	1.379	1
53112500	M75 x 1.5, plus	2.285 - 2.679	58.0 - 68.0	3.743	4.137	0.591	1.379	1
53112503	M90 x 2.0	2.600 - 3.073	66.0 - 78.0	4.531	5.339	0.788	1.773	1
53112505	M110 x 2.0	2.994 - 3.467	76.0 - 88.0	5.319	6.068	0.985	2.167	1
53112504	M110 x 2.0, plus	3.388 - 3.861	86.0 - 98.0	5.319	6.068	0.985	2.167	1

\* Available upon request

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

# SKINTOP® GMP-GL/GMP-HF

Hexagonal Locknuts for NPT, PG & Metric Strain Relief Cable Glands



Designed for use with SKINTOP® cable glands with NPT, PG & metric threads.

■ Approvals: NPT & Halogen-free Metric



■ Approvals: PG\*



■ Approvals: Metric\*



■ Technical Data

<b>Material:</b> - Body: Polyamide, glass fiber-reinforced - Halogen-free: Halogen-free polyamide, V-0 per UL 94	<b>RAL Color:</b> Black (RAL 9005), UV resistant Gray (RAL 7001) Light gray (RAL 7035), halogen-free
<b>Temperature Range:</b> -20°C to +100°C	

Part Number			Thread Type & Size	SW Wrenching Flats (in)	B Nut Thickness (in)	Standard Pack Size
Black	Gray	Light Gray Halogen-free				
<b>SKINTOP® GMP-GL: NPT</b>						
911370	—	—	NPT 3/8"	0.866	0.198	100
911371	—	—	NPT 1/2"	1.063	0.236	100
911372	—	—	NPT 3/4"	1.417	0.276	50
911373	—	—	NPT 1"	1.654	0.276	50
<b>SKINTOP® GMP-GL: PG</b>						
53019200	53019000	—	PG 7	0.748	0.197	100
53019210	53019010	—	PG 9	0.866	0.197	100
53019220	53019020	—	PG 11	0.945	0.197	100
53019230	53019030	—	PG 13	1.063	0.236	100
53019240	53019040	—	PG 16	1.181	0.236	100
53019250	53019050	—	PG 21	1.418	0.276	50
53019260	53019060	—	PG 29	1.812	0.276	50
53019270	53019070	—	PG 36	2.364	0.315	25
53019280	50319080	—	PG 42	2.561	0.315	25
53019290	53019090	—	PG 48	2.758	0.315	25
<b>SKINTOP® GMP-GL/ GMP-HF: Metric</b>						
53119100	53119000	53119200	M12 x 1.5	0.669	0.197	100
53119110	53119010	53119210	M16 x 1.5	0.866	0.197	100
53119120	53119020	53119220	M20 x 1.5	1.063	0.236	100
53119130	53119030	53119230	M25 x 1.5	1.339	0.236	100
53119140	53119040	53119240	M32 x 1.5	1.615	0.276	100
53119150	53119050	53119250	M40 x 1.5	1.970	0.276	25
53119160	53119060	53119260	M50 x 1.5	2.364	0.315	25
53119170	53119070	53119270	M63 x 1.5	2.955	0.315	25

\* UL only when used with UL approved SKINTOP® polyamide cable glands

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## SKINDICHT® SM Locknuts

Nickel-Plated Brass Locknuts for NPT, PG &amp; Metric Strain Relief Cable Glands



## ■ Approvals



SKINDICHT® SM locknuts are required wherever NPT, PG or metric cable glands must be fastened to a housing, and tapped holes cannot be provided.

## ■ Technical Data

## ■ Material:

- NPT: Stamped steel
- PG & metric: Nickel-plated brass

Part Number	Thread Type & Size	Wrenching Flats	Nut Thickness (in)	Standard Pack Size
<b>SKINDICHT® SM: NPT</b>				
811092*	NPT 3/8"	0.945	0.138	100
811093	NPT 1/2"	1.102	0.157	100
811094	NPT 3/4"	1.378	0.157	50
811095	NPT 1"	1.693	0.157	50
<b>SKINDICHT® SM: PG</b>				
52003490	PG 7	0.591	0.110	100
52003500	PG 9	0.709	0.110	100
52003510	PG 11	0.827	0.118	100
52003520	PG 13	0.906	0.118	100
52003530	PG 16	1.024	0.118	100
52003540	PG 21	1.260	0.137	50
52003550	PG 29	1.614	0.157	50
52003560	PG 36	2.009	0.197	25
52003570	PG 42	2.364	0.197	25
52003580	PG 48	2.521	0.216	25
<b>SKINDICHT® SM-M: Metric</b>				
52103000	M12 x 1.5	0.591	0.118	100
52103010	M16 x 1.5	0.748	0.118	100
52103020	M20 x 1.5	0.945	0.138	100
52103030	M25 x 1.5	1.182	0.157	100
52103040	M32 x 1.5	1.418	0.157	100
52103050	M40 x 1.5	1.812	0.197	50
52103060	M50 x 1.5	2.364	0.197	50
52103070	M63 x 1.5	2.758	0.197	25
52103071	M75 x 1.5	3.349	0.315	5
52103072	M90 x 2.0	4.018	0.394	1
52103073	M110 x 2.0	4.885	0.472	1

\* Product features a hex design.

Photographs are not to scale and are not true representations of the products in question. For current information go to our website. If not otherwise specified, all values relating to the product are nominal values.

## SKINDICHT® SM-PE Locknuts

Nickel-Plated Brass Grounding Locknuts for PG &amp; Metric Strain Relief Cable Glands



SKINDICHT® SM-PE locknuts are required wherever varnished, anodized, and powder-coated housings are used. When the locknut is tightened, the raised edges cut through the insulating layer, guaranteeing optimum contact. Ideal for use with SKINTOP® MS-SC or SKINTOP® BRUSH grounding cable glands.

### Approvals



### Technical Data

**Material:** Nickel-plated brass

Part Number	Thread Type & Size	Wrenching Flats	Nut Thickness (in)	Standard Pack Size
<b>SKINDICHT® SM-PE: PG</b>				
52103200	PG 7	0.591	0.185	100
52103210	PG 9	0.709	0.185	100
52103220	PG 11	0.827	0.185	100
52103230	PG 13	0.906	0.185	100
52103240	PG 16	1.024	0.185	100
52103250	PG 21	1.260	0.204	50
52103260	PG 29	1.615	0.224	50
52103270	PG 36	2.009	0.263	50
<b>SKINDICHT® SM-PE: Metric</b>				
52103300	M12 x 1.5	0.591	0.137	100
52103310	M16 x 1.5	0.748	0.137	100
52103320	M20 x 1.5	0.945	0.145	100
52103330	M25 x 1.5	1.182	0.165	50
52103340	M32 x 1.5	1.418	0.185	50
52103350	M40 x 1.5	1.812	0.216	25
52103360	M50 x 1.5	2.364	0.216	10
52103370	M63 x 1.5	2.758	0.275	10
52103371	M75 x 1.5	3.349	0.315	5
52103372	M90 x 2.0	4.018	0.394	1
52103373	M110 x 2.0	4.885	0.472	1

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## SKINTOP® DIX Bushings/DIX-DV Inserts

Multiple Cable Sealing Bushings for PG &amp; Polyamide NPT Strain Relief Cable Glands

## Technical Data

<b>Material:</b>	
- DIX Bushings:	Silicone
- DIX-DV Inserts:	Polyamide
<b>Temperature Range:</b>	-40°C to +100°C
<b>Color:</b>	
- DIX bushings:	Natural
- DIX-DV inserts:	Natural
<b>Protection:</b>	
	IP54
	IP68 when all holes are optimally filled*

SKINTOP® DIX is a multiple-hole sealing bushing designed to allow several cables to be inserted through one cable gland. This results in a reduction of space and cost as a separate cable gland is not required for each cable.



## Approvals



For metal NPT glands, use SKINTOP® DIX-M bushings, page 30.

Part Number	PG SKINTOP® Size	Polyamide NPT SKINTOP® Size	Number of Holes	Size of Holes		Standard Pack Size
				(in)	(mm)	
<b>SKINDICHT® DIX Bushings</b>						
53607225	PG 7	—	2	0.098	2.5	100
53607417	PG 7	—	4	0.067	1.7	100
53609230	PG 9	NPT 3/8"	2	0.118	3.0	100
53611225	PG 11	—	2	0.098	2.5	100
53611240	PG 11	—	2	0.157	4.0	100
53611330	PG 11	—	3	0.118	3.0	100
53611430	PG 11	—	4	0.118	3.0	100
53613250	PG 13	NPT 1/2"	2	0.197	5.0	100
53613340	PG 13	NPT 1/2"	3	0.157	4.0	100
53613440	PG 13	NPT 1/2"	4	0.157	4.0	100
53616140	PG 16	—	1	0.157	4.0	50
53616225	PG 16	—	2	0.098	2.5	50
53616240	PG 16	—	2	0.157	4.0	50
53616260	PG 16	—	2	0.236	6.0	50
53616340	PG 16	—	3	0.157	4.0	50
53616350	PG 16	—	3	0.197	5.0	50
53616356	PG 16	—	3	0.220	5.6	50
53616360	PG 16	—	3	0.236	6.0	50
53616440	PG 16	—	4	0.157	4.0	50
53616450	PG 16	—	4	0.197	5.0	50
53616540	PG 16	—	5	0.157	4.0	50
53621270	PG 21	NPT 3/4"	2	0.276	7.0	50
53621280	PG 21	NPT 3/4"	2	0.315	8.0	50
53621370	PG 21	NPT 3/4"	3	0.275	7.0	50
53621380	PG 21	NPT 3/4"	3	0.315	8.0	50
53621460	PG 21	NPT 3/4"	4	0.236	6.0	50
53621550	PG 21	NPT 3/4"	5	0.197	5.0	50
53621640	PG 21	NPT 3/4"	6	0.157	4.0	50
53629290	PG 29	NPT 1"	2	0.354	9.0	50
53629390	PG 29	NPT 1"	3	0.354	9.0	50
53629470	PG 29	NPT 1"	4	0.275	7.0	50
53629480	PG 29	NPT 1"	4	0.315	8.0	50
53629490	PG 29	NPT 1"	4	0.354	9.0	50
53629556	PG 29	NPT 1"	5	0.220	5.6	50
53629570	PG 29	NPT 1"	5	0.275	7.0	50
53629675	PG 29	NPT 1"	6	0.295	7.5	50

\* Size of holes is equal to the size of cable OD.

## Inserts for SKINTOP® DIX NPT, PG &amp; Metric



SKINTOP® DIX-DV inserts are designed to seal unused positions in SKINTOP® DIX bushings, which need to be closed to ensure the proper class protection.

Part Number	Diameter		Length		Standard Pack Size
	(in)	(mm)	(in)	(mm)	
<b>SKINDICHT® DIX-DV Inserts</b>					
53100003	0.118	3.0	0.354	9	100
53100004	0.157	4.0	0.354	9	100
53100005	0.197	5.0	0.433	11	100
53100006	0.236	6.0	0.551	14	100
53100007	0.275	7.0	0.551	14	100
53100008	0.315	8.0	0.551	14	100
53100009	0.354	9.0	0.551	14	100

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## SKINTOP® DIX-M Bushings

Multiple Cable Sealing Bushings for Metric &amp; Metallic NPT Strain Relief Cable Glands



SKINTOP® DIX is a multiple-hole sealing bushing designed to allow several cables to be inserted through one cable gland. This results in a reduction of space and cost as a separate cable gland is not required for each cable.



## Approvals



## Technical Data

<b>Material:</b>	NBR (rubber)
<b>Temperature Range:</b>	-40°C to +100°C
<b>Color:</b>	Black (RAL 9005)
<b>IP Protection:</b>	IP54 IP68 when all holes are optimally filled*

Special shapes are available upon request, contact sales for details.

For polyamide NPT glands, use SKINTOP® DIX bushings, page 29.

Part Number	Metric SKINTOP® Size	Metal NPT SKINTOP® Size	Number of Holes	Size of Holes		Standard Pack Size
				(in)	(mm)	
<b>SKINDICHT® DIX-M Bushings</b>						
53316220	M16	NPT 3/8"	2	0.078	2.0	100
53316230	M16	NPT 3/8"	2	0.118	3.0	100
53316240	M16	NPT 3/8"	2	0.157	4.0	100
53320250	M20	NPT 1/2"	2	0.197	5.0	100
53320260	M20	NPT 1/2"	2	0.236	6.0	100
53320340	M20	NPT 1/2"	3	0.157	4.0	100
53320353	M20	NPT 1/2"	3	0.208	5.3	100
53320430	M20	NPT 1/2"	4	0.118	3.0	100
53320440	M20	NPT 1/2"	4	0.157	4.0	100
53320920	M20	NPT 1/2"	9	0.078	2.0	100
53325260	M25	NPT 3/4"	2	0.236	6.0	50
53325350	M25	NPT 3/4"	3	0.197	5.0	50
53325360	M25	NPT 3/4"	3	0.236	6.0	50
53325370	M25	NPT 3/4"	3	0.275	7.0	50
53325450	M25	NPT 3/4"	4	0.197	5.0	50
53325540	M25	NPT 3/4"	5	0.157	4.0	50
53325640	M25	NPT 3/4"	6	0.157	4.0	50
53332270	M32	NPT 1"	2	0.275	7.0	50
53332280	M32	NPT 1"	2	0.315	8.0	50
53332290	M32	NPT 1"	2	0.354	9.0	50
53332370	M32	NPT 1"	3	0.275	7.0	50
53332380	M32	NPT 1"	3	0.315	8.0	50
53332460	M32	NPT 1"	4	0.236	6.0	50
53332470	M32	NPT 1"	4	0.275	7.0	50
53332560	M32	NPT 1"	5	0.236	6.0	50
53332650	M32	NPT 1"	6	0.197	5.0	50
53332840	M32	NPT 1"	8	0.157	4.0	50
53332850	M32	NPT 1"	8	0.197	5.0	50
53332940	M32	NPT 1"	9	0.157	4.0	50
53340290	M40	NPT 1 1/4"	2	0.354	9.0	25
53340310	M40	NPT 1 1/4"	3	0.394	10.0	25
53340480	M40	NPT 1 1/4"	4	0.315	8.0	25
53340490	M40	NPT 1 1/4"	4	0.354	9.0	25
53340580	M40	NPT 1 1/4"	5	0.315	8.0	25
53340590	M40	NPT 1 1/4"	5	0.354	9.0	25
53340670	M40	NPT 1 1/4"	6	0.275	7.0	25
53340860	M40	NPT 1 1/4"	8	0.236	6.0	25
53340969	M40	NPT 1 1/4"	9	0.271	6.9	25
53350680	M50	NPT 1 1/2"	6	0.315	8.0	10
53350780	M50	NPT 1 1/2"	7	0.315	8.0	10
53350870	M50	NPT 1 1/2"	8	0.275	7.0	10
53350118	M50	NPT 1 1/2"	11	0.315	8.0	10
53350147	M50	NPT 1 1/2"	14	0.275	7.0	10
53350164	M50	NPT 1 1/2"	16	0.157	4.0	10
53350166	M50	NPT 1 1/2"	16	0.236	6.0	10

\* Size of holes is equal to the size of cable OD.

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# the complete offering

See our full line catalog for the complete offering of cable glands and accessories.

## Non-Metallic Strain Relief Cable Glands



<b>SKINTOP® ST-HF-M</b> .....	<b>511</b>
Halogen-Free Strain Relief with Metric Thread	
<b>SKINTOP® SOLAR</b> .....	<b>512</b>
Strain Relief for Photovoltaic Applications with Metric Thread	
<b>SKINTOP® BT</b> .....	<b>515</b>
Bell-Shaped Strain Relief with PG & Metric Thread	
<b>SKINTOP® K-M ATEX plus</b> .....	<b>516</b>
Strain Relief According to ATEX for Hazardous Areas with Metric Thread	

## Metallic Strain Relief Cable Glands



<b>SKINTOP® COLD</b> .....	<b>527</b>
Nickel-Plated Brass Strain Relief for Extreme Sub-Zero Temperatures with Metric Thread	
<b>SKINTOP® MS-M ATEX</b> .....	<b>525</b>
Nickel-Plated Brass Strain Relief According to ATEX for Hazardous Areas with Metric Thread	
<b>SKINTOP® BRUSH Add-on</b> .....	<b>547</b>
EMC Fitting for Polyamide Glands with Metric Thread	

## Metallic Strain Relief Cable Glands & Clamps



<b>SKINDICHT® CN</b> .....	<b>531</b>
Chromium-Nickel Steel Strain Relief with PG & Metric Thread	
<b>SKINDICHT® SVRE</b> .....	<b>532</b>
Cable Clamp with PG & Metric Thread	
<b>SKINDICHT® SH</b> .....	<b>533</b>
Cable Clamp with Single Saddle Clamp, PG Thread	
<b>SKINDICHT® SHZ</b> .....	<b>534</b>
Cable Clamp with Single Saddle Clamp, PG & Metric Thread	
<b>SKINDICHT® SK</b> .....	<b>535</b>
Strain Relief with Double Saddle Clamp, PG Thread	
<b>SKINDICHT® SKZ</b> .....	<b>536</b>
Strain Relief with Double Saddle Clamp, PG & Metric Thread	

# the complete offering

## Metallic Strain Relief Cable Glands & Clamps



<b>SKINDICHT® SHV</b> . . . . .	<b>537</b>
Strain Relief with Sealing Capability up to 300 ft (10 Bar), PG & Metric Thread	
<b>SKINDICHT® SHVE</b> . . . . .	<b>539</b>
Strain Relief with Earthing Sleeve, PG & Metric Thread	
<b>SKINDICHT® SR</b> . . . . .	<b>541</b>
Cable Clamp with Single Saddle Clamp and Special Bushing, PG & Metric Thread	
<b>SKINDICHT® RWV</b> . . . . .	<b>543</b>
90° Elbow Strain Relief with PG Thread	

## Accessories



<b>Plugs</b> . . . . .	<b>550</b>
<b>Hole Plugs</b> . . . . .	<b>551</b>
<b>SKINTOP® CLICK BLK</b> . . . . .	<b>552</b>
<b>Reducers &amp; Enlargers</b> . . . . .	<b>552</b>
<b>Adapters</b> . . . . .	<b>554</b>
<b>Sealing Rings</b> . . . . .	<b>556</b>
<b>O-rings</b> . . . . .	<b>557</b>

## Tools



<b>SKINMATIC® RZ Wrench</b> . . . . .	<b>559</b>
<b>SKINMATIC® MS-Set</b> . . . . .	<b>559</b>
Mounting Tools for SKINTOP® Brass Series	
<b>PTS4 Wire Stripper</b> . . . . .	<b>559</b>
<b>BULLI Cable Shears</b> . . . . .	<b>559</b>
<b>KS 15 Cable Shears</b> . . . . .	<b>560</b>
<b>Adjustable Torque Screwdriver</b> . . . . .	<b>560</b>
<b>Cutting &amp; Drilling Tools</b> . . . . .	<b>560</b>

## Modes of Protection per DIN VDE 0470-1 (IEC EN 60529)

Ingress Protection (IP) is a measure of protection against water and particles for devices. The level of protection offered by a device is laid down in the manufacturer's specification according to DIN 40050.

The first digit of the code states the level of protection against particle ingress. The second digit states the level of protection against penetration of water.

### Degree of protection against solid foreign objects

#### First digit of code

Digit	Protection
0	No particular protection
1*	Large solid foreign bodies with diameters $\geq 50$ mm, and accidental contact with large surfaces of the body, e.g.: the back of the hand.
2*	Medium-sized solid foreign bodies with diameters $\geq 12$ mm, e.g.: fingers.
3*°	Small solid foreign bodies with diameters $\geq 2.5$ mm, e.g.: some tools, wires.
4*°	Granular foreign bodies with diameters $\geq 1$ mm, e.g.: tools, small wires.
5*	Harmful accumulations of dust (dust protection). Penetration of dust is not entirely preventative, but must not penetrate in such quantities that operation is affected. Complete contact protection.
6	Penetration of dust (dust-proof). Complete contact protection.

\* Protection levels 1 - 4: Consistently or inconsistently formed foreign bodies with three perpendicular dimensions (i.e.: cubic) larger than the specified diameter are also prevented from entering.

° Protection levels 3 & 4: This table is appropriate for devices with drain holes or cooling air apertures. It complies with the respective expert committee.

\* Protection level 5: This table is appropriate for devices with drain holes. It complies with the respective expert committee.

**Example:** **IP65** provides protection against:

1. Penetration of dust (6)
2. Jets of water from any direction (5)

### Degree of protection against water

#### Second digit of code

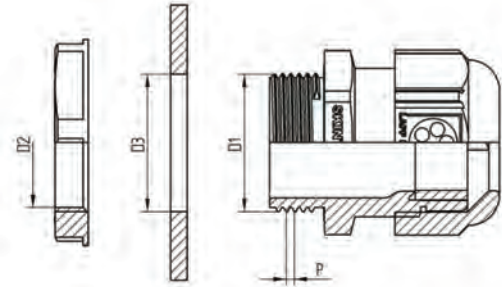
Digit	Protection
0	No particular protection
1	Water falling vertically (water drip).
2	Water sprays up to $15^\circ$ from vertical (oblique water drip).
3	Water sprays up to $60^\circ$ from vertical (water spray).
4	Water splashing onto the unit from any direction (water splash). Limited ingress is permitted, but must not affect operation.
5	Jets of water from any direction (water spray). Limited ingress is permitted, but must not affect operation.
6	Strong jets of water from any direction (flooding). Limited ingress is permitted, but must not affect operation, e.g.: ship decks
7	Immersion between 15 cm and 1 m (dipping).
8†	Permanent immersion under conditions defined by the manufacturer (immersion).
9 K	Ingress of water, even high-pressure or steam cleaning, from any direction.

† Protection level 8: This level of protection normally relates to air-tight field-operating devices. For certain devices, however, water may penetrate as long as proper operation is not affected.

**IP68, 5 bar** provides protection against:

1. Penetration of dust (6)
2. Water protection up to 5 bar, i.e.: 70 psi

# threading dimensions



## NPT Thread Technical Data for Assembly ASA B2.1-1945

Thread Size	D1 Core Diameter		P Pitch		D3 Nominal Thread Bore Diameter	
	(in)	(mm)	(in)	(mm)	(in)	(mm)
NPT 1/4"	0.539	13.7	0.055	1.41	0.551 ± 0.008	14.0 ± 0.2
NPT 3/8"	0.673	17.1	0.055	1.41	0.685 ± 0.008	17.4 ± 0.2
NPT 1/2"	0.839	21.3	0.071	1.81	0.851 ± 0.008	21.6 ± 0.2
NPT 3/4"	1.051	26.7	0.071	1.81	1.063 ± 0.008	27.0 ± 0.2
NPT 1"	1.315	33.4	0.087	2.21	1.327 ± 0.008	33.7 ± 0.2
NPT 1 1/4"	1.662	42.2	0.087	2.21	1.674 ± 0.008	42.5 ± 0.2
NPT 1 1/2"	1.903	48.3	0.087	2.21	1.918 ± 0.008	48.7 ± 0.2
NPT 2"	2.375	60.3	0.087	2.21	2.391 ± 0.008	60.7 ± 0.2

## PG Thread Technical Data for Assembly DIN 40430

Thread Size	D1 Core Diameter		P Pitch		D2 Outside Diameter		D3 Nominal Thread Bore Diameter	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
PG 7	0.492	12.5	0.050	1.27	0.445	11.3	0.512 ± 0.008	13.0 ± 0.2
PG 9	0.598	15.2	0.055	1.41	0.547	13.9	0.618 ± 0.008	15.7 ± 0.2
PG 11	0.732	18.6	0.055	1.41	0.681	17.3	0.748 ± 0.008	19.0 ± 0.2
PG 13	0.803	20.4	0.055	1.41	0.752	19.1	0.827 ± 0.008	21.0 ± 0.2
PG 16	0.886	22.5	0.055	1.41	0.835	21.2	0.906 ± 0.008	23.0 ± 0.2
PG 21	1.115	28.3	0.061	1.56	1.055	26.8	1.134 ± 0.008	28.8 ± 0.2
PG 29	1.457	37.0	0.061	1.56	1.398	35.5	1.477 ± 0.012	37.5 ± 0.3
PG 36	1.851	47.0	0.061	1.56	1.792	45.5	1.871 ± 0.012	47.5 ± 0.3
PG 42	2.127	54.0	0.061	1.56	2.068	52.5	2.147 ± 0.012	54.5 ± 0.3
PG 48	2.336	59.3	0.061	1.56	2.277	57.8	2.356 ± 0.012	59.8 ± 0.3

## Metric Thread Technical Data for Assembly, EN 60423 (for cable glands EN 50 262)

Thread Size	D1 Core Diameter		P Pitch		D2 Outside Diameter		D3 Nominal Thread Bore Diameter	
	(in)	(mm)	(in)	(mm)	(in)	(mm)	(in)	(mm)
M12 x 1.5	0.472	12.0	0.059	1.50	0.417	10.6	0.484 ± 0.008	12.3 ± 0.2
M16 x 1.5	0.630	16.0	0.059	1.50	0.575	14.6	0.642 ± 0.008	16.3 ± 0.2
M20 x 1.5	0.788	20.0	0.059	1.50	0.732	18.6	0.799 ± 0.008	20.3 ± 0.2
M25 x 1.5	0.985	25.0	0.059	1.50	0.929	23.6	0.996 ± 0.008	25.3 ± 0.2
M32 x 1.5	1.260	32.0	0.059	1.50	1.205	30.6	1.272 ± 0.008	32.3 ± 0.2
M40 x 1.5	1.576	40.0	0.059	1.50	1.520	38.6	1.591 ± 0.012	40.4 ± 0.3
M50 x 1.5	1.970	50.0	0.059	1.50	1.914	48.6	1.985 ± 0.012	50.4 ± 0.3
M63 x 1.5	2.482	63.0	0.059	1.50	2.427	61.6	2.497 ± 0.012	63.4 ± 0.3
M75 x 1.5	2.955	75.0	0.059	1.50	2.899	73.6	2.969 ± 0.012	75.4 ± 0.3
M90 x 2.0	3.546	90.0	0.078	2.00	3.498	88.8	3.559 ± 0.012	90.4 ± 0.3
M110 x 2.0	4.334	110.0	0.078	2.00	4.286	108.8	4.347 ± 0.012	110.4 ± 0.3

# tightening values

## Tightening Torque for Metric Cable Glands

Metric SKINTOP® recommended tightening torque for attainment of protection category IP68, 5 bar and strain relief category A acc. to EN 50262.

Given values are tightening torques for the intermediary, as well as maximum tightening torques for the cap nuts. To prevent damage to the outer sheath, please note that different cable materials require various torques.

**Not applicable to SKINTOP® ATEX glands.**

Metric Thread Size	Tightening Torque (Nm)	
	Polymer	Metal
M12 x 1.5	1.5	8.0
M16 x 1.5	3.0	10.0
M20 x 1.5	6.0	12.0
M25 x 1.5	8.0	12.0
M32 x 1.5	10.0	18.0
M40 x 1.5	13.0	18.0
M50 x 1.5	15.0	20.0
M63 x 1.5	16.0	20.0
M63 x 1.5 Plus	—	25.0
M75 x 1.5	—	30.0
M90 x 2	—	45.0
M110 x 2	—	55.0

## Tightening Torque for NPT & PG Cable Glands

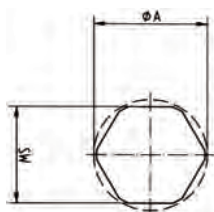
NPT & PG SKINTOP® recommended tightening torque for protection in acc. with DIN/VDE 0619, Point 7.

Given values are tightening torques for the intermediary, as well as maximum tightening torques for the cap nuts. To prevent damage to the outer sheath, please note that different cable materials require various torques.

NPT Thread Size	PG Thread Size	Tightening Torque for Intermediary (Nm)		Tightening Torque for Cap Nut (Nm)	
		Polymer	Metal	Polymer	Metal
—	PG 7	2.50	6.25	1.7	4.2
NPT 3/8"	PG 9	3.75	6.25	2.5	4.2
—	PG 11	3.75	6.25	2.5	4.2
NPT 1/2"	PG 13	3.75	6.25	2.5	4.2
—	PG 16	5.00	7.50	3.3	5.0
NPT 3/4"	PG 21	7.50	10.00	5.0	6.7
NPT 1"	PG 29	7.50	10.00	5.0	6.7
—	PG 36	7.50	10.00	5.0	6.7
—	PG 42	7.50	10.00	5.0	6.7
—	PG 48	7.50	10.00	5.0	6.7

## Fitting Dimensions & Widths Across Flats

The diameter SW indicates the wrenching flats. The diameter A indicates the assembly space required for the relevant hexagon. This diameter corresponds to the width across the corner of the hexagon, plus an assembly tolerance.



SW Wrenching Flats (in) (mm)		A Assembly Space (in) (mm)		SW Wrenching Flats (in) (mm)		A Assembly Space (in) (mm)		SW Wrenching Flats (in) (mm)		A Assembly Space (in) (mm)	
0.354	9.0	0.409	10.4	1.063	27.0	1.205	30.6	1.812	46.0	2.068	52.5
0.433	11.0	0.492	12.5	1.103	28.0	1.252	31.8	1.851	47.0	2.068	52.5
0.512	13.0	0.587	14.9	1.142	29.0	1.280	32.5	1.970	50.0	2.297	58.3
0.551	14.0	0.630	16.0	1.182	30.0	1.339	34.0	2.088	53.0	2.364	60.0
0.590	15.0	0.673	17.1	1.260	32.0	1.426	36.2	2.127	54.0	2.403	61.0
0.630	16.0	0.717	18.2	1.300	33.0	1.465	37.2	2.167	55.0	2.442	62.0
0.669	17.0	0.764	19.4	1.418	36.0	1.595	40.5	2.245	57.0	2.537	64.4
0.709	18.0	0.803	20.4	1.457	37.0	1.635	41.5	2.364	60.0	2.659	67.5
0.748	19.0	0.866	22.0	1.536	39.0	1.733	44.0	2.521	64.0	2.846	72.3
0.787	20.0	0.894	22.7	1.576	40.0	1.780	45.2	2.561	65.0	2.880	73.1
0.945	24.0	1.075	27.3	1.615	41.0	1.816	46.1	2.600	66.0	2.935	74.5
0.984	25.0	1.118	28.4	1.654	42.0	1.851	47.0	2.639	67.0	2.935	74.5
1.024	26.0	1.162	29.5	1.773	45.0	2.017	51.2				

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