Torque Limiters

Overload Protection For:

- Packaging Machinery
- Food Processing
- Bottling
- Material Handling
- Newspaper presses
Protecting Your Equipment With Nexen’s Torque Limiter System

Nexen’s pneumatically-engaged, single-position torque limiters are the highest quality and most efficient overload protection devices for industrial machinery on the market today. They protect your equipment by immediately disengaging the machine shaft when excessive torque or a machine jam occurs. Each unit now comes with a Turck® Proximity Sensor to detect torque overloads. When the sensor detects an overload, it instantly sends a signal to the control valve, exhausting the air and disengaging the Torque Limiter. Releasing the Torque Limiter effectively protects downstream equipment from damage and decreases downtime.

THE ADVANTAGE OF AIR
Pneumatic actuation allows remote torque adjustment while the machine is running. This means torque settings can be reduced after the initial machine startup, eliminating nuisance trips.

Turck Proximity Sensor
An LED lights to indicate torque limiter engagement.

Flexible Coupling Mounting
Single or double flexible couplings provide high shaft misalignment protection, zero backlash, and excellent torsional rigidity.

Machine Shaft
Gear Reducer
Torque Limiter

Totally Enclosed Models
Nexen offers totally enclosed models with all the same features as the standard unit. The TL-A-E models are nickel plated and sealed to keep contaminants out of critical areas. These torque limiters can be used in wash-down environments and other areas where liquids may be present.

Turck® is a registered trademark of Turck, Incorporated.
**Drive Ring / Drive Flange Assembly**

The torque limiter’s hard-chrome detent interface decreases drive-ring deterioration when the balls are pressed against the face during the jog-to-position engagement function. The ball and detent interface prevent facing wear and increase product life. This design also ensures complete disengagement every time, without premature re-engagement, to lengthen product performance with a long life.

![Drive Ring / Drive Flange Assembly](image)

The asymmetric ball/detent design ensures synchronized engagement after an overload occurs.

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**Turck Proximity Sensors**

The mounting configuration of the Turck Sensor allows full gear reducer shaft insertion into the bore for inline shaft coupling installations. This ensures proper torque transmission and easy mounting. The 24VDC proximity switch is easy to setup and works well with PLC controls.

**Sealed Air Chamber**

The air chamber is sealed with o-rings and backup rings to prevent air leakages and limit repair costs. The backup rings effectively prevent o-ring dislocation, decreasing wear and extending the life of the o-ring.

![Sealed Air Chamber](image)

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**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Torque Range at 5.5 bar [80 psi]</th>
<th>Maximum Speed</th>
<th>Bore Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL-A</td>
<td>Set screw mounted, open design, 16 models available in either high or low torque versions</td>
<td>21–3130 Nm [185 – 27,700 in-lb]</td>
<td>2000 rpm</td>
<td>15.88–74.63 mm [0.625–2.938 in]</td>
</tr>
<tr>
<td>TL-A-E</td>
<td>Set screw mounted, totally enclosed, 10 models available in either high or low torque versions</td>
<td>90–1222 Nm [800–10,820 in-lb]</td>
<td>1650 rpm</td>
<td>22.23–49.23 [0.875–1.938 in]</td>
</tr>
<tr>
<td>TL-AC</td>
<td>Set collar mounted, open design, 14 models available with either high or low torque versions</td>
<td>45–3130 Nm [400–27,700 in-lb]</td>
<td>2000 rpm</td>
<td>22.23–61.53 [0.875–2.438 in]</td>
</tr>
<tr>
<td>TL-AE Metric</td>
<td>Set screw mounted, totally enclosed, 10 models available in either high or low torque versions</td>
<td>100–1350 Nm</td>
<td>2000 rpm</td>
<td>20–45 mm</td>
</tr>
<tr>
<td>TL-A Metric</td>
<td>Set screw mounted, open design, 16 models available in either high or low torque versions</td>
<td>21–1350 Nm</td>
<td>2000 rpm</td>
<td>15–31.8 mm</td>
</tr>
</tbody>
</table>

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1For complete product specifications on all Torque Limiter models, refer to the Nexen product catalog or [www.nexengroup.com](http://www.nexengroup.com).  
Courtesy of Steven Engineering, Inc. - (800) 258-9200 - sales@steveneng.com - [www.stevenengineering.com](http://www.stevenengineering.com)
Torque Limiter Air Connections
(Single air pressure system shown)

Accessories

› Nexen offers single-flex or double-flex couplings to match the drive flange pilot surface and bolt circles. Use these couplings to connect companion shafts in-line and provide ultimate misalignment protection for the Torque Limiter drive flange bearings.

› Single air pressure system provides basic pressure control. Product #801578

› Dual air pressure system provides basic air pressure control along with a separate line for higher, timed-out, start-up torque air pressure. Product #801579

› Smart Valve controller is a microprocessor for multiple air pressure settings to one or more torque limiters. Smart Valve controller Product #964508 Power Supply, Product #964509

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For additional information and product specifications, please contact your local Nexen sales representative. Consult the web site listed above for an office near you.