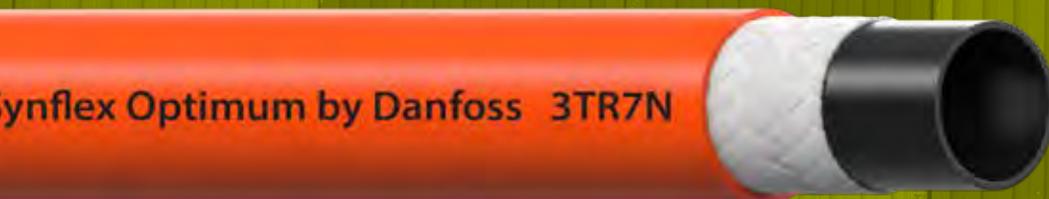


Fuel, AC, Thermoplastic & Specialty

Thermoplastic hydraulic hose & fittings





FACTS
Thermoplastic hydraulic



Synflex Optimum by Danfoss

Synflex™ Optimum by Danfoss thermoplastic hydraulic hose and fittings empower design to be reimagined. Our system engineered portfolio offers streamlined product configurations that make it easy to find the perfect combination for every application.

As quality-driven measurements such as improved uptime, enhanced production and simplified maintenance all become critical benchmarks in a modern approach to fleet management, the added value Danfoss includes with its thermoplastic hydraulic hoses and fittings become the foundation for delivering exceptional platforms.



► Benefits:

Hose

- Light weight: 2X lighter than equivalent wire braided rubber hoses
- High abrasion resistance: exceed the stringent abrasion requirements specified for today's manufacturers
- Chemical resistance: Thermoplastic composition prevents absorption of most oils and fluids
- Temperature resistance: Improved hose functionality over a wide temperature range
- Thermoforming capabilities

Fittings

- Improved with Dura-Kote Plating
- Shorter profiles for easier installation and routing
- Use of captive nut for improved torque performance

Assemblies

- Conversion to more efficient crimp designs from swage
- Improved insertion force for assembly
- Formed fitting configurations are one piece vs brazed
- Easier to fit in tight spaces with hose flexibility and fitting design





► Typical applications:

- Aerial lifts
- Chemical transfer
- Forestry delimeter
- Marine steering
- Fork lifts
- Utility avehicles
- General hydraulics
- Horticulture

Synflex Optimum cross reference

Previous Number	NEW	Standard/ Certifications	Sizes
3130	3TR7	Meets SAE 100R7	-02, -03, -04, -05, -06, -08, -10, -12, -16
37AL	3TR7N	Exceeds SAE 100R7, non-conductive	-03, -04, -05, -06, -08, -10, -12, -16
3160	3TR7	Meets SAE 100R7	-02, -03, -04, -05, -06, -08, -10, -12, -16
3740	3TR7N	Exceeds SAE 100R7, non-conductive	-03, -04, -05, -06, -08, -10, -12, -16
3R80	3TR8	Exceeds SAE 100R8	-04, -06, -08, -12, -16
3E80	3TR8N	Exceeds SAE 100R8, non-conductive	-04, -06, -08, -12, -16
30CT	3TR18CT	Exceeds SAE 100R18	-04, -05, -06, -08, -10
Fittings	NEW		
903	4TA		
90H	4TA		
U Series	4TA		



100R7

100R8

100R18

3TR7 / 3TR7N Non-conductive

3TR8 / 3TR8N Non-conductive

3TR18CT



UV / Ozone protection

The thermoplastic polyurethane and polyester outer-cover resists ozone, ultraviolet light and aging.



Powerful performance

Lift and handle heavy loads with hose power ranges extending from 70 bar to 350 bar.



Easier routing and installation

Synflex Optimum R7 and R8 hose covers were formulated to require 50% less routing force reducing the chance of kinking.



Longer lasting

Abrasion resistance improvement of 10% that exceeds the requirements set by forklift and telehandler manufacturers.



Temperature resistance

Improved hose functionality over a wide temperature range – from 40°C (-40°F) to +100°C (212°F).



Chemical resistance

Thermoplastic composition paired with nylon lining prevents absorption of most oils and hydraulic fluids.



Custom thermoforming

Ability to mold into configurations that match system design.



Flexible design

Lightweight hose design drives performance efficiencies, reducing vehicle power requirements.

Fittings



■ R7 ■ R8 ■ R18

4TA series

Optimized one-piece fitting crimps directly to Synflex R7, R8 and R18 hoses for the most robust economic connection.



■ R7 ■ R8

1A (TTC) (with sleeve)

Leverage Danfoss' bestselling or existing high volume fitting on R7 and R8 hoses by adding a sleeve.



■ R7

901/902 series

Field attachable reusable fitting that can be assembled with hand tools made specifically for R7 hose.



Fittings being rationalized from the portfolio include 903, 90H, 90N and U series.

Thermoplastic hydraulic

3TR7 hose



Standards/Certifications:
Meets SAE 100R7

Sizes and pressure: (bar/psi)
-02 (210/3050), -03 (210/3050), -04 (210/3050), -05 (175/2550), -06 (157/2300),
-08 (140/2050), -10 (105/1525), -12 (87/1250), -16 (69/1000)

Operating temperature:
For oil: -40°C to +100°C (-40°F to +212°F)
For water: -40°C to +66°C (-40°F to +150°F)

Available fittings:
4TA series, 1A (TTC) w/sleeve (FF91064), 901/902 series

Inner tube:
Nylon

Reinforcement:
1-Textile braid

Cover:
Perforated non-stick polyurethane

Typical application:

- General hydraulics
- Material handling
- Chemical transfer
- Marine steering
- Aerial equipment
- Lubrication systems

Selling features:

- Formulated to be at least 50% less sticky than legacy hose covers
- Fittings push onto Optimum hose much easier than legacy
- Smallest outer diameter allows compatibility with reusable fittings for flexibility of routing in tight spaces allowing the option of field repair in remote locations.
- 100R7, 100R8, & 100R18 utilize the same crimp hose fitting
- Flexibility through temperature range
- Permanent crimp & reusable fittings compatibility

Sells against:
Parker 540N
Gates TH7

Thermoplastic hydraulic

3TR7N hose



Standards/Certifications:
Exceeds SAE 100R7, Non-conductive

Sizes and pressure: (bar/psi)
-03 (210/3050), -04 (210/3050), -05 (175/2550), -06 (157/2300),
-08 (140/2050), -10 (105/1525), -12 (87/1250), -16 (69/1000)

Operating temperature:
For oil: -40°C to +100°C (-40°F to +212°F)
For water: -40°C to +66°C (-40°F to +150°F)

Available fittings:
4TA series, 1A (TTC) w/sleeve (FF91064), 901/902 series

Inner tube:
Nylon

Reinforcement:
1-Textile braid

Cover:
Non-perforated non-stick polyurethane

Typical application:

- General hydraulics
- Material handling
- Chemical transfer
- Marine steering
- Aerial equipment
- Lubrication systems

Selling features:

- Formulated to be at least 50% less sticky than legacy hose covers
- Fittings push onto Optimum hose much easier than legacy
- Smallest outer diameter allows compatibility with reusable fittings for flexibility of routing in tight spaces allowing the option of field repair in remote locations.
- 100R7, 100R8, & 100R18 utilize the same crimp hose fitting
- Flexible temperature range
- Permanent crimp & reusable fittings compatibility
- Extremely low currently leakage when subjected to high voltage (100R7N)

Sells against:
Parker 518D
Gates TH7NC

Synflex Optimum

Thermoplastic hydraulic

Thermoplastic hydraulic

3TR8 hose



Standards/Certifications:

Exceeds SAE 100R8

Sizes and pressure: (bar/psi)

-04 (350/5100), -06 (280/4050), -08 (245/3550), -12 (157/2300), -16 (140/2050)

Operating temperature:

For oil: -40°C to +100°C (-40°F to +212°F)

For water: -40°C to +66°C (-40°F to +150°F)

Available fittings:

4TA series, 1A (TTC) w/sleeve (FF91064)

Inner tube:

Nylon

Reinforcement:

2-Textile braid

Cover:

Perforated non-stick polyurethane

Typical application:

- General hydraulics
- Mobile equipment
- Chemical transfer
- Aerial equipment

Selling features:

- Formulated to be at least 50% less sticky than legacy hose covers
- Fittings push onto Optimum hose much easier than legacy
- 100R7, 100R8, & 100R18 utilize the same crimp hose fitting
- The same fitting style qualified on all hoses
- Long continuous lengths
- Flexibility through temperature range
- Extreme abrasion resistance

Sells against:

Parker 580N
Gates TH8

Thermoplastic hydraulic

3TR8N hose



Standards/Certifications:

Exceeds SAE 100R8, Non-conductive

Sizes and pressure: (bar/psi)

-04 (350/5100), -06 (280/4050), -08 (245/3550), -12 (157/2300), -16 (140/2050)

Operating temperature:

For oil: -40°C to +100°C (-40°F to +212°F)

For water: -40°C to +66°C (-40°F to +150°F)

Available fittings:

4TA series, 1A (TTC) w/sleeve (FF91064)

Inner tube:

Nylon

Reinforcement:

2-Textile braid

Cover:

Non-perforated non-stick polyurethane

Typical application:

- General hydraulics
- Mobile equipment
- Chemical transfer
- Aerial equipment

Selling features:

- Formulated to be at least 50% less sticky than legacy hose covers
- Fittings push onto Optimum hose much easier than legacy
- 100R7, 100R8, & 100R18 utilize the same crimp hose fitting
- The same fitting style qualified on all hoses
- Long continuous lengths
- Flexibility through temperature range
- Extreme abrasion resistance
- Extremely low currently leakage when subjected to high voltage (100R7N)

Sells against:

Parker 588N
Gates TH8NC

Thermoplastic hydraulic

3TR18CT hose



Standards/Certifications:
Exceeds SAE 100R18

Sizes and pressure: (bar/psi)
-04 (210/3050), -05 (210/3050), -06 (210/3050), -08 (210/3050), -10 (210/3050)

Operating temperature:
For oil: -54°C to +94°C (-65°F to +200°F)
For water: -54°C to +66°C (-65°F to +150°F)

Available fittings:
4TA series

Inner tube:
Polyester

Reinforcement:
Synthetic fiber braid

Cover:
Perforated non-stick polyurethane

Typical application:

- General hydraulics
- Material handling
- Chemical transfer
- Construction
- Cold applications

Selling features:

- Fittings push onto Optimum hose much easier than legacy which eases the assembly process
- Flexibility in cold temperatures

Sells against:

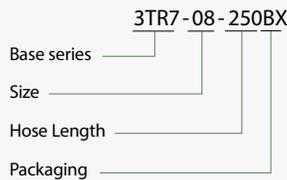
- Parker 53LT
- Parker 538LT
- Gates TH18
- Gates TH18NC

How to order:

100R7

3TR7 / 3TR7N Non-conductive

How to order/
part # structure



- BC: continuous length in box
- BX: 2 lengths per box, no length less than 20 ft.
- RL: random length reel, 2 lengths per reel, no length less than 20 ft.
- R: continuous length on reel

100R8

3TR8 / 3TR8N Non-conductive

How to order/
part # structure

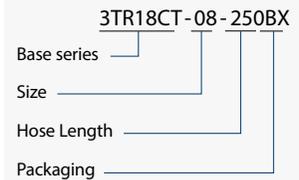


- BC: continuous length in box
- BX: 2 lengths per box, no length less than 20 ft.
- RL: random length reel, 2 lengths per reel, no length less than 20 ft.
- R: continuous length on reel

100R18

3TR18CT

How to order/
part # structure



- BC: continuous length in box
- BX: 2 lengths per box, no length less than 20 ft.
- RL: random length reel, 2 lengths per reel, no length less than 20 ft.
- R: continuous length on reel

Designed for tough jobs.

As the pioneers of thermoforming technology, Synflex Optimum by Danfoss has taken the lead in overcoming hose routing and installation obstacles. Our application engineers work with customers developing designs and configurations that solve problems and improve manufacturing throughput.

Advantages

Flexibility

Our application engineers work with customer CAD models and develop routing best practices into customer's systems.

Speed

Quick turnaround of design proposals and quotations.

Hands-on support

Our field engineers can be on site for prototype installation and initial production runs.

Cutting edge technology

State of the art 3D printing for molds and fixtures providing quick design and prototype turnaround time.

Benefits

Smooth installations and quality control

Product manufacturing and design done in house, by Danfoss, combined with custom labeled and marked assemblies makes for easy installation.

Reduced cost and complexity

Elimination of fittings, connections and other attachments reduces leak points and provides an overall cost savings.

Variety of capabilities

Thermoforming can be done with almost all of Danfoss' thermoplastic hose and tube products creating endless combinations and opportunities.

Best routing practices

Ideal for tight fitting spaces and routing away from heat sources and abrasion points.

