User Guide

NSF 61 certified hose pumps

Bredel hose pump models

Bredel 10 to 50

APEX10 to 35

are certified to

NSF/ANSI Standard 61

Drinking Water System Components – Health Effects

28-29214322 TS17-024

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NSF/ANSI 61 Certification

The Watson-Marlow Bredel B.V. hose pump models Bredel 10 to 50 and APEX10 to 35 are now certified to NSF/ANSI Standard 61: Drinking Water System Components – Health Effects. The certification is done by NSF International, a leading global independent public health and safety organisation. To receive certification, Watson-Marlow Bredel B.V. submitted product samples to NSF that underwent rigorous testing to recognised standards, and agreed to unannounced manufacturing facility audits and periodic retesting to verify continued conformance to the standards. Find us in the NSF water listings by visiting http://www.nsf.org/certified-products-systems.

About NSF International

NSF International is a global independent organisation that writes standards and protocols, and tests and certifies products for the food, water and consumer goods industries to minimise adverse health effects and protect the environment. NSF operates in over 165 countries. Founded in 1944, NSF is a Pan American Health Organisation/World Health Organisation Collaborating Centre on Food Safety, Water Quality and Indoor Environment.

Which pumps are certified and in which configurations?

In the peristaltic pump there are three wetted parts, the pump element (hose) and two inserts. The NSF 61 certification on the pumps is based on those wetted parts:

Pump model	Pump Elements (Hoses)	Insert materials
Bredel 10	EPDM (part code 28-010075), NR (part code 28-1000053)	AISI 316, Polypropylene (PP), PVDF
Bredel 15	EPDM (part code 28-015075), NR (part code 28-1000055)	AISI 316, Polypropylene (PP), PVDF
Bredel 20	EPDM (part code 28-020075), NR (part code 28-1000057)	AISI 316, Polypropylene (PP), PVDF
Bredel 25	EPDM (part code 28-025075), NR (part code 28-1000059)	AISI 316, Polypropylene (PP), PVDF
Bredel 32	EPDM (part code 28-032075), NR (part code 28-1000061)	AISI 316, Polypropylene (PP), PVDF
Bredel 40	EPDM (part code 28-040075), NR (part code 28-1000063)	AISI 316, Polypropylene (PP), PVDF
Bredel 50	EPDM (part code 28-050075), NR (part code 28-1000065)	AISI 316, Polypropylene (PP), PVDF
APEX10	EPDM (part code 28-300001075)	AISI 316, Polypropylene (PP), PVDF
APEX15	EPDM (part code 28-300002075)	AISI 316, Polypropylene (PP), PVDF
APEX20	EPDM (part code 28-300003075)	AISI 316, Polypropylene (PP), PVDF
APEX28	EPDM (part code 28-1000039), NR (part code 28-1000038)	AISI 316, Polypropylene (PP), PVDF
APEX35	EPDM (part code 28-1000042), NR (part code 28-1000041)	AISI 316, Polypropylene (PP), PVDF

The NSF 61 certification is only valid for the pump models listed in the table above with the mentioned hose types and insert materials. Newly supplied pumps that are configured according to the NSF 61 registration will bear the NSF-mark.

It should be noted that after maintenance the certification remains only valid when original Watson-Marlow Bredel (spare/replacement) parts are used.

See for the listing: http://www.nsf.org/certified-products-systems
and search for " Bredel ". Or use the QR code to the right.

List of chemicals

The NSF 61 certification is listed for the following water treatment chemicals when dosed at TUL (typical use level) in NSF/ANSI Standard 60 (All at ambient temperature (23 °C)).

Chemical	Listed hose type
Acetic Acid (80%) - 80%	EPDM
Aluminum Chloride - 50%	EPDM
Aluminum chlorohydrate (40%) - 40%	EPDM*), natural rubber
Aluminum Chlorohydrate/Polyaluminum Chloride - 40%	EPDM*), natural rubber
Aluminum Sodium Sulfate (15%) - 15%	EPDM
Aluminum Sulfate (50%) - 50%	EPDM
Ammonia, aqueous (35%) - 35%	EPDM*), natural rubber
Ammonium Hydroxide (29%) - 29%	EPDM*), natural rubber
Ammonium Sulfate (45%) - 45%	EPDM
Calcium carbonate (65%) - 65%	EPDM*), natural rubber
Calcium Chloride (15%) - 15%	EPDM*), natural rubber
Calcium Hydroxide - 50%	EPDM*), natural rubber
Calcium Hypochlorite (15%) - 15%	EPDM*), natural rubber
Calcium Thiosulfate - 30%	EPDM
Chlorine dioxide - 2%	EPDM*), natural rubber
Citric Acid (100%) - 100%	EPDM
Copper Sulfate (5%) - 5%	EPDM*), natural rubber
Copper Sulfate (25%) - 25%	EPDM*), natural rubber
Deionized Water (100%) - 100%	EPDM
Dipotassium Orthophosphate - 50%	EPDM*), natural rubber
Disodium Orthophosphate - 50%	EPDM*), natural rubber
Ferric Chloride (50%) - 50%	EPDM
Ferric Sulfate (60%) - 60%	EPDM*), natural rubber
Ferrous Chloride (40%) - 40%	EPDM
Ferrous Sulfate (30%) - 30%	EPDM*), natural rubber
Fluorosilicic acid - 25%	EPDM
Hydrochloric acid (38%) - 38%	EPDM
Hydrogen Peroxide - 30%	EPDM
Magnesium Sulfate (25%) - 25%	EPDM
Peracetic Acid (10%) - 10%	EPDM
Phosphoric acid (75%) - 75%	EPDM
Poly (Diallyldimethylammonium Chloride)(pDADMAC) - 50%	EPDM*), natural rubber
Poly Aluminum Chloride (100%) - 100%	EPDM*), natural rubber
Polyacrylamide (2.5%) - 3%	EPDM*), natural rubber
Polyaluminum Chloride (45%) - 45%	EPDM*), natural rubber
Polyaluminum Chlorosulfate - 50%	EPDM
Polyaluminum Hydroxychlorosulfate - 75%	EPDM*), natural rubber
Polyaluminum Silicate Sulfate - 66%	EPDM
Polyaluminum Sulfate - 50%	EPDM
Polyphosphoric Acid - 100%	EPDM
Potassium Carbonate - 47%	EPDM*), natural rubber
Potassium Chloride - 34%	EPDM*), natural rubber
Potassium hydroxide (45%) - 45%	EPDM*), natural rubber
Potassium Hydroxide (50%) - 50%	EPDM*), natural rubber
Potassium Permanganate (20%) - 20%	EPDM*), natural rubber
Potassium Tripolyphosphate - 100%	EPDM*), natural rubber
Sodium Acid Pyrophosphate - 12%	EPDM*), natural rubber
Sodium Aluminate - 50%	EPDM*), natural rubber
Sodium Ascorbate - 60%	EPDM*), natural rubber
Sodium Bicarbonate - 100%	EPDM*), natural rubber
Sodium Bisulfate (50%) - 50%	EPDM
Sodium Carbonate - 20%	EPDM*), natural rubber
Sodium Carbonate (85%) - 85%	EPDM*), natural rubber
Sodium Chlorate - 100%	EPDM*), natural rubber

Chemical	Listed hose type
Sodium Chloride (26%) - 26%	EPDM*), natural rubber
Sodium Chlorite (7.5%) - 8%	EPDM*), natural rubber
Sodium Dichloroisocyanurate - 25%	EPDM*), natural rubber
Sodium Fluoride (4.0%) - 4%	EPDM*), natural rubber
Sodium Hydroxide (50%) - 50%	EPDM*), natural rubber
Sodium Hypochlorite (15%) - 15%	EPDM*), natural rubber
Sodium Metabisulfite (50%) - 50%	EPDM*), natural rubber
Sodium Percarbonate - 15%	EPDM*), natural rubber
Sodium Permanganate (40%) - 40%	EPDM*), natural rubber
Sodium Polyphosphates - 35%	EPDM*), natural rubber
Sodium Silicate (100%) - 100%	EPDM*), natural rubber
Sodium Sulfite (20%) - 20%	EPDM*), natural rubber
Sodium Trimetaphosphate - 20%	EPDM*), natural rubber
Sodium Tripolyphosphate - 15%	EPDM*), natural rubber
Sulfur Dioxide (5%) - 5%	EPDM
Sulfuric acid (98.5%) - 99%	EPDM
Tetrapotassium Pyrophosphate - 60%	EPDM*), natural rubber
Tetrasodium Pyrophosphate - 7%	EPDM*), natural rubber
Tricalcium Phosphate (70%, slurry) - 70%	EPDM*), natural rubber
Trichloroisocyanuric Acid - 10%	EPDM
Zinc Chloride - 62%	EPDM*), natural rubber
Zinc Orthophosphate (100%) - 100%	EPDM*), natural rubber
Zinc Sulfate - 36%	EPDM*), natural rubber

The genuine Bredel inserts are available in three materials (AISI 316, PP and PVDF) which all may be used in combination with the listed chemicals.

EPDM labelled with an *) in the list with chemicals, should be flushed before first use according the instruction below.

IMPORTANT: Instruction for hose cleaning before first use.
Applicable to EPDM hoses in combination with alkaline (pH > 7) media.

At ambient temperature:

1. For at least half a minute, flush the hose with clean (tap) water
2. Fill the hose with clean (tap) water and leave it for 1 hour
3. Empty the hose and flush again with clean (tap) water for at least half a minute

Note: This list should not be treated as a chemical compatibility chart.
For this purpose, please go to http://www.watson-marlow.com/gb-en/wmftg/chemical-compatibility/

For additional information contact your local Watson-Marlow Bredel representative, or the factory in The Netherlands.

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Disclaimer
Information in this document is collected with most care. However no rights can be obtained from this document. Current status of the NSF 61 certification can always be found on the www.nsf.org website. When replacing the pump hose, it is the responsibility of the user to install the same new original Bredel pump element in order to maintain the NSF 61 certification. The same applies to the inserts.