

# Technical Hoses & Connection Systems





# Masterflex

- your partner for high-tech hose systems

## Five good reasons why you should be a Masterflex customer.

### About Masterflex

As a globally operating corporate group, Masterflex specialises in solving complex connection challenges. We can now boast over 25 years worth of experience in the development, manufacturing and processing of high-tech spiral hoses. Our in-depth material and technological expertise helps us turn the most sophisticated high performance plastics into real products, which set international standards. Our core values determine our work philosophy and

connect us directly with the whole group.

Masterflex - Connecting Values

1

### What makes us special

Customized hose solutions or products from stock? Whatever you require, we have the right products for your application. We solve connection tasks using high-tech plastics and technically sophisticated fabrics. Here lies our expertise and our passion. We offer added value for our customers with our many years of experience in the field of polymer materials, technically sophisticated fabrics and their processing. From the first on-site consultation and the status analysis through to the development and production of the suitable products - we're there to support you throughout the whole process with our innovative complete solutions.

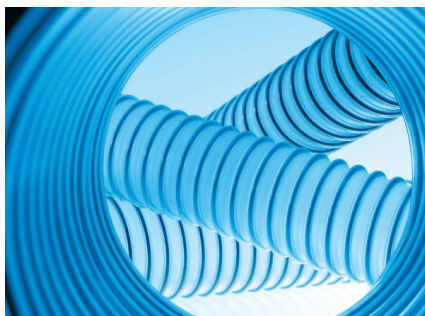
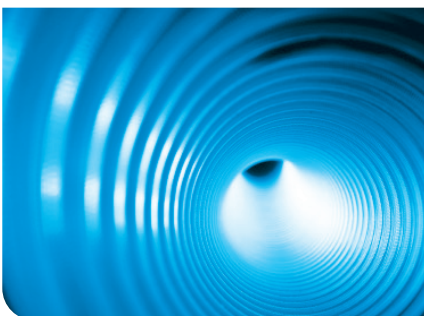
Custom-made and all from one supplier.

2

### Why you can always count on us

You can always rely on the constantly high quality of our products. Our products meet even the most stringent of national and international standards. This is a basic demand we place on ourselves. Whether heat, cold, extreme conditions or exposure to chemicals, our products prove themselves through their incredible durability and the long-lasting safety they bring. No matter how good our products are now, we are always working on newer and better ones for the future.

Your satisfaction is our greatest success.





 MATZEN & TIMM

 NOVOPLAST  
SCHLAUCHTECHNIK

 FLEIMA-PLASTIC

 MASTERDUCT

3

#### We make it possible for you

We are as flexible as the very materials we use. We tackle any challenge, because extraordinary tasks require extraordinary solutions. And that's exactly what we offer. With our in-depth specialist know-how, we develop customized product solutions for your specific application situation. You need a product quickly, require an unusual combination of materials or a delivery "just in time"? With our quick reactions and delivery times, we're the perfect partner for you:

[Because in our business, reliable connections mean much more.](#)

4

#### We're there where you need us

We develop sophisticated and customized products with greater customer benefits. For this reason, our highly experienced sales team is spread worldwide, nearer to wherever you need us. As a fundamentally strong development partner, we have our eye on the market and develop cutting-edge solutions for your specific tasks. At all of our locations throughout the world, our products are manufactured with our renowned German Engineering. This guarantees high quality, short distances, quick reaction times and the direct connection to you, the customer.

[Consultation-oriented, individual, fast and with great expertise  
- that makes the difference!](#)

5

#### Quality, which speaks for itself

Visionary ideas drive us forwards and are the source of our own product developments and innovations. Our creations are produced with renowned German Engineering expertise. Our Engineering, Sales and Production Teams work seamlessly to provide you with the best results. This guarantees international quality standards, worldwide. Whatever we do, we always take great care of the

environment. Resource-conserving processes and sustainability are our contribution to the environment.

[Products & Services from Masterflex  
- we create values ... and connect them!](#)



### Definition: Hoses

Flexible, pipe-shaped connections for transporting solid, liquid or gaseous media.

### Hose Construction Designs

#### Hoses/Ducting with Clip Profile Spiral

All Master-Clip hoses belong in this category, as well as the hose types Carflex 200 and Carflex 300.

##### Construction

Robust, tension-resistant connection of the inner hose material and the outer profile helix using the special "Clip" method.

##### Advantages

This method offers an extremely wide range of options for the universal processing and combination of almost any hose materials.

- External wear protection via outer clip-profile helix (Clip)
- Excellent flexibility
- Smallest bending radius
- Extremely compressible (depending on size)
- Installation-friendly thanks to the patented "Clip-Grip" special hose clamps
- Almost any production diameter possible from DN 38 - DN 2000

#### Profile-Extruded Hoses

This construction design includes all Master-PUR, Master-PVC L, Master-PVC H, Master-PE L-EL and Master-SANTO hoses, as well as the hose types Streetmaster, Cargoflex, Polderflex PUR, Inline and Flamex B se.

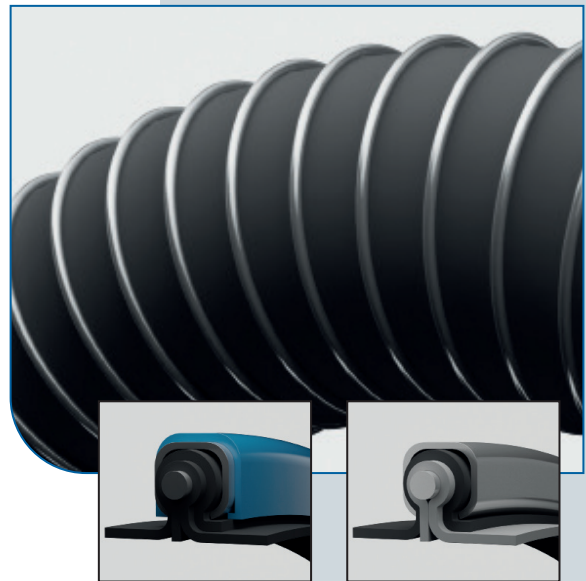
##### Construction

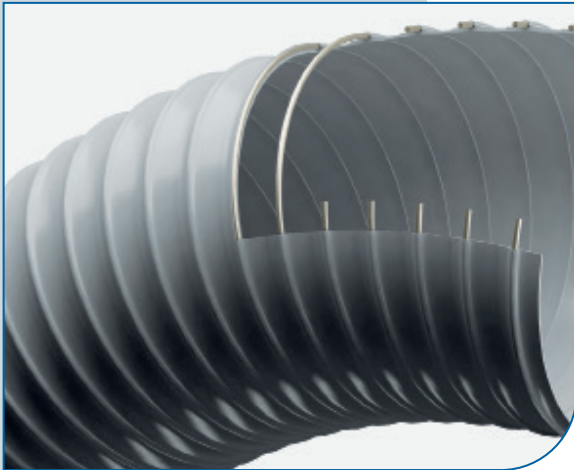
Extruded plastic profile with a moulded twist and dislocation-proof spring steel wire.

##### Advantages

Production variations available from lightweight and highly flexible through to heavy duty and extremely vacuum-proof.

- spiral-shaped with welded overlaps
- continuous, symmetrical folding due to robust connection between plastic and spring steel wire
- aerodynamically efficient due to smooth inner lining
- wide range of processing options available for almost all thermo-plastic materials
- production diameters available (dep. on hose type) from DN 13 - DN 500





**Film/Foil/Fabric Hoses with Embedded Helix**  
 This construction design is applied for the Flamex B-F se, Master-PUR L-F Food and Master-PE L-F EL hose types.

**Construction**

Strips of film, foil or fabric – spiral-shaped with welded overlaps and an embedded profile made from spring steel wire.

**Advantages**

Variable production options for spiral hoses made from a wide range of materials including strips of film, foil or fabric.

- highly flexible
- smallest bending radius
- cost-efficient stock management and reduced transport costs thanks to compressed size with net packaging
- production diameters available (dep. on hose type) from DN 32 - DN 450



**Film/Foil/Fabric Hoses with External Helix**  
 This method includes the hose types Carflex Super, Master-PUR STEP, Master-PUR STEP MHR and Master-SANTO SL.

**Construction**

Strips of film, foil or fabric – spiral-shaped with welded overlaps and an external profile made from plastic or plastic-coated spring steel wire.

**Advantages**

Variable production options for spiral hoses made from a wide range of materials including strips of film, foil or fabric.

- highly flexible
- smallest bending radius
- production diameters available (dep. on hose type) from DN 32 - DN 450

### Single/Multi-Layered Spiral Hoses made from Vulcanised Fabric Strips

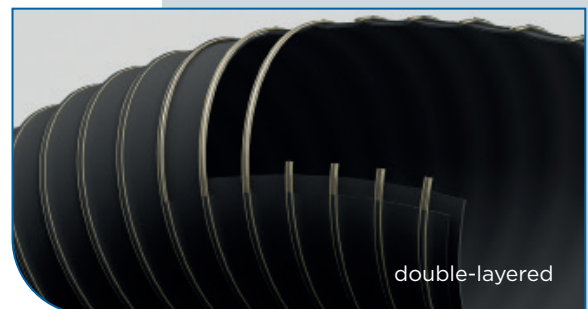
This construction design encompasses the hose types Master-NEO 1, Master-NEO 2, Master-SIL 1, Master-SIL 2, Master-SIL HD-Food and Master-SIL SD-Food.

#### Construction

Vulcanised fabric strips wound with overlaps onto an inner, free-floating or embedded helix made from spring steel wire and an additional external fibreglass fixation for the hose types NEO 1/2 and SIL 1/2.

#### Advantages

- smooth inner lining
- flexible
- small bending radius
- good pressure-resistance
- production diameters available from DN 13 - DN 305



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# 1

## Abrasion-Resistant Suction & Transport Hoses made from PU / Hardly Inflammable Hoses

Suction & transport hoses made from polyurethane, especially suitable for transporting abrasive media and applications in the wood-working industry, excellent durability





## Master PU L-F

PU Film Hose, light weight, highly flexible and compressible

### Material

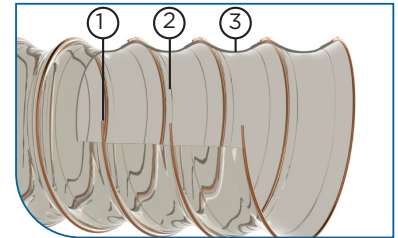
- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane
- 3 wall thickness between spirals approx. 0.4 mm

### Applications

- protective Hose against mechanical wear
- transport hose for abrasive dusts
- wood processing machines
- shavings extractions in wood processing

### Properties

- halogen and plasticizer-free
- ultra lightweight & extremely flexible
- highly abrasion-resistant
- smallest bending radius
- generally good UV and ozone resistance
- gas-tight
- high tensile strength
- anti-static by bonding the reinforcing wire acc. to TRBS 2153 (Zone 1, 21) for non-flammable dust/bulksolids and gases/liquids with low conductivity of electrostatic charges when earthed at both ends of the spiral
- very light weight
- permanently kink-resistant
- solvent, oil and petroleum resistant
- symmetrical fold behavior
- compressible approx 1:5



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
38	0.82	0.24	20	46	0.28	310L-038-x	007569-038-x	10	15
51	0.78	0.2	25	57	0.3	310L-050-x	007569-050-x	10	15
60	0.76	0.19	35	68	0.37	310L-060-x	007569-060-x	10	15
65	0.68	0.19	38	73	0.4	310L-065-x	007569-065-x	10	15
70	0.61	0.16	40	78	0.43	310L-070-x	007569-070-x	10	15
76	0.3	0.11	43	82	0.5	310L-075-x	007569-075-x	10	15
80	0.28	0.1	45	87	0.53	310L-080-x	007569-080-x	10	15
90	0.23	0.07	50	98	0.6	310L-090-x	007569-090-x	10	15
102	0.23	0.07	55	107	0.67	310L-100-x	007569-100-x	10	15
110	0.2	0.07	60	118	0.73	310L-110-x	007569-110-x	10	15
115	0.2	0.07	63	123	0.76	310L-115-x	007569-115-x	10	15
120	0.2	0.07	65	128	0.79	310L-120-x	007569-120-x	10	15
127	0.2	0.07	68	133	0.83	310L-125-x	007569-125-x	10	15
130	0.15	0.07	70	138	0.84	310L-130-x	007569-130-x	10	15
140	0.15	0.05	75	148	0.86	310L-140-x	007569-140-x	10	15
152	0.15	0.05	80	158	0.89	310L-150-x	007569-150-x	10	15
160	0.15	0.05	85	168	1.05	310L-160-x	007569-160-x	10	15
180	0.11	0.05	95	188	1.13	310L-180-x	007569-180-x	10	15
203	0.11	0.05	105	209	1.25	310L-200-x	007569-200-x	10	15
227	0.15	0.03	118	235	1.41	310L-225-x	007569-225-x	10	15
250	0.15	0.03	130	260	1.58	310L-250-x	007569-250-x	10	15
305	0.14	0.03	155	310	2.07	310L-300-x	007569-300-x	10	15
315	0.14	0.02	160	325	2.25	310L-315-x	007569-315-x	10	15
356	0.12	0.02	180	360	2.4	310L-350-x	007569-350-x	10	15
406	0.12	0.02	210	410	2.74	310L-400-x	007569-400-x	10	15

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable

## Flamex B-F se

PU Foil Hose, highly flexible and compressible, hardly inflammable acc. to DIN 4102 B1

**Material**

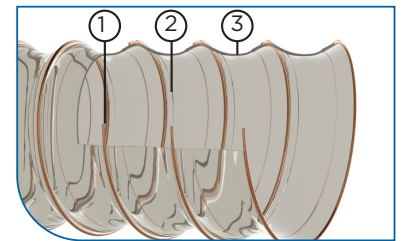
- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 0.5 mm

**Applications**

- hardly inflammable transport hose for abrasive solids
- wood processing machines
- shavings extractions in wood processing

**Properties**

- flame retardant acc. to DIN 4102 B1
- Acc. to requirements of the Holz-BG standard, BGI 739-2
- symmetrical fold behaviour
- extremely compressible to approx. 1:4
- highly flexible
- permanently kink resistant
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



**Temperature Range**

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
40	0.82	0.24	20	46	0.26	310-040-x	000382-040-x	10	25
45*	0.8	0.22	22	51	0.28	310-045-x	000382-045-x	10	25
50*	0.79	0.21	24	56	0.31	310-050-x	000382-050-x	10	25
51	0.78	0.2	25	57	0.32	310-051-x	000382-051-x	10	25
60	0.76	0.19	35	68	0.37	310-060-x	000382-060-x	10	25
63*	0.72	0.17	37	71	0.39	310-063-x	000382-063-x	10	25
65	0.68	0.16	38	73	0.4	310-065-x	000382-065-x	10	25
70	0.61	0.16	40	78	0.43	310-070-x	000382-070-x	10	25
75*	0.61	0.15	42	82	0.5	310-075-x	000382-075-x	10	25
76	0.61	0.13	43	83	0.52	310-076-x	000382-076-x	10	25
80	0.53	0.13	45	88	0.55	310-080-x	000382-080-x	10	25
90	0.46	0.09	50	99	0.61	310-090-x	000382-090-x	10	25
100*	0.46	0.09	53	106	0.67	310-100-x	000382-100-x	10	25
102	0.46	0.09	55	108	0.69	310-102-x	000382-102-x	10	25
110	0.38	0.09	60	119	0.75	310-110-x	000382-110-x	10	25
115	0.38	0.09	63	124	0.78	310-115-x	000382-115-x	10	25
120	0.38	0.09	65	129	0.81	310-120-x	000382-120-x	10	25
125*	0.38	0.09	67	135	0.83	310-125-x	000382-125-x	10	25
127	0.38	0.09	68	136	0.85	310-127-x	000382-127-x	10	25
130	0.3	0.09	70	139	0.88	310-130-x	000382-130-x	10	25
140	0.3	0.06	75	149	0.95	310-140-x	000382-140-x	10	25
150*	0.3	0.06	78	157	1.01	310-150-x	000382-150-x	10	25
152	0.3	0.06	80	159	1.02	310-152-x	000382-152-x	10	25
160	0.3	0.06	85	169	1.08	310-160-x	000382-160-x	10	25
170	0.23	0.06	90	179	1.07	310-170-x	000382-170-x	10	25
175*	0.23	0.06	93	184	1.1	310-175-x	000382-175-x	10	25
180	0.23	0.06	95	189	1.13	310-180-x	000382-180-x	10	25
200*	0.23	0.06	103	208	1.24	310-200-x	000382-200-x	10	25
203	0.23	0.06	105	210	1.26	310-203-x	000382-203-x	10	25
225	0.15	0.03	118	235	1.41	310-225-x	000382-225-x	10	25
250*	0.15	0.03	128	257	1.56	310-250-x	000382-250-x	10	25
254	0.15	0.03	130	260	1.58	310-254-x	000382-254-x	10	25
280	0.15	0.03	145	290	1.92	310-280-x	000382-280-x	10	25
300	0.14	0.03	155	310	2.07	310-300-x	000382-300-x	10	25
350	0.12	0.02	180	360	2.4	310-350-x	000382-350-x	10	25
400	0.12	0.02	210	410	2.74	310-400-x	000382-400-x	10	25



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.

## Flamex BF Black

PU Film Hose, medium duty, highly flexible and compressible.

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane
- 3 wall thickness between spirals approx. 0.5 mm

### Applications

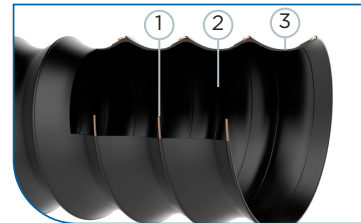
- transport hose for abrasive solids wood processing machines
- shavings extractions in wood processing
- protective hose against mechanical wear
- oil mist extraction

### Properties

- symmetrical fold behaviour
- highly flexible
- halogen free
- optimum flow characteristics
- extremely compressible to approx. 1:4
- very light
- permanently kink resistant
- generally good UV and ozone resistance
- high tensile strength
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- oil mist extraction

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
75*	0.61	0.13	43	83	0.52	310BK-075-x	000388-075-x	10	15
100*	0.46	0.09	55	108	0.69	310BK-100-x	000388-100-x	10	15
125*	0.38	0.09	68	136	0.85	310BK-125-x	000388-125-x	10	15
150*	0.3	0.09	80	159	1.02	310BK-150-x	000388-150-x	10	15
160*	0.3	0.06	85	169	1.08	310BK-160-x	000388-160-x	10	15
200*	0.23	0.06	105	210	1.26	310BK-200-x	000388-200-x	10	15

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable

## Flamex BF M

PU Suction & Transport Hose, light / medium duty

### Material

- 1 spiral: embedded white PVC coated high tensile steel wire
- 2 wall: pure polyester polyurethane
- 3 wall thickness between spirals approx. 0.5 mm

### Applications

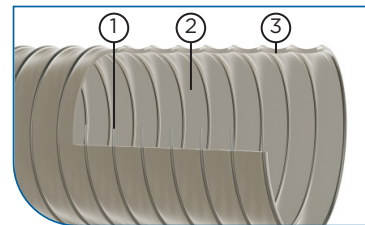
- protective hose against mechanical wear
- transport hose for abrasive solids
- woodworking machines
- extraction of sawdust and wood-chips
- also suitable for dust, fumes and powder applications in a wide range of industries

### Properties

- symmetrical fold behavior
- very flexible
- halogen free
- optimum flow characteristics
- extremely compressible to approx. 1:4
- medium duty
- generally good UV and ozone resistance
- high tensile strength
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
38*	0.85	0.2	25	45	0.26	310M-038-x	007570-038-x	10	15
51*	0.8	0.19	28	58	0.32	310M-050-x	007570-050-x	10	15
60*	0.76	0.19	35	71	0.42	310M-060-x	007570-060-x	10	15
65*	0.68	0.16	40	73	0.47	310M-065-x	007570-065-x	10	15
76*	0.61	0.13	45	84	0.48	310M-075-x	007570-075-x	10	15
80*	0.53	0.13	50	88	0.49	310M-080-x	007570-080-x	10	15
90*	0.46	0.09	52	99	0.62	310M-090-x	007570-090-x	10	15
102*	0.46	0.09	60	109	0.68	310M-100-x	007570-100-x	10	15
120*	0.38	0.09	65	130	0.73	310M-120-x	007570-120-x	10	15
127*	0.38	0.09	70	134	0.85	310M-125-x	007570-125-x	10	15
140*	0.3	0.06	75	149	0.93	310M-140-x	007570-140-x	10	15
152*	0.3	0.06	80	160	0.95	310M-150-x	007570-150-x	10	15
160*	0.3	0.06	85	170	1.01	310M-160-x	007570-160-x	10	15
180*	0.23	0.06	95	189	1.13	310M-180-x	007570-180-x	10	15
203*	0.23	0.06	105	211	1.23	310M-200-x	007570-200-x	10	15
229*	0.15	0.03	120	237	1.67	310M-225-x	007570-225-x	10	15
254*	0.15	0.03	130	262	1.97	310M-250-x	007570-250-x	10	15
304*	0.14	0.02	160	312	2.4	310M-300-x	007570-300-x	10	15
315*	0.13	0.02	170	320	2.4	310M-315-x	007570-315-x	10	15
357*	0.12	0.02	190	362	2.9	310M-350-x	007570-350-x	10	15
406*	0.12	0.02	220	412	3.5	310M-400-x	007570-400-x	10	15

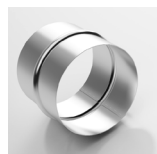
All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



## Flamex BF H

PU Film Hose, medium/heavy duty

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane
- 3 wall thickness between spirals approx. 0.7 mm

### Applications

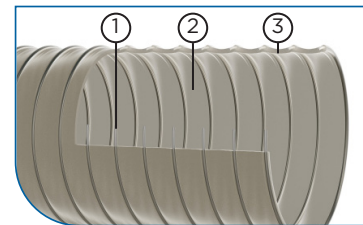
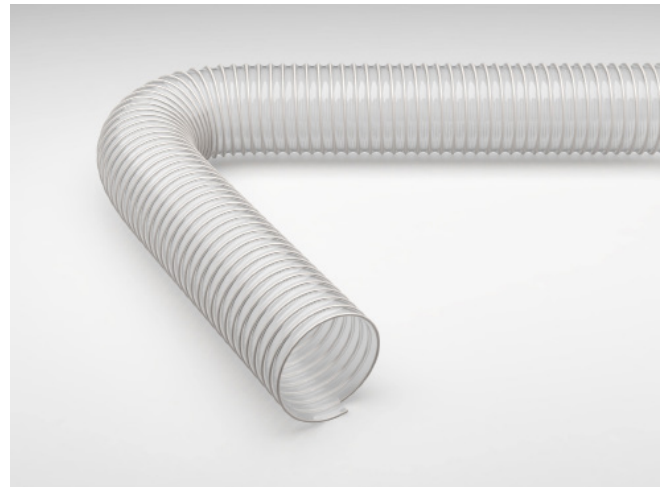
- transport hose for abrasive solids
- wood processing machines
- shavings extractions in wood processing
- protective hose against mechanical wear

### Properties

- symmetrical fold behavior
- flexible
- halogen free
- optimum flow characteristics
- extremely compressible to approx. 1:3
- heavy duty
- generally good UV and ozone resistance
- high tensile strength
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
102*	0.5	0.1	75	112	0.7	310H-100-x	007571-100-x	10	15
127*	0.4	0.1	90	135	1	310H-125-x	007571-125-x	10	15
152*	0.35	0.07	100	160	1.2	310H-150-x	007571-150-x	10	15
160*	0.35	0.07	105	170	1.4	310H-160-x	007571-160-x	10	15
203*	0.25	0.07	125	212	1.6	310H-200-x	007571-200-x	10	15
229*	0.25	0.07	150	240	1.8	310H-225-x	007571-225-x	10	15
254*	0.22	0.06	200	265	1.9	310H-250-x	007571-250-x	10	15
305*	0.2	0.06	250	315	3	310H-300-x	007571-300-x	10	15

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

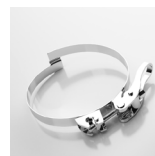
Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable

## Flamex BF HS

Heavy duty PU film hose, hardly inflammable

### Material

- 1 Spiral: spring steel wire
- 2 Wall: pure polyester polyurethane
- 3 Wall thickness between spirals approx. 1.4 mm

### Applications

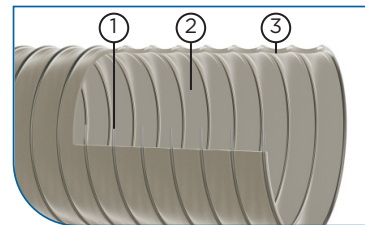
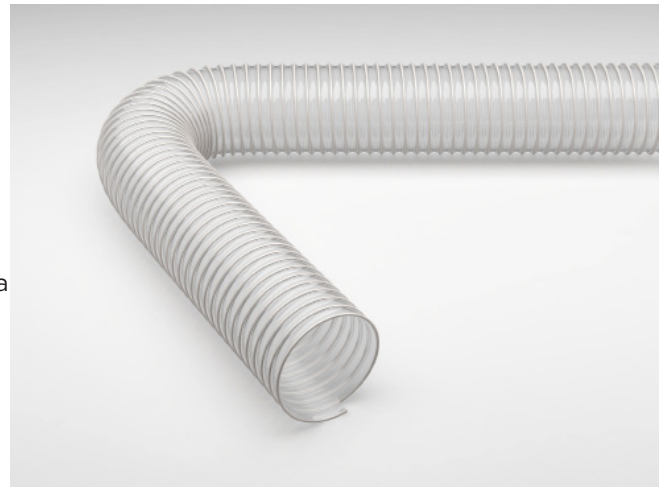
- Protective Hose against mechanical wear
- Transport hose for abrasive solids
- Woodworking machines
- Extraction of sawdust and wood-chips
- Also suitable for dust, fumes and powder applications in a wide range of industries

### Properties

- Symmetrical fold behavior
- Very flexible
- Halogen free
- Optimum flow characteristics
- Compressible to approx. 1:3
- Heavy duty
- Generally good UV and ozone resistance
- High tensile strength
- Highly abrasion-resistant
- Good resistance to chemicals, oil and fuel

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
304*	0.25	0.06	300	315	4	310HS-300-x	007573-300-x	10	15
406*	0.13	0.05	400	418	4.8	310HS-400-x	007573-406-x	10	15

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable

## Master-PUR L Trivolution

PU Suction hose & Transport Hose, extremely flexible, light duty, antistatic, microbe-resistant, hardly inflammable acc. to DIN 4102 B1

### Material

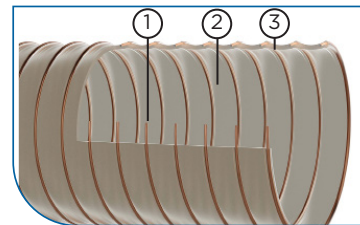
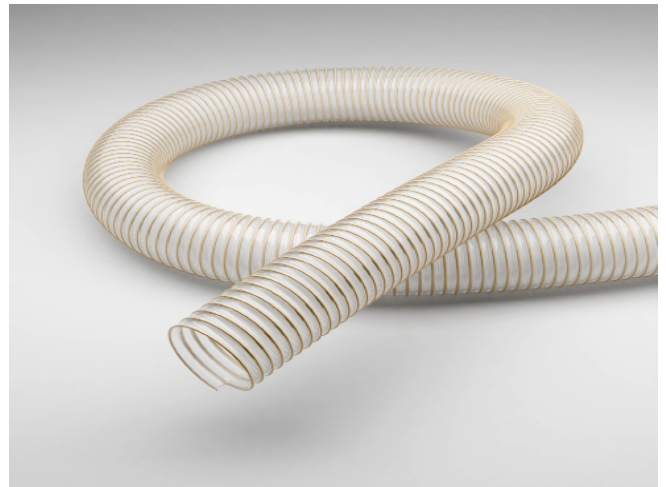
- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 0.7 mm

### Applications

- suction/extraction of paper and textile fibres
- granulate transport hose
- transport of fine-grained particles, such as dust and powder
- suction & transport hose for abrasive solids, liquids and gases
- protective hose against mechanical wear
- oil mist extraction/suction

### Properties

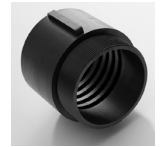
- hardly inflammable acc. to DIN 4102 B1
- microbe-resistant
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- very good flexibility
- halogen and plasticizer-free
- smallest bending radius
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance
- acc. to DIN 26057 type II



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector



Further connections available on request

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25*	3.34	0.8	30	30	0.23	110-025-x	000007-025-x	10	25
26	3.22	0.79	31	31	0.25	110-026-x	000007-026-x	10	25
32	2.52	0.71	40	40	0.35	110-032-x	000007-032-x	10	25
38	2.1	0.66	46	46	0.39	110-038-x	000007-038-x	10	25
40	2.1	0.66	48	48	0.4	110-040-x	000007-040-x	10	25
45	1.84	0.59	53	53	0.42	110-045-x	000007-045-x	10	25
50*	1.75	0.55	57	57	0.44	110-050-x	000007-050-x	10	25
51	1.68	0.52	58	58	0.48	110-051-x	000007-051-x	10	25
55	1.54	0.44	63	63	0.51	110-055-x	000007-055-x	10	25
60	1.4	0.44	68	68	0.53	110-060-x	000007-060-x	10	25
63	1.34	0.41	70	70	0.57	110-063-x	000007-063-x	10	25
65	1.26	0.37	73	73	0.64	110-065-x	000007-065-x	10	25
70	1.12	0.37	78	78	0.68	110-070-x	000007-070-x	10	25
75*	1.12	0.34	83	83	0.7	110-075-x	000007-075-x	10	25
76	1.12	0.29	84	84	0.72	110-076-x	000007-076-x	10	25
80	0.98	0.29	88	88	0.76	110-080-x	000007-080-x	10	25
90	0.84	0.22	99	99	0.88	110-090-x	000007-090-x	10	25
100*	0.84	0.22	108	108	0.94	110-100-x	000007-100-x	10	25
102	0.84	0.22	110	110	0.95	110-102-x	000007-102-x	10	25
110	0.7	0.22	119	119	1.03	110-110-x	000007-110-x	10	25
115	0.7	0.22	124	124	1.06	110-115-x	000007-115-x	10	25
120	0.7	0.22	129	129	1.12	110-120-x	000007-120-x	10	25
125*	0.7	0.22	134	134	1.16	110-125-x	000007-125-x	10	25
127	0.7	0.22	135	135	1.18	110-127-x	000007-127-x	10	25
130	0.56	0.22	139	139	1.2	110-130-x	000007-130-x	10	25
140	0.56	0.15	149	149	1.38	110-140-x	000007-140-x	10	25
150*	0.56	0.15	159	159	1.4	110-150-x	000007-150-x	10	25
152	0.56	0.15	161	161	1.48	110-152-x	000007-152-x	10	25
160	0.56	0.15	170	170	1.74	110-160-x	000007-160-x	10	25
170	0.42	0.15	180	180	1.8	110-170-x	000007-170-x	10	25
175	0.42	0.15	185	185	1.85	110-175-x	000007-175-x	10	25
180	0.42	0.15	190	190	1.9	110-180-x	000007-180-x	10	25
200*	0.42	0.15	210	210	2.1	110-200-x	000007-200-x	10	25
203	0.42	0.15	214	214	2.3	110-203-x	000007-203-x	10	25
225	0.28	0.07	235	235	2.55	110-225-x	000007-225-x	10	25
250	0.28	0.07	260	260	3.02	110-250-x	000007-250-x	10	25
254*	0.28	0.07	264	264	3.02	110-254-x	000007-254-x	10	25
275	0.28	0.07	284	284	3.11	110-275-x	000007-275-x	10	25
280	0.28	0.07	290	290	3.14	110-280-x	000007-280-x	10	20
300	0.25	0.07	310	310	3.2	110-300-x	000007-300-x	10	20
315	0.25	0.07	325	325	3.32	110-315-x	000007-315-x	10	20
325	0.25	0.07	335	335	3.4	110-325-x	000007-325-x	10	20
350	0.13	0.07	360	360	3.6	110-350-x	000007-350-x	10	20
375*	0.13	0.05	386	386	3.85	110-375-x	000007-375-x	10	20
400	0.13	0.05	410	411	4.45	110-400-x	000007-400-x	10	20
450	0.13	0.05	460	461	5.06	110-450-x	000007-450-x	10	20
500	0.13	0.05	510	511	5.7	110-500-x	000007-500-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.

## Master-PUR H Trivolution

PU Suction hose & Transport Hose, flexible, antistatic, microbe-resistant, hardly inflammable acc. to DIN 4102 B1

### Material

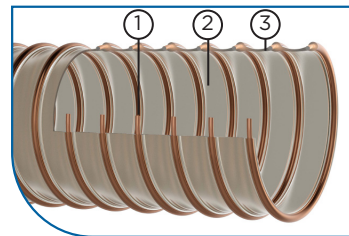
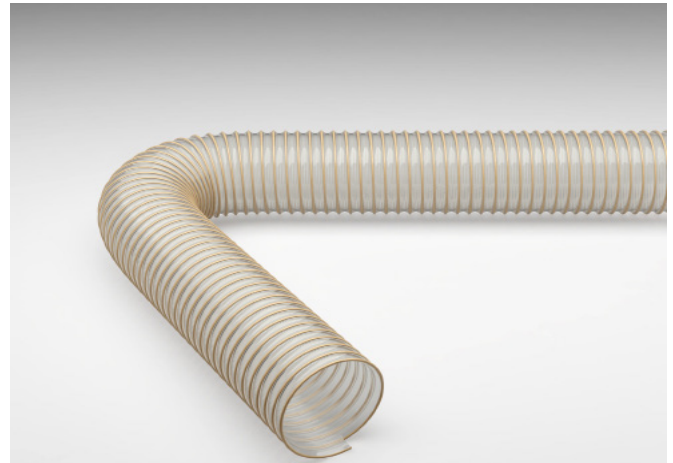
- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 1.4 mm

### Applications

- suction of coarse-grained media with high flow rate
- granulate transport hose
- for abrasive solids, gaseous and liquid media
- standard hose for industrial vacuum cleaners
- transport of chips/shavings
- oil mist extraction/suction

### Properties

- hardly inflammable acc. to DIN 4102 B1
- small bending radius
- microbe-resistant
- good flexibility
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector



Further connections available on request

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
13	4.7	0.92	38	19	0.15	111-013-x	000063-013-x	10	25
16	4.5	0.92	40	22	0.2	111-016-x	000063-016-x	10	25
20	4.3	0.92	43	26	0.22	111-020-x	000063-020-x	10	25
25*	4.19	0.92	46	32	0.28	111-025-x	000063-025-x	10	25
26	4.16	0.92	47	33	0.29	111-026-x	000063-026-x	10	25
30	3.25	0.92	51.3	39.2	0.32	111-030-x	000063-030-x	10	25
32	3.25	0.92	60	41	0.39	111-032-x	000063-032-x	10	25
38	3.12	0.82	69	47	0.46	111-038-x	000063-038-x	10	25
40	3	0.82	72	49	0.49	111-040-x	000063-040-x	10	25
45	2.95	0.81	80	55	0.55	111-045-x	000063-045-x	10	25
50*	2.82	0.82	86	60	0.66	111-050-x	000063-050-x	10	25
51	2.9	0.82	87	61	0.71	111-051-x	000063-051-x	10	25
55	2.75	0.76	95	65	0.77	111-055-x	000063-055-x	10	25
60	2.55	0.74	102	70	0.84	111-060-x	000063-060-x	10	25
63	2.49	0.71	106	72.6	0.87	111-063-x	000063-063-x	10	25
65	2.4	0.66	112	75	0.91	111-065-x	000063-065-x	10	25
70	2.25	0.66	117	80	0.97	111-070-x	000063-070-x	10	25
75*	2.05	0.63	125	85	1.05	111-075-x	000063-075-x	10	25
76	2	0.59	126	87	1.06	111-076-x	000063-076-x	10	25
80	2	0.59	132	91	1.11	111-080-x	000063-080-x	10	25
90	1.65	0.52	149	101	1.25	111-090-x	000063-090-x	10	25
100*	1.54	0.45	163	110	1.43	111-100-x	000063-100-x	10	25
102	1.5	0.44	165	112	1.48	111-102-x	000063-102-x	10	25
110	1.35	0.46	179	121	1.61	111-110-x	000063-110-x	10	25
115	1.35	0.31	186	126	1.68	111-115-x	000063-115-x	10	25
120	1.3	0.31	194	131	1.75	111-120-x	000063-120-x	10	25
125*	1.3	0.31	201	136	1.89	111-125-x	000063-125-x	10	25
127	1.3	0.31	203	138	1.91	111-127-x	000063-127-x	10	25
130	1.3	0.31	209	141	1.96	111-130-x	000063-130-x	10	25
140	1.05	0.26	224	151	2.11	111-140-x	000063-140-x	10	25
150*	1.05	0.26	240	161	2.31	111-150-x	000063-150-x	10	25
152	1.05	0.26	242	163	2.29	111-152-x	000063-152-x	10	25
160	0.9	0.25	255	171	2.51	111-160-x	000063-160-x	10	25
170	0.9	0.18	270	181	2.67	111-170-x	000063-170-x	10	25
175*	0.9	0.18	278	186	2.74	111-175-x	000063-175-x	10	25
180	0.75	0.18	285	191	2.82	111-180-x	000063-180-x	10	25
200*	0.75	0.18	316	212	3.42	111-200-x	000063-200-x	10	25
203	0.75	0.18	321	215	3.5	111-203-x	000063-203-x	10	25
225	0.6	0.12	353	237	3.65	111-225-x	000063-225-x	10	25
250	0.6	0.12	390	263	3.91	111-250-x	000063-250-x	10	25
254*	0.58	0.12	396	267	3.91	111-254-x	000063-254-x	10	25
275*	0.45	0.12	426	288	4.22	111-275-x	000063-275-x	10	25
280*	0.45	0.12	435	293	4.3	111-280-x	000063-280-x	10	25
300	0.45	0.12	465	313	4.94	111-300-x	000063-300-x	10	20
315*	0.45	0.12	488	328	5.19	111-315-x	000063-315-x	10	20
325*	0.45	0.12	503	338	5.35	111-325-x	000063-325-x	10	20
350	0.45	0.12	540	363	6.96	111-350-x	000063-350-x	10	20
375*	0.3	0.07	580	388	7.45	111-375-x	000063-375-x	10	20
400	0.3	0.07	615	413	7.95	111-400-x	000063-400-x	10	20
450*	0.3	0.07	690	463	8.94	111-450-x	000063-450-x	10	20
500*	0.3	0.07	765	513	9.93	111-500-x	000063-500-x	10	20

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



## Master-PUR HX Trivolution

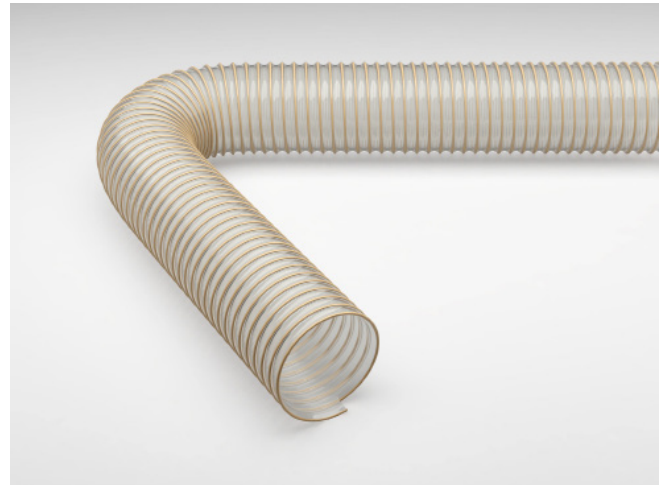
PU Transport hose & Suction Hose, highly abrasion resistant and vacuum proof, with reinforcement underneath the spiral, antistatic, microbe-resistant, hardly inflammable acc. to DIN 4102 B1

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 1.7 - 2.1 mm, depending on DN

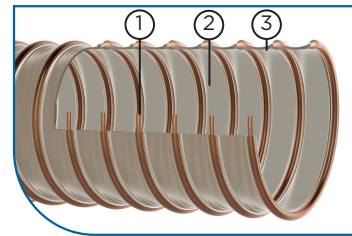
### Applications

- for increased requirements of abrasion resistance and durability
- transport hose for problematic media, e.g. sand, gravel, grain, granules
- suction & transport hose for extremely abrasive media
- flat-roof gravelling
- working hose for silo vehicles and cargo depots



### Properties

- hardly inflammable acc. to DIN 4102 B1
- extremely abrasion resistant via specific reinforcements underneath the spiral
- microbe-resistant
- heavy duty
- flexible
- smooth inner lining, optimum flow characteristics
- high vacuum and apex pressure resistance
- highly durable, long service lives
- permanently antistatic, surface resistance <math>< 10^9 \text{ Ohm}</math>
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- halogen and plasticizer-free
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance
- acc. to DIN 26057 type IV



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32	4.85	0.94	80	42	0.66	114-032-x	000158-032-x	10	20
38	4.39	0.94	95	48	0.78	114-038-x	000158-038-x	10	20
40	4.27	0.94	100	50	0.83	114-040-x	000158-040-x	10	20
45	4.1	0.94	115	55	0.92	114-045-x	000158-045-x	10	20
50*	4.02	0.94	124	60	1.02	114-050-x	000158-050-x	10	20
51	4	0.94	125	61	1.04	114-051-x	000158-051-x	10	20
55	3.75	0.89	140	65	1.1	114-055-x	000158-055-x	10	20
60	3.6	0.89	150	70	1.2	114-060-x	000158-060-x	10	20
65	3.3	0.89	165	75	1.29	114-065-x	000158-065-x	10	20
70	3.15	0.89	175	80	1.38	114-070-x	000158-070-x	10	20
75*	2.95	0.89	188	85	1.48	114-075-x	000158-075-x	10	20
76	2.92	0.89	190	87	1.5	114-076-x	000158-076-x	10	20
80	2.77	0.89	200	93	1.93	114-080-x	000158-080-x	10	20
90	2.4	0.89	225	103	2.16	114-090-x	000158-090-x	10	20
100*	2.15	0.88	238	113	2.53	114-100-x	000158-100-x	10	20
102	2.1	0.87	250	115	2.6	114-102-x	000158-102-x	10	20
110	1.95	0.87	275	124	2.82	114-110-x	000158-110-x	10	20
115	1.8	0.87	290	129	2.94	114-115-x	000158-115-x	10	20
120	1.65	0.87	300	134	3.07	114-120-x	000158-120-x	10	20
125*	1.65	0.87	311	138	3.34	114-125-x	000158-125-x	10	20
127	1.65	0.87	315	140	3.44	114-127-x	000158-127-x	10	20
130*	1.65	0.84	325	143	3.54	114-130-x	000158-130-x	10	20
140	1.5	0.83	350	153	3.81	114-140-x	000158-140-x	10	20
150*	1.5	0.82	434	165	4.08	114-150-x	000158-150-x	10	20
152	1.5	0.82	450	167	4.13	114-152-x	000158-152-x	10	20
160	1.35	0.81	500	175	4.81	114-160-x	000158-160-x	10	20
170*	1.2	0.8	600	185	5.1	114-170-x	000158-170-x	10	20
175*	1.2	0.79	650	190	5.25	114-175-x	000158-175-x	10	20
180	1.2	0.77	700	195	5.4	114-180-x	000158-180-x	10	20
200*	1.07	0.68	918	217	6.3	114-200-x	000158-200-x	10	15
203	1.05	0.66	950	220	6.43	114-203-x	000158-203-x	10	15
225	0.9	0.58	1150	241	7.11	114-225-x	000158-225-x	10	10
250	0.9	0.51	1300	267	7.91	114-250-x	000158-250-x	10	10
254*	0.88	0.5	1325	271	8.04	114-254-x	000158-254-x	10	10
275*	0.75	0.47	1450	292	8.68	114-275-x	000158-275-x	10	10
300	0.6	0.42	1600	317	9.45	114-300-x	000158-300-x	10	10

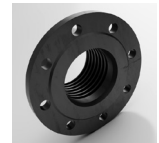
All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Bolts



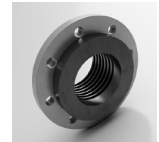
Combiflex metal male threaded socket



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Threaded Socket, pre-fixed



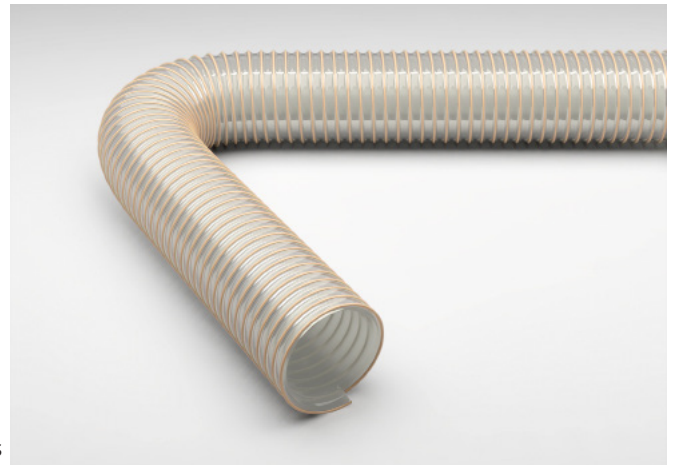
Combiflex PU Swivel Flange, pre-fixed

## Master-PUR Performance

PU suction hose & transport hose, extremely abrasion-resistant & vacuum-proof, seamless smooth inner lining, antistatic and microbe-resistant

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyurethane
- 3 wall thickness min. 2.5 mm
- 4 inner lining: application-optimised polyurethane  
60° Shore A

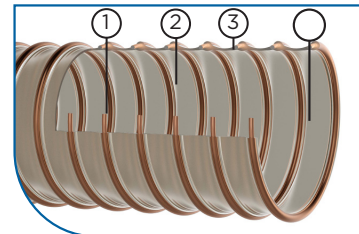


### Applications

- transport hose for problematic media, e.g. sand, gravel, grain, granules
- transport hose for handling and conveying plants
- everywhere where easy-to-clean surfaces are required
- suction and transport hose for extremely abrasive solid, liquid and gaseous media
- transport hose for feeding and cleaning of glass works, mineral processing plants, steelworks, quarries, shipyards and docks, cement works, flat roof gravelling
- other conveyer and loading plants
- oil mist extraction/suction
- suction and transport of paper fibres

### Properties

- extremely abrasion resistant, extra strong PU lining
- completely smooth internal lining, therefore ideal flow characteristics
- microbe-resistant
- flexible
- excellent vacuum-resistance and good pressure-resistance
- heavy
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- halogen and plasticizer-free
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
38	4.35	0.94	130	50	0.8	123-038-x	000210-038-x	10	20
40	4.25	0.94	135	52	0.8	123-040-x	000210-040-x	10	20
45	4.12	0.94	155	57	1	123-045-x	000210-045-x	10	20
50*	4	0.94	168	65	1.17	123-050-x	000210-050-x	10	20
51	4	0.94	170	66	1.2	123-051-x	000210-051-x	10	20
55	3.8	0.94	175	72	1.3	123-055-x	000210-055-x	10	20
60	3.7	0.94	185	77	1.5	123-060-x	000210-060-x	10	20
65	4	0.94	190	82	1.6	123-065-x	000210-065-x	10	20
75*	3.18	0.94	245	92	1.87	123-075-x	000210-075-x	10	20
76	3.15	0.94	250	93	1.9	123-076-x	000210-076-x	10	20
80	2.9	0.94	270	97	2.1	123-080-x	000210-080-x	10	20
90	2.7	0.94	285	107	2.4	123-090-x	000210-090-x	10	20
100*	2.53	0.94	297	117	2.58	123-100-x	000210-100-x	10	20
102	2.5	0.94	300	119	2.6	123-102-x	000210-102-x	10	20
115*	2.3	0.94	325	132	3	123-115-x	000210-115-x	10	15
125*	2.05	0.94	345	142	3.25	123-125-x	000210-125-x	10	15
127	2	0.94	350	144	3.3	123-127-x	000210-127-x	10	15
140	1.8	0.94	370	154	3.46	123-140-x	000210-140-x	10	15
150*	1.54	0.94	396	167	3.67	123-150-x	000210-150-x	10	15
152	1.5	0.94	400	169	3.7	123-152-x	000210-152-x	10	15
175*	1.1	0.7	770	190	4.6	123-175-x	000210-175-x	10	10
180*	1	0.68	780	195	4.7	123-180-x	000210-180-x	10	10
200	0.8	0.55	840	215	5	123-200-x	000210-200-x	10	10

All data refers to a medium and ambient temperature of +20 °C.  
\* Available on request  
Subject to technical changes and colour deviations.



Hose Clamp with Bolts



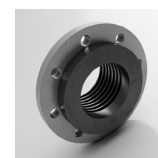
Combiflex metal male threaded socket



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Threaded Socket, pre-fixed



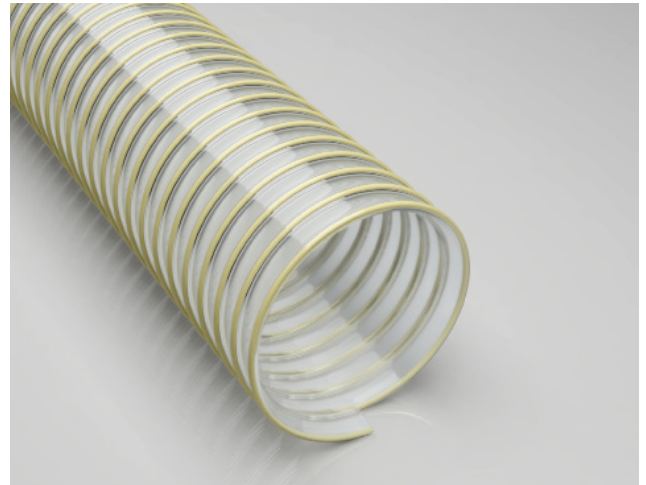
Combiflex PU Swivel Flange, pre-fixed

## Cargoflex

PU Suction hose & Transport hose, extremely abrasion and vacuum resistant

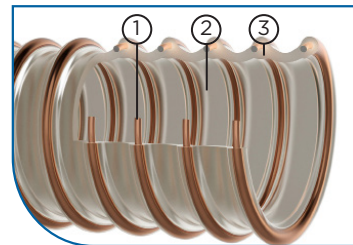
### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 3.2 - 4.8 mm depending on DN



### Applications

- suction/extraction of glass splinters, glass wool, mineral wool, slag, mill scale and sinter
- suction & transport hose for quarries, cement works, shipyards and docks
- for highest standards of abrasion resistance and durability
- refurbishment of rail systems
- transport of gravel and rocks
- suction & transport hose for the most extreme fields of application
- transport hose for handling and conveying plants
- protective hose against mechanical wear
- working hose for silo vehicles and cargo depots



### Properties

- extremely abrasion resistant, extra strong PU lining
- microbe-resistant
- extra heavyweight
- flexible
- excellent vacuum-resistance and good pressure-resistance
- highly durable, long service lives
- halogen and plasticizer-free
- high tensile strength
- generally good UV and ozone resistance

### Temperature Range

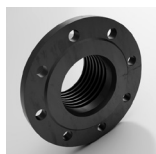
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
100*	3.17	0.87	298	115	3.02	115-100-x	000183-100-x	10	20
102	3.15	0.87	300	117	3.04	115-102-x	000183-102-x	10	20
125*	2.6	0.87	369	141	3.69	115-125-x	000183-125-x	10	20
127	2.55	0.87	375	143	3.75	115-127-x	000183-127-x	10	20
150*	2.27	0.82	444	166	4.39	115-150-x	000183-150-x	10	20
152	2.25	0.82	450	168	4.45	115-152-x	000183-152-x	10	20
200*	1.69	0.67	591	218	8.05	115-200-x	000183-200-x	10	10
203	1.65	0.66	600	222	8.28	115-203-x	000183-203-x	10	10
250*	1.37	0.52	738	270	10.2	115-250-x	000183-250-x	10	10
254	1.35	0.51	750	275	10.36	115-254-x	000183-254-x	10	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

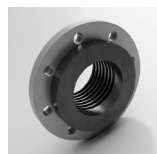
Subject to technical changes and colour deviations.



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Threaded Socket, pre-fixed



Combiflex PU Swivel Flange, pre-fixed



Combiflex PU Cone Flange, pre-fixed



Hose Clamp with Bolts

## Master-PUR Inline

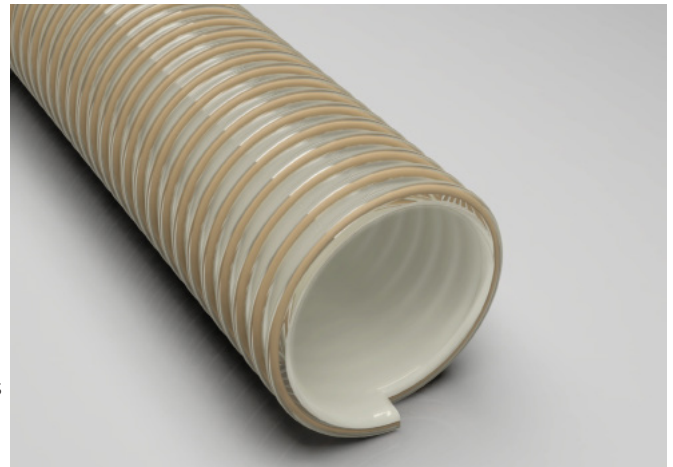
PU Suction hose & Transport Hose, extremely abrasion resistant, vacuum proof, seamless, very smooth inner lining, antistatic, microbe-resistant

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyurethane
- 3 inner lining: application-optimised polyurethane  
60° Shore A
- 4 Wall thickness c. 5.5 mm

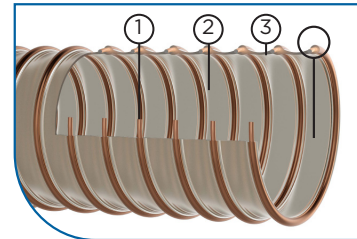
### Applications

- special hose for transport of extremely abrasive media
- transport hose for problematic media, e.g. sand, gravel, grain, granules
- everywhere where easy-to-clean surfaces are required
- transport hose for feeding and cleaning of glass works, mineral processing plants, steelworks, quarries, shipyards and docks, cement works, flat roof gravelling
- other conveyer and loading plants



### Properties

- extremely abrasion resistant, extra strong PU Inline
- completely smooth internal lining, therefore ideal flow characteristics
- microbe-resistant
- flexible
- excellent vacuum-resistance and good pressure-resistance
- permanently antistatic, surface resistance <math>< 10^9 \text{ Ohm}</math>
- halogen and plasticizer-free
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
38*	4.65	0.94	150	56	1.72	119-038-x	000195-038-x	10	20
40*	4.5	0.94	160	58	1.79	119-040-x	000195-040-x	10	20
50*	4.16	0.94	196	69	1.65	119-050-x	000195-050-x	10	20
51	4,125	0.94	200	70	1.64	119-051-x	000195-051-x	10	20
65	3.9	0.94	300	85	2.02	119-065-x	000195-065-x	10	20
75*	3.75	0.94	390	96	3.31	119-075-x	000195-075-x	10	20
76	3.75	0.94	400	97	3.44	119-076-x	000195-076-x	10	20
80	3,375	0.94	410	99	2.69	119-080-x	000195-080-x	10	20
100*	3.03	0.94	428	120	4.24	119-100-x	000195-100-x	10	20
102	3	0.94	430	122	4.39	119-102-x	000195-102-x	10	20
115*	2.6	0.94	440	136	4.9	119-115-x	000195-115-x	10	15
125*	2.45	0.94	448	146	5.56	119-125-x	000195-125-x	10	15
127	2.4	0.94	450	148	5.69	119-127-x	000195-127-x	10	15
150*	1.95	0.94	600	175	7.3	119-150-x	000195-150-x	10	15
152*	1.95	0.94	600	175	7.3	119-152-x	000195-152-x	10	15
175*	1.8	0.77	700	198	7.48	119-175-x	000195-175-x	10	10
180*	1.65	0.75	700	202	7.68	119-180-x	000195-180-x	10	10
200	1.35	0.67	800	223	10.01	119-200-x	000195-200-x	10	10
203*	1.35	0.67	800	227	10.2	119-203-x	000195-203-x	10	10
250*	0.95	0.5	1000	271	12.07	119-250-x	000195-250-x	10	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

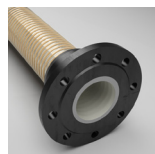
Subject to technical changes and colour deviations.



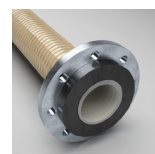
Combiflex PU Threaded Socket, pre-fixed



Hose Clamp with Bolts



Combiflex PU fixed-flange, Inline



Combiflex PU Swivel Flange for Master-PUR Inline



## Polderflex PUR

PU Suction hose & Transport Hose, PU Suction hose & Transport Hose, extremely pressure and vacuum resistant, smooth inner and outer linings

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness 3-5 mm depending on DN

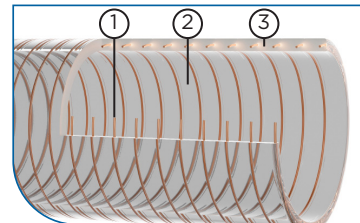
### Applications

- suction/extraction of glass splinters, glass wool, mineral wool, slag, mill scale and sinter
- suction & transport hose for quarries, cement works, shipyards and docks
- for highest standards of abrasion resistance and durability
- refurbishment of rail systems
- transport of gravel and rocks
- suction & transport hose for the most extreme fields of application
- transport hose for handling and conveying plants
- working hose for silo vehicles and cargo depots



### Properties

- extremely abrasion resistant, extra strong PU lining
- extra heavy weight
- flexible
- excellent vacuum-resistance and good pressure-resistance
- smooth inner and outer linings
- highly durable, long service lives
- halogen and plasticizer-free
- optimum flow characteristics
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	5.75	0.93	160	41.5	0.88	118-032-x	000187-032-x	10	20
38*	5.63	0.93	190	47.5	1.03	118-038-x	000187-038-x	10	20
40*	5.50	0.93	200	49.5	1.07	118-040-x	000187-040-x	10	20
45*	5.38	0.93	225	54.5	1.2	118-045-x	000187-045-x	10	20
50*	5.27	0.93	246	61	1.24	118-050-x	000187-050-x	10	20
51	5.25	0.93	250	62.5	1.25	118-051-x	000187-051-x	10	20
60	5.13	0.93	300	71.5	1.44	118-060-x	000187-060-x	10	20
65*	5.10	0.93	325	76.5	1.56	118-065-x	000187-065-x	10	20
70*	5.05	0.93	350	81.5	1.77	118-070-x	000187-070-x	10	20
75*	5.00	0.93	375	87	1.9	118-075-x	000187-075-x	10	20
76*	5.00	0.93	380	87.5	1.92	118-076-x	000187-076-x	10	20
80*	4.50	0.88	400	91.5	2.01	118-080-x	000187-080-x	10	20
100*	4.16	0.86	580	111	3	118-100-x	000187-100-x	10	20
102*	4.13	0.86	600	113	3.1	118-102-x	000187-102-x	10	20
125*	3.32	0.66	690	136.5	3.79	118-125-x	000187-125-x	10	20
127*	3.25	0.64	700	138.5	3.85	118-127-x	000187-127-x	10	20
150*	2.20	0.44	790	162	4.53	118-150-x	000187-150-x	10	20
152*	2.13	0.42	800	164	4.59	118-152-x	000187-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Metal socket with cone flange



Hose Clamp with Bolts

## Master-PUR STEP

PU Film Hose, crush-resistant, hardly inflammable acc. to DIN 4102 B1

### Material

- 1 spiral: polyurethane, hardly inflammable, with integrated wire
- 2 wall: pure polyester polyurethane with flame-retardent additives (acc. to DIN ISO 4649 more abrasion-resistant than polyether polyurethane)
- 3 wall thickness between spirals approx. 0.5 mm

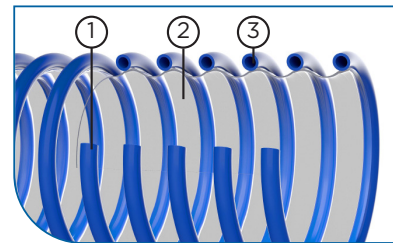
### Applications

- ideal as Suction Hose for floor-level areas where conventional hoses are subjected to rough conditions and can be permanently deformed
- wood processing
- protective hose
- suction & transport hose for abrasive solids, liquids and gases



### Properties

- hardly inflammable acc. to DIN 4102 B1
- acc. to requirements of the Holz-BG standard, BGI 739-2
- crush-resistant and recoverable
- withstands high mechanical loads
- excellent recovery properties
- abrasion-resistant
- super lightweight
- highly flexible
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22.  
For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
50*	0.78	0.2	50	68	0.39	311-050-x	000396-050-x	10	25
51*	0.78	0.2	50	68	0.39	311-051-x	000396-051-x	10	25
60*	0.76	0.19	65	80	0.45	311-060-x	000396-060-x	10	25
75*	0.62	0.13	74	94	0.6	311-075-x	000396-075-x	10	25
76*	0.61	0.13	75	95	0.61	311-076-x	000396-076-x	10	25
80*	0.53	0.13	80	100	0.65	311-080-x	000396-080-x	10	25
100*	0.47	0.09	98	118	0.79	311-100-x	000396-100-x	10	25
102*	0.46	0.09	100	120	0.8	311-102-x	000396-102-x	10	25
120*	0.38	0.09	120	140	0.95	311-120-x	000396-120-x	10	25
140*	0.3	0.06	140	160	1.15	311-140-x	000396-140-x	10	25
150*	0.3	0.06	148	168	1.19	311-150-x	000396-150-x	10	25
152*	0.3	0.06	150	170	1.2	311-152-x	000396-152-x	10	25
160*	0.3	0.06	160	180	1.3	311-160-x	000396-160-x	10	25

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Hose Connector



PU Cuff, pre-fitted



## Miniflex PU

PU Sution hose & Transport Hose, extremely pressure and vacuum resistant, smooth inner and outer linings

### Material

- 1 spiral: spring steel wire, plastic-coated
- 2 wall: pure polyether polyurethane
- 3 wall thickness: 0.3 - 1.2mm, dep. on DN

### Applications

- cable protection hose
- protective & suction hose for solids, liquids and gases
- suction hose for fine-grained particles, e.g. dust, powders, fibres
- ventilation (gauge pressure & low pressure range)
- suction hose for handheld machines
- protective hose against mechanical wear

### Properties

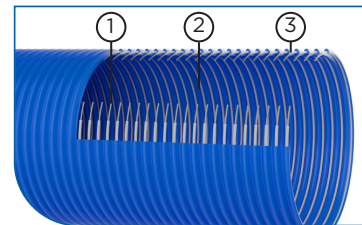
- protection class IP 68, EN 60 529
- axial flexible and compressable
- ageing resistant
- bending radius = outer diameter
- super lightweight
- highly flexible
- microbe and hydrolysis-resistant
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



Also available in PVC & TPV



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
10*	0.22	0.75	14	14	0.11	410-010-x	000436-010-x	25	50
13*	0.21	0.74	17	17	0.13	410-013-x	000436-013-x	25	50
15	0.2	0.74	19	19	0.14	410-015-x	000436-015-x	25	50
16	0.2	0.74	21	21	0.19	410-016-x	000436-016-x	25	50
22	0.18	0.72	27	27	0.24	410-022-x	000436-022-x	25	50
26*	0.17	0.71	30	30	0.31	410-026-x	000436-026-x	25	50
30*	0.15	0.69	36	36	0.36	410-030-x	000436-030-x	25	25
32*	0.13	0.69	38	38	0.44	410-032-x	000436-032-x	25	25
38*	0.11	0.66	45	45	0.49	410-038-x	000436-038-x	25	25
40*	0.1	0.66	47	47	0.61	410-040-x	000436-040-x	25	25
44*	0.09	0.59	52	52	0.76	410-044-x	000436-044-x	25	25
45*	0.09	0.59	53	53	0.76	410-045-x	000436-045-x	25	25
48*	0.08	0.53	56	56	0.81	410-048-x	000436-048-x	25	25
51*	0.08	0.52	58	58	0.83	410-051-x	000436-051-x	25	25

All data refers to a medium and ambient temperature of +20 °C.

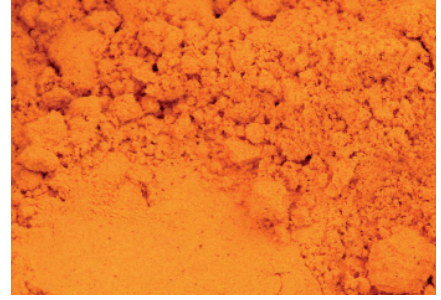
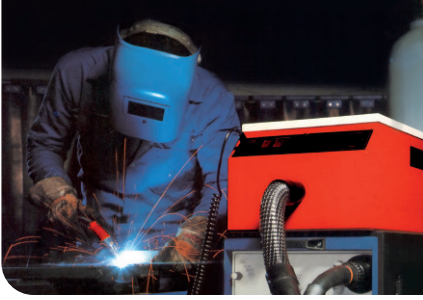
\* Available on request

Subject to technical changes and colour deviations.



Hose Clamp with Worm-Gear Drive

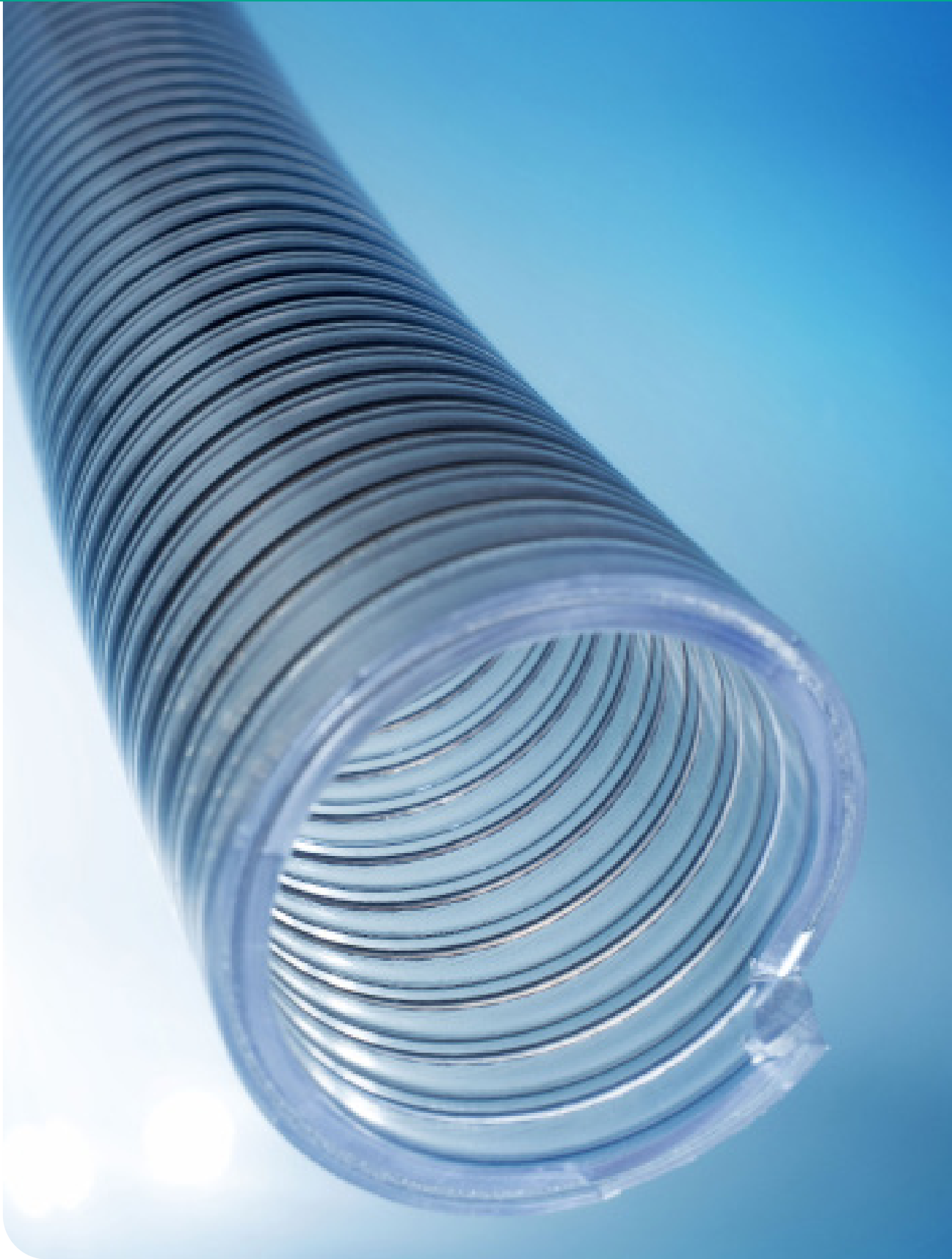




# 2

## Suction & Transport Hoses made from PVC/EVA

Suction & transport hoses made from PVC offer good chemical resistance. Hoses made from EVA are very lightweight, robust and crush-resistant



## Master-PVC Flex

PVC Suction & Transport Hose, light, highly flexible, reinforced

### Material

1 spiral: spring steel wire, plastic-coated

2 wall: double-layered soft PVC with strand reinforcements

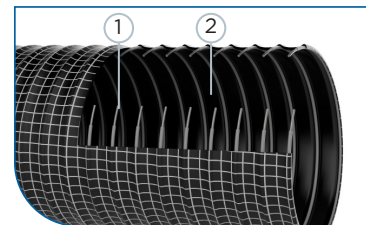
### Applications

- protective hose
- suction and transport hose for solid, liquid and gaseous media
- ventilation and air-conditioning systems
- boat and caravan manufacturing
- household and industrial vacuum cleaners
- welding fume extraction
- textile industry
- construction drying
- machine manufacturing
- transport of fine-grained particles, such as dust and powder
- working hose for silo vehicles and cargo depots
- Industrial vacuum cleaners



### Properties

- super lightweight
- mostly smooth inner lining
- highly flexible
- good oil/alkali/acid resistance
- smallest bending radius
- RoHs compliant
- good chemical resistance



### Temperature Range

- 0°C to +70°C
- peaks to +85°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25	1	0.39	25	30	0.22	671-025-x	000468-025-x	15	15
28	1	0.34	28	33	0.24	671-028-x	000468-028-x	15	15
32	1	0.34	32	37	0.27	671-032-x	000468-032-x	15	15
38	0.95	0.29	38	43	0.37	671-038-x	000468-038-x	15	15
41	0.95	0.29	41	46	0.4	671-041-x	000468-041-x	15	15
44	0.9	0.28	44	50	0.43	671-044-x	000468-044-x	15	15
51	0.9	0.28	51	57	0.49	671-051-x	000468-051-x	15	15
63	0.8	0.25	63	69	0.61	671-063-x	000468-063-x	15	15
70*	0.8	0.2	71	78	0.78	671-070-x	000468-070-x	10	10
76	0.8	0.2	76	83	0.85	671-076-x	000468-076-x	10	10
80	0.8	0.18	80	87	0.88	671-080-x	000468-080-x	10	10
89	0.8	0.17	89	96	0.98	671-089-x	000468-089-x	10	10
102	0.8	0.15	102	109	1.15	671-102-x	000468-102-x	10	10

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Worm-Gear Drive



Cuff for Master-PVC Flex

## Master-VAC

PE-EVA Suction Hose & Transport Hose, lightweight, crush-resistant

### Material

1 wall: PE-EVA Co-polymer

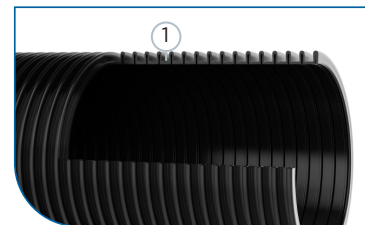
### Applications

- suction hose for fine-grained particles, e.g. dust, powders, fibres
- protective hose
- swimming pool cleaning
- ventilation
- conveyance and suction of solid, liquid and gaseous media
- chemicals industry
- dust removal units
- household vacuum cleaners
- Industrial vacuum cleaners
- Handheld machines



### Properties

- floatable (spec. Weight 0.94)
- crush-resistant
- super lightweight
- highly flexible
- good oil/alkali/acid resistance
- UV/ozone-proof
- RoHs compliant
- air-tight / watertight



### Temperature Range

- -40°C to +60°C
- peaks to +70°C

DN	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	mm	kg			m	m
25	0.4	100	0.14	670-025-x	000466-025-x	15	20
28	0.74	70	0.19	670-028-x	000466-028-x	15	20
32	0.49	70	0.22	670-032-x	000466-032-x	15	20
36	0.49	75	0.27	670-036-x	000466-036-x	15	20
38	0.49	80	0.29	670-038-x	000466-038-x	15	20
45	0.49	90	0.37	670-045-x	000466-045-x	15	20
50	0.39	100	0.42	670-050-x	000466-050-x	15/20	20
63	0.3	150	0.55	670-063-x	000466-063-x	15	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Worm-Gear Drive



Cuff for Master-VAC



## Master-PVC L-F L

Soft light duty PVC ducting, reinforced with spring steel wire helix

### Material

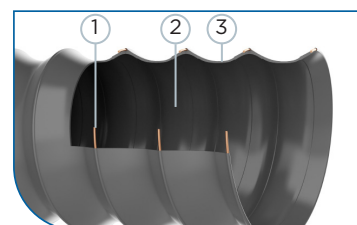
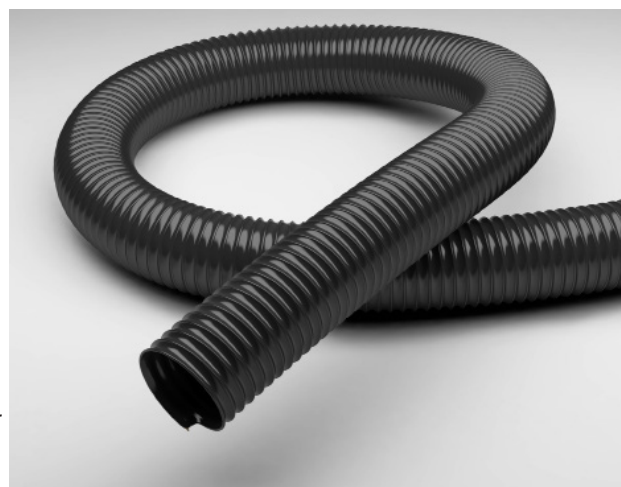
- 1 spiral: spring steel wire
- 2 wall: soft PVC
- 3 wall thickness between spirals approx. 0.35 mm

### Applications

- protective hose
- liquid drainage
- suction and transport hose for solid, liquid and gaseous media
- ventilation and air-conditioning systems
- dust removal
- apparatus construction
- spinning fibre extraction
- transport of fine-grained particles, such as dust and powder

### Properties

- good oil/alkali/acid resistance
- good chemical resistance
- very light
- very good flexibility
- smallest bending radius
- optimum flow characteristics
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

- -20°C to +70°C
- peaks to +80°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25	1.5	0.18	13	30	0.15	662L-025-x	007577-025-x	10	20
32	1.3	0.18	16	37	0.15	662L-032-x	007577-032-x	10	20
38	1.2	0.18	20	43	0.2	662L-038-x	007577-038-x	10	20
45	1.1	0.14	23	50	0.25	662L-045-x	007577-045-x	10	20
51	1.1	0.13	26	56	0.3	662L-051-x	007577-051-x	10	20
57	1	0.12	28	62	0.32	662L-057-x	007577-057-x	10	20
63	0.8	0.12	31	68	0.35	662L-063-x	007577-063-x	10	20
76	0.6	0.08	38	81	0.6	662L-076-x	007577-076-x	10	20
80	0.5	0.08	38	85	0.65	662L-080-x	007577-080-x	10	20
89	0.5	0.07	45	94	0.7	662L-089-x	007577-089-x	10	20
102	0.4	0.06	50	107	0.75	662L-102-x	007577-102-x	10	20
115	0.2	0.04	58	120	0.8	662L-115-x	007577-115-x	10	20
127	0.2	0.03	64	132	0.85	662L-127-x	007577-127-x	10	20
152	0.1	0.02	76	158	0.9	662L-152-x	007577-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Clip-Grip Hose Clamp, screwable



Clip-Grip Quick-Fix Clamp



Hose Connector

## Master-PVC L-F M

PVC Suction hose & Transport hose, light duty, highly flexible

### Material

- 1 spiral: spring steel wire
- 2 wall: soft PVC
- 3 wall thickness between spirals approx. 0.55 mm

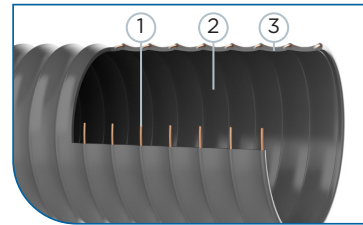
### Applications

- protective hose
- liquid drainage
- suction and transport hose for solid, liquid and gaseous media
- ventilation and air-conditioning systems
- dust removal
- apparatus construction
- spinning fibre extraction
- transport of fine-grained particles, such as dust and powder



### Properties

- good oil/alkali/acid resistance
- good chemical resistance
- light
- good flexibility
- smallest bending radius
- optimum flow characteristics
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

- -20°C to +70°C
- peaks to +80°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25	1.7	0.2	14	31	0.15	662M-025-x	007578-025-x	10	20
32	1.5	0.2	18	38	0.15	662M-032-x	007578-032-x	10	20
38	1.4	0.2	22	44	0.25	662M-038-x	007578-038-x	10	20
45	1.3	0.18	25	51	0.32	662M-045-x	007578-045-x	10	20
51	1.3	0.15	28	57	0.35	662M-051-x	007578-051-x	10	20
57	1.2	0.14	30	63	0.41	662M-057-x	007578-057-x	10	20
63	1	0.14	34	69	0.45	662M-063-x	007578-063-x	10	20
76	0.8	0.1	40	82	0.6	662M-076-x	007578-076-x	10	20
80	0.7	0.09	42	86	0.62	662M-080-x	007578-080-x	10	20
89	0.7	0.09	48	95	0.65	662M-089-x	007578-089-x	10	20
102	0.6	0.08	52	108	0.75	662M-102-x	007578-102-x	10	20
115	0.5	0.07	60	121	0.8	662M-115-x	007578-115-x	10	20
127	0.4	0.06	66	133	0.9	662M-127-x	007578-127-x	10	20
152	0.3	0.05	80	158	1.1	662M-152-x	007578-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Clip-Grip  
Hose Clamp, screw-



Clip-Grip  
Quick-Fix Clamp



Hose Connector

## Polderflex PVC

PVC Suction Hose & Transport Hose, pressure & vacuum proof, cadmium-free, flexible

### Material

- 1 spiral: spring steel wire
- 2 wall: soft PVC
- 3 wall thickness between spirals approx. 3 - 10mm, dep. on DN size

### Applications

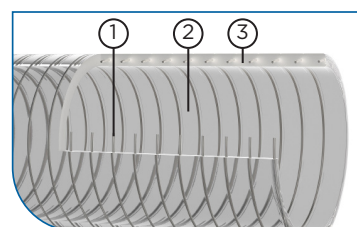
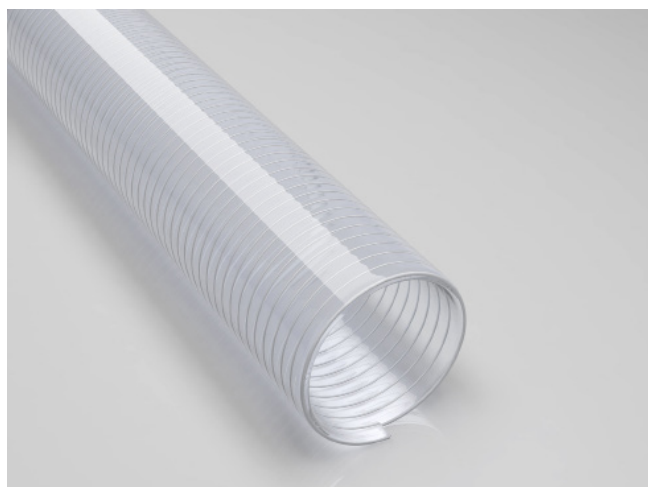
- Sewer cleaning
- Vacuum pumps
- Agriculture
- Construction industry
- Groundwater offtake
- Suction & transport hose for abrasive solids, liquids and gases

### Properties

- pressure and vacuum resistant
- flexible
- smooth inner and outer linings
- atoxic, physiologically safe/harmless
- good oil/alkali/acid resistance
- good chemical resistance

### Temperature Range

- -20°C to +60°C
- peaks to +80°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
13	9	0.88	26	19	0.22	660-013-x	000446-013-x	50	30
16*	9	0.88	32	22	0.27	660-016-x	000446-016-x	30	30
19	8	0.88	38	26	0.35	660-019-x	000446-019-x	30	30
20	8	0.88	40	27	0.34	660-020-x	000446-020-x	30	30
25	8	0.88	50	33	0.52	660-025-x	000446-025-x	50	30
32	8	0.88	64	40	0.66	660-032-x	000446-032-x	30	30
38	7	0.88	76	47	0.8	660-038-x	000446-038-x	30	30
40	7	0.88	80	50	0.95	660-040-x	000446-040-x	30	30
45	6	0.88	90	55	1.15	660-045-x	000446-045-x	30	30
51	5	0.88	102	62	1.35	660-051-x	000446-051-x	30	30
60*	5	0.88	120	72	1.75	660-060-x	000446-060-x	30	30
63*	5	0.88	126	75	1.8	660-063-x	000446-063-x	30	30
76*	4	0.88	152	89	2.3	660-076-x	000446-076-x	30	30
80*	4	0.88	160	93	2.58	660-080-x	000446-080-x	30	30
90*	4	0.88	270	104	2.95	660-090-x	000446-090-x	30	30
102*	3	0.88	306	117	3.75	660-102-x	000446-102-x	20	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Hose Connector



Hose Clamp with Worm-Gear Drive



Hose Clamp with Bolts



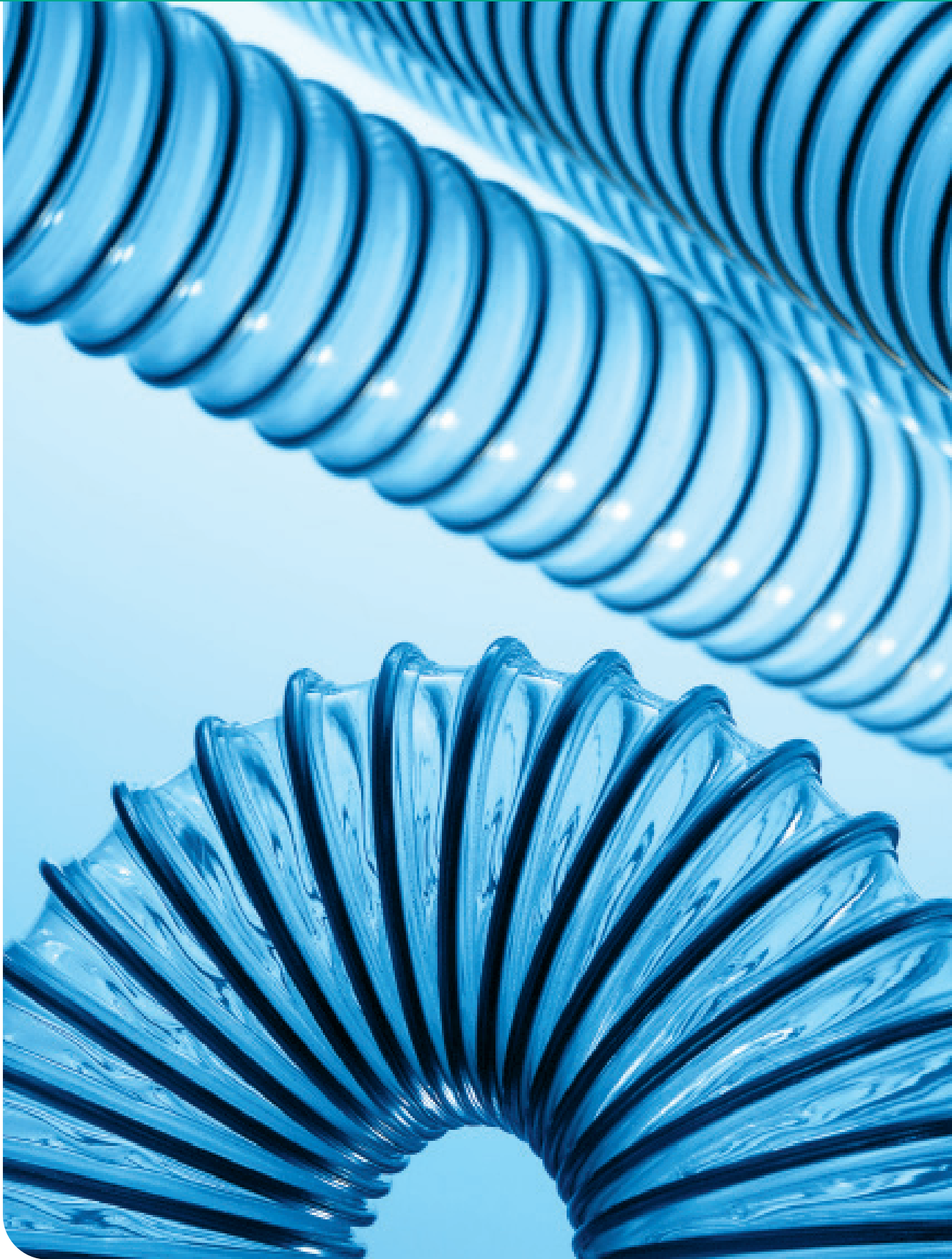


# 3

## Microbe & Hydrolysis-Resistant Hoses

Extremely flexible hoses made from Polyester and Polyether Polyurethane for a wide range of applications





Master-PUR L-MHR

PU Suction & Transport Hose, lightweight, microbe & hydrolysis-resistant

Material

- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane
- 3 wall thickness between spirals approx. 0.7 mm

Applications

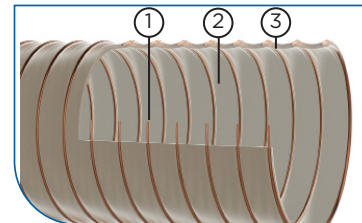
- suction/extraction of paper and textile fibres
- suction & transport hose for abrasive solids, for which microbe and hydrolysis resistance is required
- transport of fine-grained particles, such as dust and powder
- protective hose against mechanical wear
- oil mist extraction/suction

Properties

- microbe and hydrolysis-resistant
- very good flexibility
- light
- halogen and plasticizer-free
- smallest bending radius
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.
- acc. to DIN 26057 type II



see also Master PUR L Trivolution



Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure		vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg				m	m
25*	3.22	0.79	30	30	0.24	110MHR-025-x	000010-025-x	10	25	
26*	3.22	0.79	31	31	0.25	110MHR-026-x	000010-026-x	10	25	
32*	2.52	0.71	40	40	0.35	110MHR-032-x	000010-032-x	10	25	
38*	2.1	0.66	46	46	0.39	110MHR-038-x	000010-038-x	10	25	
40*	2.1	0.66	48	48	0.4	110MHR-040-x	000010-040-x	10	25	
45*	1.84	0.59	53	53	0.42	110MHR-045-x	000010-045-x	10	25	
50*	1.71	0.53	57	57	0.45	110MHR-050-x	000010-050-x	10	25	
51*	1.68	0.52	58	58	0.45	110MHR-051-x	000010-051-x	10	25	
55*	1.54	0.44	63	63	0.51	110MHR-055-x	000010-055-x	10	25	
60*	1.4	0.44	68	68	0.53	110MHR-060-x	000010-060-x	10	25	
65*	1.26	0.37	73	73	0.64	110MHR-065-x	000010-065-x	10	25	
70*	1.12	0.37	78	78	0.68	110MHR-070-x	000010-070-x	10	25	
75*	1.12	0.3	83	83	0.71	110MHR-075-x	000010-075-x	10	25	
76*	1.12	0.29	84	84	0.72	110MHR-076-x	000010-076-x	10	25	
80*	0.98	0.29	88	88	0.76	110MHR-080-x	000010-080-x	10	25	
90*	0.84	0.22	99	99	0.88	110MHR-090-x	000010-090-x	10	25	
100*	0.84	0.22	108	108	0.94	110MHR-100-x	000010-100-x	10	25	
102	0.84	0.22	110	110	0.95	110MHR-102-x	000010-102-x	10	25	
110*	0.7	0.22	119	119	1.03	110MHR-110-x	000010-110-x	10	25	
115*	0.7	0.22	124	124	1.06	110MHR-115-x	000010-115-x	10	25	
120*	0.7	0.22	129	129	1.12	110MHR-120-x	000010-120-x	10	25	
125*	0.7	0.22	133	133	1.16	110MHR-125-x	000010-125-x	10	25	
127*	0.7	0.22	135	135	1.18	110MHR-127-x	000010-127-x	10	25	
130*	0.56	0.22	139	139	1.2	110MHR-130-x	000010-130-x	10	25	
140*	0.56	0.15	149	149	1.38	110MHR-140-x	000010-140-x	10	25	
150*	0.56	0.15	159	159	1.46	110MHR-150-x	000010-150-x	10	25	
152*	0.56	0.15	161	161	1.48	110MHR-152-x	000010-152-x	10	25	
160*	0.56	0.15	170	170	1.74	110MHR-160-x	000010-160-x	10	25	
170*	0.42	0.15	180	180	1.8	110MHR-170-x	000010-170-x	10	25	
175*	0.42	0.15	185	185	1.85	110MHR-175-x	000010-175-x	10	25	
180*	0.42	0.15	190	190	1.9	110MHR-180-x	000010-180-x	10	25	
200*	0.42	0.15	211	211	2.25	110MHR-200-x	000010-200-x	10	25	
203	0.42	0.15	214	214	2.3	110MHR-203-x	000010-203-x	10	25	
225*	0.28	0.07	235	235	2.55	110MHR-225-x	000010-225-x	10	25	
250*	0.28	0.07	260	260	3.02	110MHR-250-x	000010-250-x	10	25	
254*	0.28	0.07	264	264	3.02	110MHR-254-x	000010-254-x	10	25	
275*	0.28	0.07	284	284	3.11	110MHR-275-x	000010-275-x	10	25	
280*	0.28	0.07	290	290	3.14	110MHR-280-x	000010-280-x	10	25	
300*	0.25	0.07	310	310	3.2	110MHR-300-x	000010-300-x	10	20	
315*	0.25	0.07	325	325	3.32	110MHR-315-x	000010-315-x	10	20	
325*	0.25	0.07	335	335	3.4	110MHR-325-x	000010-325-x	10	20	
350*	0.13	0.07	360	360	3.6	110MHR-350-x	000010-350-x	10	20	
375*	0.13	0.05	386	386	3.85	110MHR-375-x	000010-375-x	10	20	
400*	0.13	0.05	410	411	4.45	110MHR-400-x	000010-400-x	10	20	
450*	0.13	0.05	460	461	5.06	110MHR-450-x	000010-450-x	10	20	
500*	0.13	0.05	510	511	5.7	110MHR-500-x	000010-500-x	10	20	

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector

## Master-PUR H-MHR

PU Suction & Transport Hose, medium/heavy duty, microbe/hydrolysis-resistant

### Material

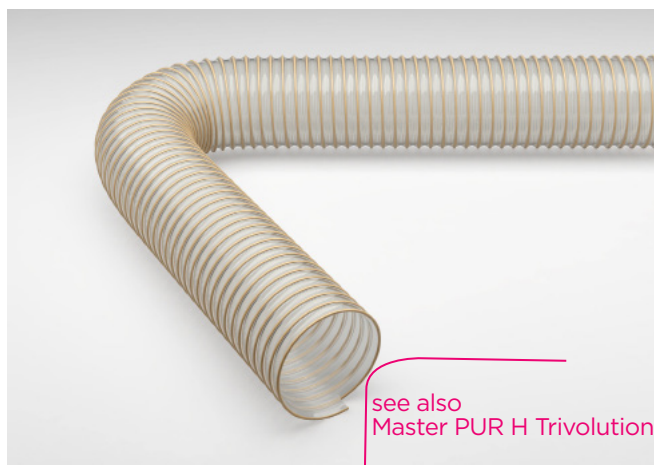
- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane
- 3 wall thickness between spirals approx. 1.4 mm

### Applications

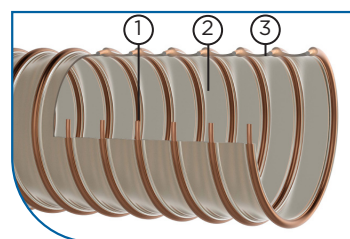
- suction & transport hose for abrasive solids, for which microbe and hydrolysis resistance is required
- granulate transport hose
- standard hose for industrial vacuum cleaners
- transport of chips/shavings
- oil mist extraction/suction
- suction and transport of paper fibres

### Properties

- small bending radius
- good flexibility
- medium duty
- increased pressure and vacuum resistance
- microbe and hydrolysis-resistant
- halogen and plasticizer-free
- optimum flow characteristics
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.
- acc. to DIN 26057 type III



see also  
Master PUR H Trivolution



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
20*	4.3	0.92	43	26	0.22	111MHR-020-x	000063-20-x	10	25
30*	3.25	0.92	51.3	39.2	0.32	111MHR-030-x	000063-30-x	10	25
32*	3.25	0.92	60	41	0.39	111MHR-032-x	000063-32-x	10	25
38*	3.12	0.82	69	47	0.46	111MHR-038-x	000063-38-x	10	25
40*	3	0.82	72	49	0.49	111MHR-040-x	000063-40-x	10	25
45*	2.95	0.81	80	55	0.55	111MHR-045-x	000063-45-x	10	25
50*	2.82	0.82	86	60	0.66	111MHR-050-x	000063-50-x	10	25
51*	2.9	0.82	87	61	0.71	111MHR-051-x	000063-51-x	10	25
55*	2.75	0.76	95	65	0.77	111MHR-055-x	000063-55-x	10	25
60*	2.55	0.74	102	70	0.84	111MHR-060-x	000063-60-x	10	25
63*	2.49	0.71	106	72.6	0.87	111MHR-063-x	000063-63-x	10	25
65*	2.4	0.66	112	75	0.91	111MHR-065-x	000063-65-x	10	25
70*	2.25	0.66	117	80	0.97	111MHR-070-x	000063-70-x	10	25
75*	2.05	0.63	125	85	1.05	111MHR-075-x	000063-75-x	10	25
76*	2	0.59	126	87	1.06	111MHR-076-x	000063-76-x	10	25
80*	2	0.59	132	91	1.11	111MHR-080-x	000063-80-x	10	25
90*	1.65	0.52	149	101	1.25	111MHR-090-x	000063-90-x	10	25
100*	1.54	0.45	163	110	1.43	111MHR-100-x	000063-100-x	10	25
102*	1.5	0.44	165	112	1.48	111MHR-102-x	000063-102-x	10	25
110*	1.35	0.46	179	121	1.61	111MHR-110-x	000063-110-x	10	25
115*	1.35	0.31	186	126	1.68	111MHR-115-x	000063-115-x	10	25
120*	1.3	0.31	194	131	1.75	111MHR-120-x	000063-120-x	10	25
125*	1.3	0.31	201	136	1.89	111MHR-125-x	000063-125-x	10	25
127*	1.3	0.31	203	138	1.91	111MHR-127-x	000063-127-x	10	25
130*	1.3	0.31	209	141	1.96	111MHR-130-x	000063-130-x	10	25
140*	1.05	0.26	224	151	2.11	111MHR-140-x	000063-140-x	10	25
150*	1.05	0.26	240	161	2.31	111MHR-150-x	000063-150-x	10	25
152*	1.05	0.26	242	163	2.29	111MHR-152-x	000063-152-x	10	25
160*	0.9	0.25	255	171	2.51	111MHR-160-x	000063-160-x	10	25
170*	0.9	0.18	270	181	2.67	111MHR-170-x	000063-170-x	10	25
175*	0.9	0.18	278	186	2.74	111MHR-175-x	000063-175-x	10	25
180*	0.75	0.18	285	191	2.82	111MHR-180-x	000063-180-x	10	25
200*	0.75	0.18	316	212	3.42	111MHR-200-x	000063-200-x	10	25
203*	0.75	0.18	321	215	3.5	111MHR-203-x	000063-203-x	10	25
225*	0.6	0.12	353	237	3.65	111MHR-225-x	000063-225-x	10	25
250*	0.6	0.12	390	263	3.91	111MHR-250-x	000063-250-x	10	25
254*	0.58	0.12	396	267	3.91	111MHR-254-x	000063-254-x	10	25
275*	0.45	0.12	426	288	4.22	111MHR-275-x	000063-275-x	10	25
280*	0.45	0.12	435	293	4.3	111MHR-280-x	000063-280-x	10	25
300*	0.45	0.12	465	313	4.94	111MHR-300-x	000063-300-x	10	20
315*	0.45	0.12	488	328	5.19	111MHR-315-x	000063-315-x	10	20
325*	0.45	0.12	503	338	5.35	111MHR-325-x	000063-325-x	10	20
350*	0.45	0.12	540	363	6.96	111MHR-350-x	000063-350-x	10	20
375*	0.3	0.07	580	388	7.45	111MHR-375-x	000063-375-x	10	20
400*	0.3	0.07	615	413	7.95	111MHR-400-x	000063-400-x	10	20
450*	0.3	0.07	690	463	8.94	111MHR-450-x	000063-450-x	10	20
500*	0.3	0.07	765	513	9.93	111MHR-500-x	000063-500-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
\* Available on request  
Subject to technical changes and colour deviations.



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector

## Streetmaster L-F

PU suction hose for streetcleaning machines. Abrasion, vacuum & microbe resistant

### Material

- 1 spiral: encapsulated PVC spring steel wire
- 2 wall: polyester polyurethane, microbe resistant
- 3 wall thickness between spirals approx. 0.7 mm

### Applications

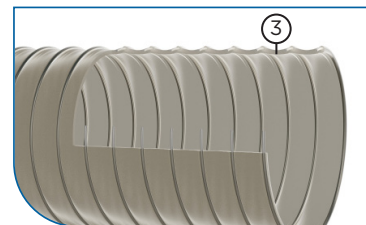
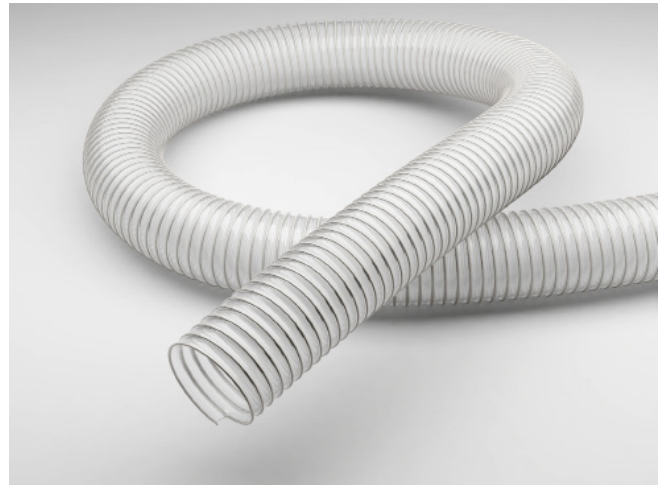
- Suction and wander hose for street cleaning machines and precinct sweeping machines
- Leaf collecting
- Grass cutting machines

### Properties

- microbe resistant
- extremely abrasion resistant
- UV and Ozone resistant
- highly flexible
- compressibility approx 3:1
- lightweight

### Temperature Range

- -40°C to +130°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
100*	0.5	0.1	75	112	0.7	313-100-x	007574-100-x	10	15
125*	0.4	0.1	90	135	1	313-125-x	007574-125-x	10	15
150*	0.35	0.07	100	160	1.2	313-150-x	007574-150-x	10	15
160*	0.35	0.07	105	170	1.4	313-160-x	007574-160-x	10	15
180*	0.3	0.07	120	192	1.5	313-180-x	007574-180-x	10	15
200*	0.25	0.07	125	212	1.6	313-200-x	007574-200-x	10	15
225*	0.25	0.07	150	240	1.8	313-225-x	007574-225-x	10	15
250*	0.22	0.06	200	265	1.9	313-250-x	007574-250-x	10	15
300*	0.2	0.06	250	315	3	313-300-x	007574-300-x	10	15

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Clip-Grip Hose Clamp, screwable



Clip-Grip Quick-Fix Clamp



Hose Connector



Hose Reducer, symmetrical



## Streetmaster GKS

PU Large Street-Cleaner Suction Hose, highly abrasion / vacuum / microbe-resistant

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane, microbe resistant
- 3 wall thickness between spirals approx. 1.8 - 3.4 mm

### Applications

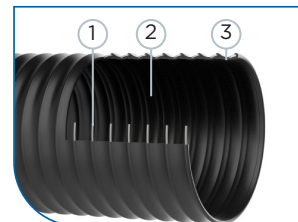
- suction & transport hose for abrasive solids, for which microbe and hydrolysis resistance is required
- granulate transport hose
- standard hose for industrial vacuum cleaners
- transport of chips/shavings
- oil mist extraction/suction
- suction and transport of paper fibres

### Properties

- municipal and waste disposal vehicles
- suction dredger hose
- suction hose for larger sweepers
- suction & transport hose for abrasive solids, which require microbe resistance

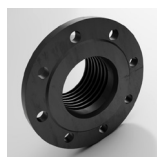
### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
225	0.6	0.36	525	240	4.7	130-225-x	000217-225-x	10	20
250	0.6	0.32	585	269	5.4	130-250-x	000217-250-x	10	20
280*	0.5	0.28	655	295	6.3	130-280-x	000217-280-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Combiflex PU fixed flange



Hose Clamp with Bolts



PU Cuff, pre-fitted

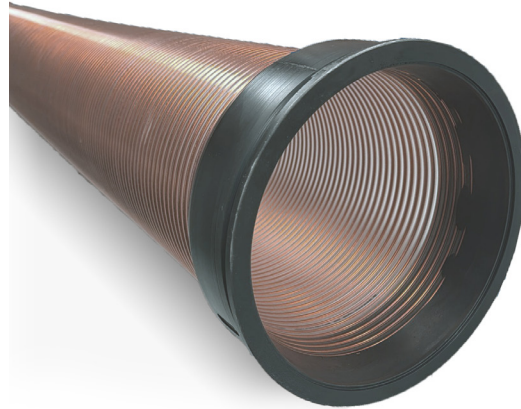


## Master-PUR HX Trivolution assembly for suction excavation

PU Transport hose & Suction Hose, highly abrasion resistant and vacuum proof, with reinforcement underneath the spiral, antistatic, microbe-resistant, hardly inflammable acc. to DIN 4102 B1

### Material

- 1 spiral: spring steel wire
- 2 wall: pure polyester polyurethane (acc. to DIN ISO 4649 more abrasion-resistant in comparison to polyether polyurethane)
- 3 wall thickness between spirals approx. 1.7 - 2.1 mm, depending on DN

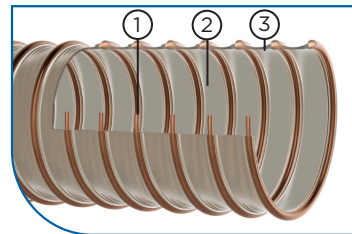


### Applications

- for increased requirements of abrasion resistance and durability
- transport hose for problematic media, e.g. sand, gravel, grain, granules
- suction & transport hose for extremely abrasive media
- flat-roof gravelling
- working hose for silo vehicles and cargo depots

### Properties

- hardly inflammable acc. to DIN 4102 B1
- extremely abrasion resistant via specific reinforcements underneath the spiral
- microbe-resistant
- heavy duty
- flexible
- smooth inner lining, optimum flow characteristics
- high vacuum and apex pressure resistance
- highly durable, long service lives
- permanently antistatic, surface resistance <math>< 10^9 \text{ Ohm}</math>
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- halogen and plasticizer-free
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance
- acc. to DIN 26057 type IV



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Technical details

- The assembly is made with our Master-PUR HX trivolution and our Combiflex PU Cone Flange cuff which can be supplied in 2 versions: moulded on or screw on
- Most common used size for this application is 250 mm ID, in 2 or 4 m length, we can supply any ID and length. Please contact us for more information
- Connection to be used would be our Quick Fix Clamp for cone flange



Combiflex PU cone Flange



Quick-Fix Clamp for Cone Flange

Flamex BF AE

PU Suction & Transport Hose, lightweight, extremely flexible, food-grade quality acc. to FDA

Material

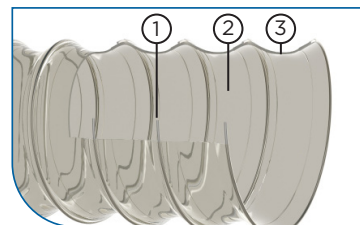
- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane, food-grade quality (FDA)
- 3 wall thickness between spirals approx. 0.5 mm

Applications

- pharmaceutical industry
- chemicals industry
- food industry

Properties

- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- abrasion-resistant
- highly flexible
- light
- odourless/tasteless
- microbe and hydrolysis-resistant
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.

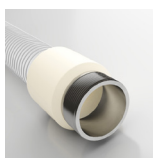


Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
75*	0.61	0.13	43	83	0.52	212-075-x	007572-075-x	10	15
80*	0.53	0.13	45	88	0.55	212-080-x	007572-080-x	10	15
100*	0.46	0.13	55	108	0.69	212-100-x	007572-100-x	10	15
115*	0.38	0.09	63	124	0.78	212-115-x	007572-115-x	10	15
125*	0.38	0.09	68	136	0.85	212-125-x	007572-125-x	10	15
150*	0.3	0.06	80	159	1.02	212-150-x	007572-150-x	10	15
160*	0.3	0.06	85	169	1.08	212-160-x	007572-160-x	10	15
180*	0.23	0.06	95	189	1.13	212-180-x	007572-180-x	10	15
200*	0.23	0.06	105	210	1.26	212-200-x	007572-200-x	10	15
225*	0.15	0.06	118	235	1.41	212-225-x	007572-225-x	10	15
250*	0.15	0.06	130	260	1.58	212-250-x	007572-250-x	10	15

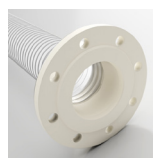
All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



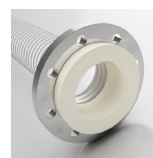
Combiflex PU Cast-On Connectors, Food



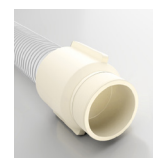
Master-Grip Double-Wire Clamp



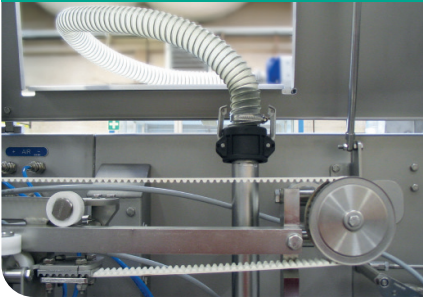
Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



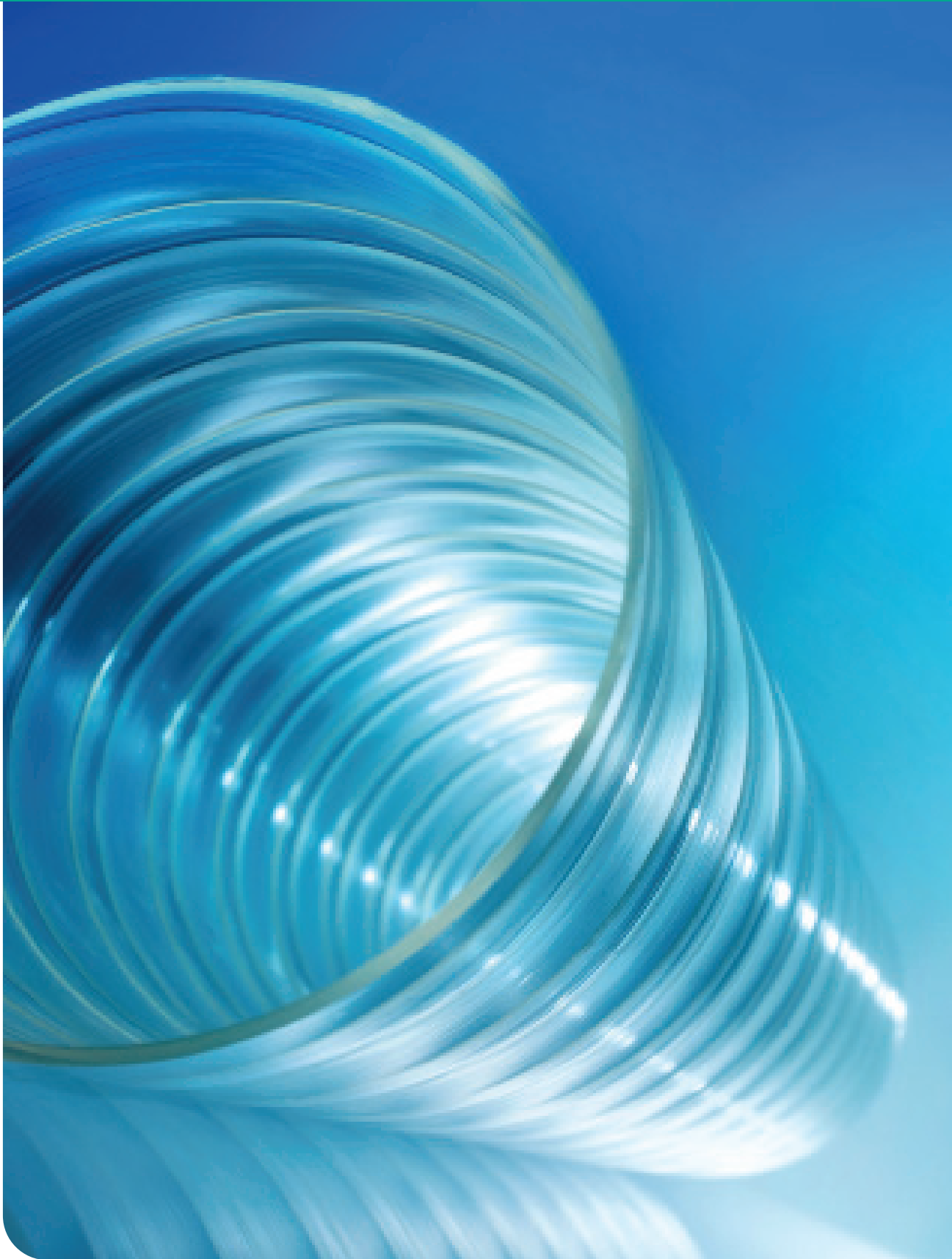
Combiflex PU Threaded Sockets Food



# 4

## Food & Pharmaceutical Hoses

Smoother hoses made from pure Polyether-Polyurethane, certified to EU directives & FDA compliant for almost any application in the Food & Pharmaceutical industries



Master-PUR L-F Food

PU Suction & Transport Hose, super light weight, extremely flexible, food-grade quality acc. to EU 10/2011 and FDA

Material

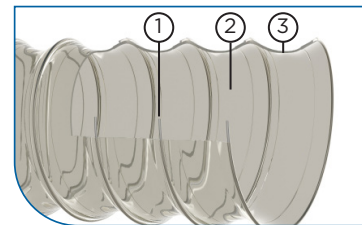
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade quality (FDA)
- 3 wall thickness between spirals approx. 0.5 mm

Applications

- pharmaceutical industry
- chemicals industry
- food industry

Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade categories: A, B, C, D1, D2, E
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- abrasion-resistant
- highly flexible
- very light
- odourless/tasteless
- microbe and hydrolysis-resistant
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



Temperature Range

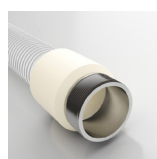
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
40*	0.82	0.24	20	46	0.28	310F-040-x	000383-040-x	10	25
50*	0.78	0.2	24	56	0.33	310F-050-x	000383-050-x	10	25
51	0.78	0.2	25	57	0.34	310F-051-x	000383-051-x	10	25
60	0.76	0.19	35	68	0.35	310F-060-x	000383-060-x	10	25
70*	0.61	0.16	40	78	0.41	310F-070-x	000383-070-x	10	25
75*	0.61	0.13	42	82	0.51	310F-075-x	000383-075-x	10	25
76*	0.61	0.13	43	83	0.53	310F-076-x	000383-076-x	10	25
80*	0.53	0.13	45	88	0.53	310F-080-x	000383-080-x	10	25
90*	0.46	0.09	50	99	0.6	310F-090-x	000383-090-x	10	25
100*	0.46	0.09	54	107	0.68	310F-100-x	000383-100-x	10	25
102	0.46	0.09	55	108	0.69	310F-102-x	000383-102-x	10	25
110*	0.38	0.09	60	119	0.73	310F-110-x	000383-110-x	10	25
120*	0.38	0.09	65	129	0.82	310F-120-x	000383-120-x	10	25
125*	0.38	0.09	68	132	0.84	310F-125-x	000383-125-x	10	25
127	0.38	0.09	70	134	0.85	310F-127-x	000383-127-x	10	25
150*	0.3	0.06	79	157	1	310F-150-x	000383-150-x	10	25
152	0.3	0.06	80	159	1.02	310F-152-x	000383-152-x	10	25
160*	0.3	0.06	85	169	1.23	310F-160-x	000383-160-x	10	25
180*	0.23	0.06	95	189	1.38	310F-180-x	000383-180-x	10	25
200*	0.23	0.06	104	207	1.5	310F-200-x	000383-200-x	10	25
203	0.23	0.06	105	210	1.52	310F-203-x	000383-203-x	10	25
250*	0.15	0.03	128	256	1.64	310F-250-x	000383-250-x	10	25
254	0.15	0.03	130	260	1.64	310F-254-x	000383-254-x	10	25
300*	0.14	0.03	155	310	1.78	310F-300-x	000383-300-x	10	25
315*	0.14	0.03	162	325	1.87	310F-315-x	000383-315-x	10	25
350*	0.12	0.03	180	360	2.44	310F-350-x	000383-350-x	10	25
400*	0.12	0.03	210	410	3.04	310F-400-x	000383-400-x	10	25

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

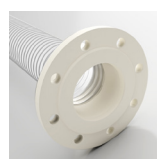
Subject to technical changes and colour deviations.



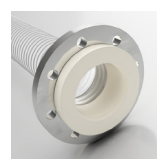
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food



## Master-PUR L-F Food A

PU Suction & Transport Hose, super lightweight, food-grade quality acc. to EU 10/2011 and FDA, permanently antistatic

### Material

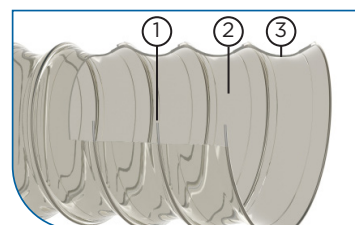
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA), with non-migratory permanent antistatic agent
- 3 wall thickness between spirals approx. 0.5 mm

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade category: E (contact duration acc. to Test Report)
- the material of the wall complies with the FDA food regulations 21 CFR § 177.1680 and 21 CFR § 177.2600
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- abrasion-resistant
- highly flexible
- very light
- odourless/tasteless
- microbe and hydrolysis-resistant
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance



### Temperature Range

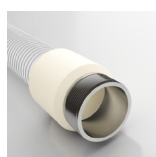
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
40*	0.82	0.24	20	46	0.28	310FA-040-x	000384-040-x	10	25
50*	0.78	0.2	24	56	0.33	310FA-050-x	000384-050-x	10	25
51	0.78	0.2	25	57	0.34	310FA-051-x	000384-051-x	10	25
60*	0.76	0.19	35	68	0.35	310FA-060-x	000384-060-x	10	25
70*	0.61	0.16	40	78	0.41	310FA-070-x	000384-070-x	10	25
75*	0.61	0.13	42	82	0.51	310FA-075-x	000384-075-x	10	25
76*	0.61	0.13	43	83	0.53	310FA-076-x	000384-076-x	10	25
80*	0.53	0.13	45	88	0.53	310FA-080-x	000384-080-x	10	25
90*	0.46	0.09	50	99	0.6	310FA-090-x	000384-090-x	10	25
100*	0.46	0.09	54	106	0.68	310FA-100-x	000384-100-x	10	25
102	0.46	0.09	55	108	0.69	310FA-102-x	000384-102-x	10	25
110*	0.38	0.09	60	119	0.73	310FA-110-x	000384-110-x	10	25
120*	0.38	0.09	65	129	0.82	310FA-120-x	000384-120-x	10	25
125*	0.38	0.09	70	132	0.84	310FA-125-x	000384-125-x	10	25
127*	0.38	0.09	70	134	0.85	310FA-127-x	000384-127-x	10	25
150*	0.31	0.06	78	157	1.01	310FA-150-x	000384-150-x	10	25
152*	0.3	0.06	80	159	1.02	310FA-152-x	000384-152-x	10	25
160*	0.3	0.06	85	169	1.23	310FA-160-x	000384-160-x	10	25
180*	0.23	0.06	95	189	1.38	310FA-180-x	000384-180-x	10	25
200*	0.23	0.06	102	207	1.5	310FA-200-x	000384-200-x	10	25
203*	0.23	0.06	105	210	1.52	310FA-203-x	000384-203-x	10	25
250*	0.16	0.03	126	256	1.66	310FA-250-x	000384-250-x	10	25
254*	0.15	0.03	130	260	1.65	310FA-254-x	000384-254-x	10	25
300*	0.14	0.03	155	310	1.78	310FA-300-x	000384-300-x	10	25
315*	0.14	0.03	162	325	1.87	310FA-315-x	000384-315-x	10	25
350*	0.12	0.03	180	360	2.44	310FA-350-x	000384-350-x	10	25
400*	0.12	0.03	210	410	3.04	310FA-400-x	000384-400-x	10	25

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

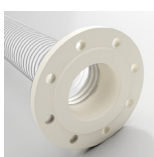
Subject to technical changes and colour deviations.



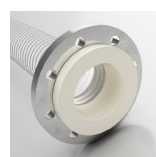
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food



## Flamex BF AE

PU Suction & Transport Hose, lightweight, extremely flexible, food-grade quality acc. to FDA

### Material

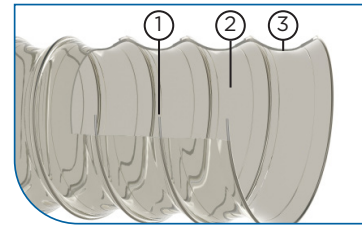
- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane, food-grade quality (FDA)
- 3 wall thickness between spirals approx. 0.5 mm

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- abrasion-resistant
- highly flexible
- light
- odourless/tasteless
- microbe and hydrolysis-resistant
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.

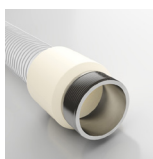


### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
75*	0.61	0.13	43	83	0.52	212-075-x	007572-075-x	10	15
80*	0.53	0.13	45	88	0.55	212-080-x	007572-080-x	10	15
100*	0.46	0.13	55	108	0.69	212-100-x	007572-100-x	10	15
115*	0.38	0.09	63	124	0.78	212-115-x	007572-115-x	10	15
125*	0.38	0.09	68	136	0.85	212-125-x	007572-125-x	10	15
150*	0.3	0.06	80	159	1.02	212-150-x	007572-150-x	10	15
160*	0.3	0.06	85	169	1.08	212-160-x	007572-160-x	10	15
180*	0.23	0.06	95	189	1.13	212-180-x	007572-180-x	10	15
200*	0.23	0.06	105	210	1.26	212-200-x	007572-200-x	10	15
225*	0.15	0.06	118	235	1.41	212-225-x	007572-225-x	10	15
250*	0.15	0.06	130	260	1.58	212-250-x	007572-250-x	10	15

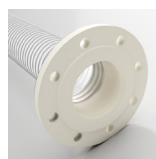
All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



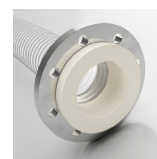
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food

## Master-PUR L Food

PU Suction & Transport Hose, light duty, food-grade quality acc. to EU 10/2011 and FDA

### Material

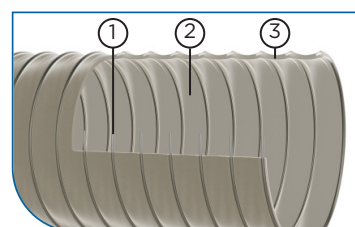
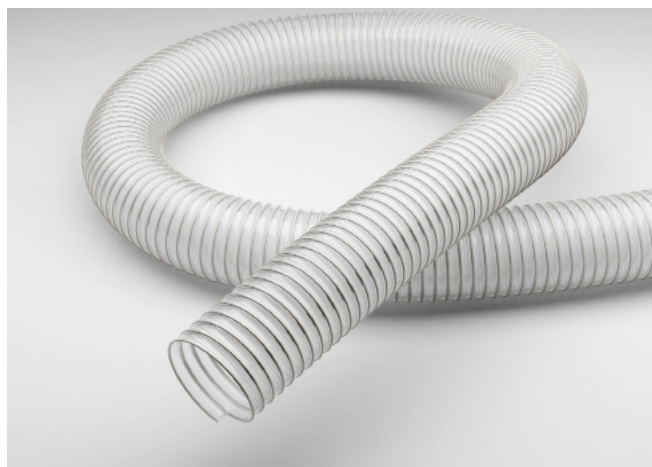
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA)
- 3 wall thickness between spirals approx. 0.7 mm

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade categories: A, B, C, D1, D2, E (contact durations acc. to Test Report)
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- abrasion-resistant
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- light
- very good flexibility
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

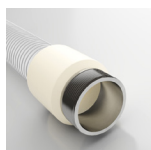
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32	2.52	0.71	40	40	0.35	110F-032-x	000012-032-x	10	25
38	2.1	0.66	46	46	0.39	110F-038-x	000012-038-x	10	25
40	2.1	0.66	48	48	0.4	110F-040-x	000012-040-x	10	25
45*	1.84	0.59	53	53	0.44	110F-045-x	000012-045-x	10	25
50*	1.71	0.51	57	57	0.45	110F-050-x	000012-050-x	10	25
51	1.68	0.52	58	58	0.45	110F-051-x	000012-051-x	10	25
55*	1.54	0.44	63	63	0.54	110F-055-x	000012-055-x	10	25
60	1.4	0.44	68	68	0.53	110F-060-x	000012-060-x	10	25
65	1.26	0.37	75	73	0.64	110F-065-x	000012-065-x	10	25
70	1.12	0.37	80	78	0.68	110F-070-x	000012-070-x	10	25
75*	1.12	0.3	84	83	0.71	110F-075-x	000012-075-x	10	25
76	1.12	0.29	85	84	0.72	110F-076-x	000012-076-x	10	25
80	0.98	0.29	90	88	0.76	110F-080-x	000012-080-x	10	25
90*	0.84	0.22	99	99	0.88	110F-090-x	000012-090-x	10	25
100*	0.84	0.22	108	108	0.94	110F-100-x	000012-100-x	10	25
102	0.84	0.22	110	110	0.95	110F-102-x	000012-102-x	10	25
110*	0.7	0.22	119	119	1.23	110F-110-x	000012-110-x	10	25
115*	0.7	0.22	124	124	1.28	110F-115-x	000012-115-x	10	25
120*	0.7	0.22	130	129	1.12	110F-120-x	000012-120-x	10	25
125*	0.7	0.22	133	133	1.17	110F-125-x	000012-125-x	10	25
127	0.7	0.22	135	135	1.18	110F-127-x	000012-127-x	10	25
130*	0.56	0.22	141	140	1.2	110F-130-x	000012-130-x	10	25
140*	0.56	0.15	153	150	1.38	110F-140-x	000012-140-x	10	25
150*	0.56	0.15	163	159	1.47	110F-150-x	000012-150-x	10	25
152	0.56	0.15	165	161	1.48	110F-152-x	000012-152-x	10	25
160*	0.56	0.15	170	170	1.74	110F-160-x	000012-160-x	10	25
175*	0.42	0.15	185	185	1.85	110F-175-x	000012-175-x	10	25
180*	0.42	0.15	190	190	1.9	110F-180-x	000012-180-x	10	25
200*	0.42	0.15	212	211	2.25	110F-200-x	000012-200-x	10	25
203	0.42	0.15	215	214	2.3	110F-203-x	000012-203-x	10	25

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

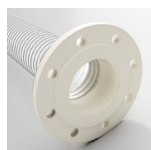
Subject to technical changes and colour deviations.



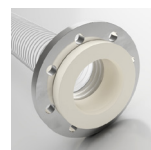
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



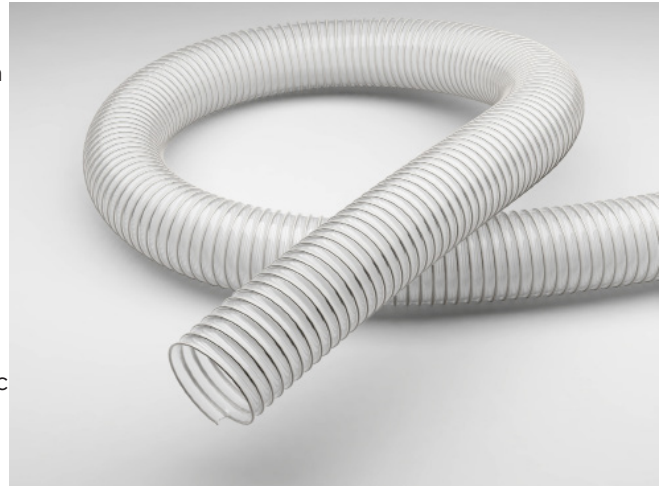
Combiflex PU Threaded Sockets Food

# Master-PUR L Food A

PU Suction & Transport Hose, light duty, highly flexible, food-grade quality acc. to EU 10/2011 and FDA, permanently antistatic

**Material**

- 1 spiral: anti-rust spring steel wire (material no. 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA), with non-migratory permanent antistatic agent
- 3 wall thickness between spirals approx. 0.7 mm

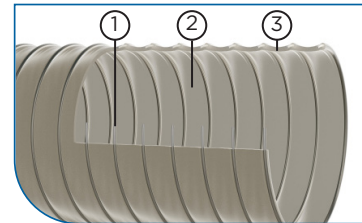


**Applications**

- pharmaceutical industry
- chemicals industry
- food industry

**Properties**

- EU guidelines EU 10/2011 and most recent amending
- approved for food-grade category: E (contact duration acc. to Report)
- the material of the wall complies with the FDA Food Additives Regulations 21 CFR § 177.1680 and 21 CFR § 177.2600
- permanently antistatic, surface resistance  $R_o < 10^9$  Ohm, measured acc. to DIN EN ISO 8031
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- light-duty
- very good flexibility
- smallest bending radius
- abrasion-resistant
- optimum flow characteristics
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- halogen and plasticizer-free
- generally good UV and ozone resistance
- good chemical resistance
- high tensile strength

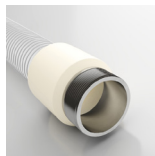


**Temperature Range**

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure		vacuum	bend radius		outer Ø	weight/m	old article no.	new article no.	standard length		max. production length
	bar	mm		mm	kg					m	m	
32*	2.52	0.71	40	40	0.35	110FA-032-x	000014-032-x	10	25			
38*	2.1	0.66	46	46	0.39	110FA-038-x	000014-038-x	10	25			
40	2.1	0.66	48	48	0.4	110FA-040-x	000014-040-x	10	25			
45*	1.84	0.59	53	53	0.44	110FA-045-x	000014-045-x	10	25			
50*	1.71	0.53	57	57	0.45	110FA-050-x	000014-050-x	10	25			
51	1.68	0.52	58	58	0.45	110FA-051-x	000014-051-x	10	25			
55*	1.54	0.44	63	63	0.54	110FA-055-x	000014-055-x	10	25			
60*	1.4	0.44	68	68	0.53	110FA-060-x	000014-060-x	10	25			
65	1.26	0.37	75	75	0.64	110FA-065-x	000014-065-x	10	25			
70*	1.12	0.37	80	78	0.68	110FA-070-x	000014-070-x	10	25			
75*	1.12	0.3	84	83	0.71	110FA-075-x	000014-075-x	10	25			
76*	1.12	0.29	85	84	0.72	110FA-076-x	000014-076-x	10	25			
80	0.98	0.29	90	88	0.76	110FA-080-x	000014-080-x	10	25			
90*	0.84	0.22	99	99	0.88	110FA-090-x	000014-090-x	10	25			
100*	0.84	0.22	108	108	0.94	110FA-100-x	000014-100-x	10	25			
102	0.84	0.22	110	110	0.95	110FA-102-x	000014-102-x	10	25			
110*	0.7	0.22	119	119	1.23	110FA-110-x	000014-110-x	10	25			
115*	0.7	0.22	124	124	1.28	110FA-115-x	000014-115-x	10	25			
120*	0.7	0.22	130	129	1.12	110FA-120-x	000014-120-x	10	25			
125*	0.7	0.22	133	133	1.16	110FA-125-x	000014-125-x	10	25			
127*	0.7	0.22	135	135	1.18	110FA-127-x	000014-127-x	10	25			
130*	0.56	0.22	141	140	1.23	110FA-130-x	000014-130-x	10	25			
140*	0.56	0.15	153	150	1.4	110FA-140-x	000014-140-x	10	25			
150*	0.56	0.15	163	159	1.57	110FA-150-x	000014-150-x	10	25			
152*	0.56	0.15	165	161	1.6	110FA-152-x	000014-152-x	10	25			
160*	0.56	0.15	170	170	1.74	110FA-160-x	000014-160-x	10	25			
175*	0.42	0.15	185	185	1.85	110FA-175-x	000014-175-x	10	25			
180*	0.42	0.15	190	190	1.9	110FA-180-x	000014-180-x	10	25			
200*	0.42	0.15	212	212	2.25	110FA-200-x	000014-200-x	10	25			
203*	0.42	0.15	215	214	2.3	110FA-203-x	000014-203-x	10	25			

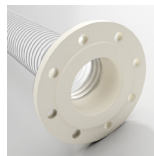
All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



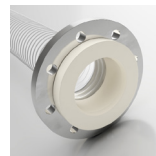
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food

## Master-PUR H Food

PU Suction & Transport Hose, medium duty, flexible, food-grade quality acc. to EU 10/2011 and FDA

### Material

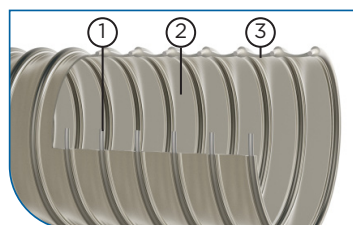
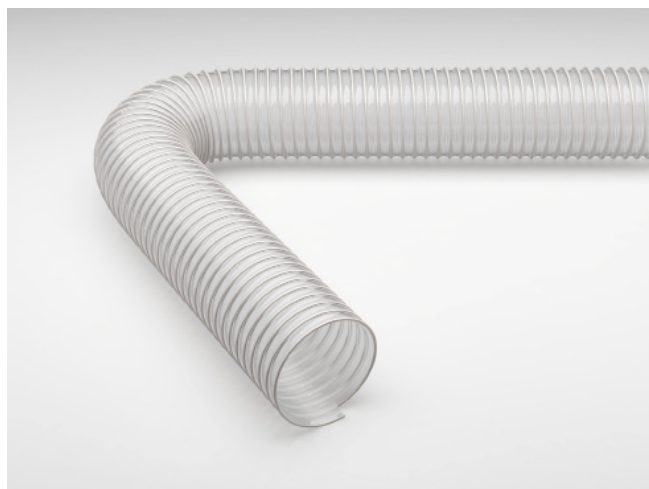
- 1 spiral: anti-rust spring steel wire (material no. 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA)
- 3 wall thickness between spirals approx. 1.4 mm

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade categories: A, B, C, D1, D2, E (contact durations acc. to Test Report)
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- small bending radius
- good flexibility
- medium duty
- abrasion-resistant
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.

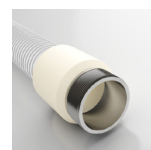


### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
20	4.3	0.92	45	28	0.23	111F-020-x	000067-020-x	10	25
25*	4.16	0.92	50	33	0.28	111F-025-x	000067-025-x	10	25
26	4.16	0.92	47	33	0.29	111F-026-x	000067-026-x	10	25
30*	3.51	0.92	56	39	0.37	111F-030-x	000067-030-x	10	25
32	3.25	0.92	60	41	0.39	111F-032-x	000067-032-x	10	25
38	3.12	0.82	70	47	0.46	111F-038-x	000067-038-x	10	25
40	3	0.82	70	49	0.49	111F-040-x	000067-040-x	10	25
45*	2.95	0.81	80	55	0.55	111F-045-x	000067-045-x	10	25
50*	2.9	0.8	86	60	0.68	111F-050-x	000067-050-x	10	25
51	2.9	0.79	87	61	0.71	111F-051-x	000067-051-x	10	25
55*	2.75	0.76	95	65	0.77	111F-055-x	000067-055-x	10	25
60	2.55	0.74	105	70	0.84	111F-060-x	000067-060-x	10	25
65	2.4	0.66	115	75	0.91	111F-065-x	000067-065-x	10	25
70	2.25	0.66	120	80	0.97	111F-070-x	000067-070-x	10	25
75*	2	0.6	124	86	1.05	111F-075-x	000067-075-x	10	25
76	2	0.59	125	87	1.06	111F-076-x	000067-076-x	10	25
80	2	0.59	135	91	1.11	111F-080-x	000067-080-x	10	25
90	1.65	0.52	149	101	1.25	111F-090-x	000067-090-x	10	25
100*	1.5	0.45	163	110	1.44	111F-100-x	000067-100-x	10	25
102	1.5	0.44	165	112	1.48	111F-102-x	000067-102-x	10	25
115*	1.35	0.31	186	126	1.68	111F-115-x	000067-115-x	10	25
120*	1.3	0.31	195	131	1.75	111F-120-x	000067-120-x	10	25
125*	1.3	0.31	203	136	1.86	111F-125-x	000067-125-x	10	25
127*	1.3	0.31	205	138	1.91	111F-127-x	000067-127-x	10	25
130*	1.3	0.31	209	141	1.96	111F-130-x	000067-130-x	10	25
140*	1.05	0.25	224	151	2.11	111F-140-x	000067-140-x	10	25
150*	1.05	0.25	243	161	2.26	111F-150-x	000067-150-x	10	25
152	1.05	0.25	245	163	2.29	111F-152-x	000067-152-x	10	25
160*	0.9	0.25	255	171	2.51	111F-160-x	000067-160-x	10	25
170*	0.9	0.18	255	181	2.67	111F-170-x	000067-170-x	10	25
175*	0.9	0.18	255	186	2.74	111F-175-x	000067-175-x	10	25
180*	0.75	0.18	285	191	2.82	111F-180-x	000067-180-x	10	25
200*	0.75	0.18	320	212	3.41	111F-200-x	000067-200-x	10	25
203*	0.75	0.18	325	215	3.5	111F-203-x	000067-203-x	10	25

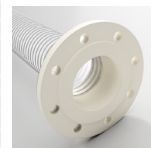
All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



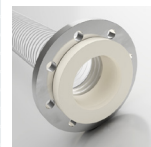
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food



Master-PUR H Food A

PU Suction & Transport Hose, medium duty, very flexible, food-grade quality acc. to EU 10/2011 and FDA,

Material

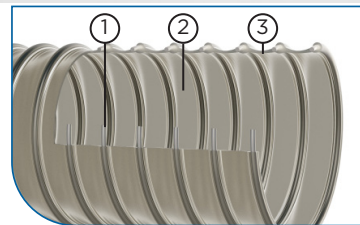
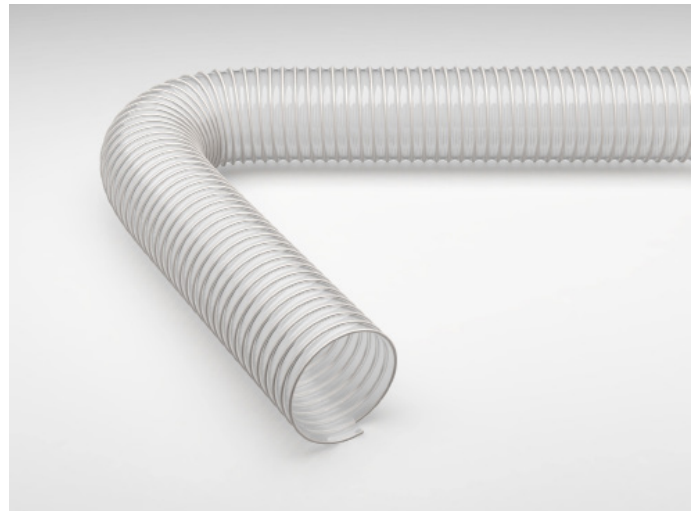
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA), with non-migratory permanent antistatic agent
- 3 wall thickness between spirals approx. 1.4 mm

Applications

- pharmaceutical industry
- chemicals industry
- food industry

Properties

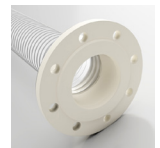
- the hose conforms with EU Guideline 10/2011
- approved for food-grade category: E (contact duration acc. to Test Report)
- the material of the wall complies with the FDA food regulations 21 CFR § 177.1680 and 21 CFR § 177.2600
- good flexibility
- small bending radius
- medium duty
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- abrasion-resistant
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance



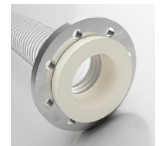
Combiflex PU Cast-On Connectors, Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Swivel Flange Food



Combiflex PU Threaded Sockets Food

Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
20*	4.3	0.92	45	28	0.23	111FA-020-x	000068-020-x	10	25
26*	4.16	0.92	50	33	0.3	111FA-026-x	000068-026-x	10	25
30*	3.51	0.92	56	39	0.37	111FA-030-x	000068-030-x	10	25
32	3.25	0.92	60	41	0.39	111FA-032-x	000068-032-x	10	25
38	3.12	0.82	70	47	0.46	111FA-038-x	000068-038-x	10	25
40	3	0.82	70	49	0.49	111FA-040-x	000068-040-x	10	25
45*	2.95	0.81	80	55	0.55	111FA-045-x	000068-045-x	10	25
50*	2.9	0.8	86	60	0.68	111FA-050-x	000068-050-x	10	25
51	2.9	0.79	87	61	0.71	111FA-051-x	000068-051-x	10	25
55*	2.75	0.76	95	65	0.77	111FA-055-x	000068-055-x	10	25
60	2.55	0.74	105	70	0.84	111FA-060-x	000068-060-x	10	25
65	2.4	0.66	115	75	0.91	111FA-065-x	000068-065-x	10	25
70*	2.25	0.66	120	80	0.97	111FA-070-x	000068-070-x	10	25
75*	2	0.6	124	86	1.05	111FA-075-x	000068-075-x	10	25
76*	2	0.59	125	87	1.06	111FA-076-x	000068-076-x	10	25
80	2	0.59	135	91	1.11	111FA-080-x	000068-080-x	10	25
90*	1.65	0.52	149	101	1.25	111FA-090-x	000068-090-x	10	25
100*	1.5	0.45	163	110	1.44	111FA-100-x	000068-100-x	10	25
102	1.5	0.44	165	112	1.48	111FA-102-x	000068-102-x	10	25
115*	1.35	0.31	186	126	1.68	111FA-115-x	000068-115-x	10	25
120*	1.3	0.31	195	131	1.75	111FA-120-x	000068-120-x	10	25
125*	1.3	0.31	203	136	1.86	111FA-125-x	000068-125-x	10	25
127*	1.3	0.31	205	138	1.91	111FA-127-x	000068-127-x	10	25
130*	1.3	0.31	209	141	1.96	111FA-130-x	000068-130-x	10	25
140*	1.05	0.25	224	151	2.11	111FA-140-x	000068-140-x	10	25
150*	1.05	0.25	243	161	2.26	111FA-150-x	000068-150-x	10	25
152*	1.05	0.25	245	163	2.29	111FA-152-x	000068-152-x	10	25
160*	0.9	0.25	255	171	2.51	111FA-160-x	000068-160-x	10	25
170*	0.9	0.18	255	181	2.67	111FA-170-x	000068-170-x	10	25
175*	0.9	0.18	255	186	2.74	111FA-175-x	000068-175-x	10	25
180*	0.75	0.18	285	191	2.82	111FA-180-x	000068-180-x	10	25
200*	0.75	0.18	320	212	3.41	111FA-200-x	000068-200-x	10	25
203*	0.75	0.18	325	215	3.5	111FA-203-x	000068-203-x	10	25

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## Master-PUR HX Food

PU Suction & Transport Hose, heavy-duty, food-grade quality acc. to EU 10/2011 and FDA

### Material

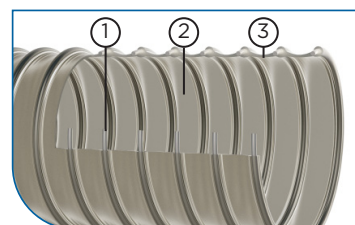
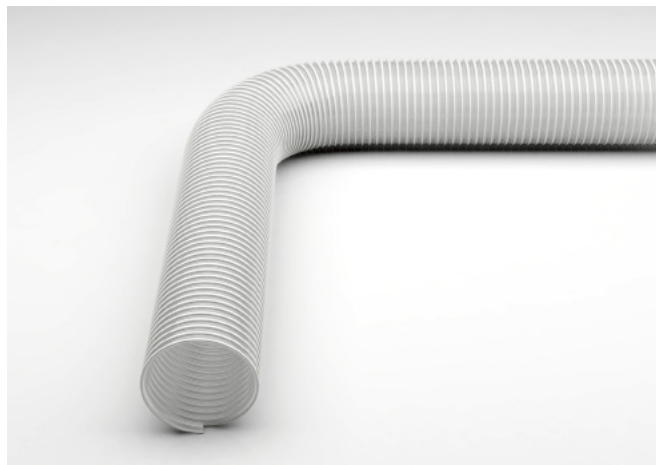
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA)
- 3 wall thickness between spirals approx. 1.7 -2.1 mm depending on DN

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade categories: A, B, C, D1, D2, E (contact durations acc. to Test Report)
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- extremely abrasion resistant via specific reinforcements underneath the spiral
- flexible
- heavy
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

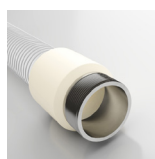
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	4.85	0.94	80	42	0.66	114F-032-x	000160-032-x	10	20
40*	4.27	0.94	100	50	0.83	114F-040-x	000160-040-x	10	20
50*	4.02	0.94	123	60	1.02	114F-050-x	000160-050-x	10	20
51	4	0.94	125	61	1.04	114F-051-x	000160-051-x	10	20
55*	3.75	0.89	140	65	1.1	114F-055-x	000160-055-x	10	20
60*	3.6	0.89	150	70	1.2	114F-060-x	000160-060-x	10	20
65*	3.3	0.89	165	75	1.29	114F-065-x	000160-065-x	10	20
70*	3.15	0.89	175	80	1.38	114F-070-x	000160-070-x	10	20
75*	2.96	0.89	188	86	1.57	114F-075-x	000160-075-x	10	20
76*	2.92	0.89	190	87	1.61	114F-076-x	000160-076-x	10	20
80*	2.77	0.89	200	93	1.93	114F-080-x	000160-080-x	10	20
90*	2.4	0.89	225	103	2.16	114F-090-x	000160-090-x	10	20
100*	2.15	0.87	246	113	2.53	114F-100-x	000160-100-x	10	20
102*	2.1	0.87	250	115	2.6	114F-102-x	000160-102-x	10	20
110*	1.95	0.87	275	124	2.82	114F-110-x	000160-110-x	10	20
115*	1.8	0.87	290	129	2.94	114F-115-x	000160-115-x	10	20
120*	1.65	0.87	300	134	3.07	114F-120-x	000160-120-x	10	20
125*	1.65	0.87	310	138	3.33	114F-125-x	000160-125-x	10	20
127*	1.65	0.87	315	140	3.44	114F-127-x	000160-127-x	10	20
130*	1.65	0.84	325	145	3.54	114F-130-x	000160-130-x	10	20
140*	1.5	0.83	350	153	3.81	114F-140-x	000160-140-x	10	20
150*	1.5	0.82	433	165	4.08	114F-150-x	000160-150-x	10	20
152*	1.5	0.82	450	167	4.13	114F-152-x	000160-152-x	10	20

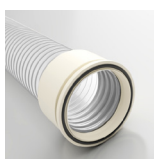
All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



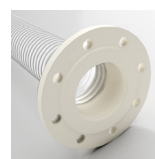
Combiflex PU Cast-On Connectors, Food



Combiflex PU Cone Flange Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Threaded Sockets Food



## Master-PUR HX Food A

PU suction & Transport Hose, heavy-duty, food-grade quality acc. to EU 10/2011 and FDA, permanently antistatic

### Material

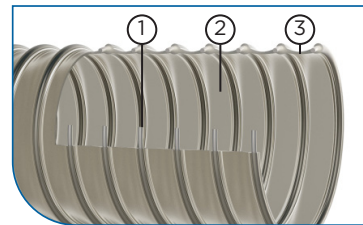
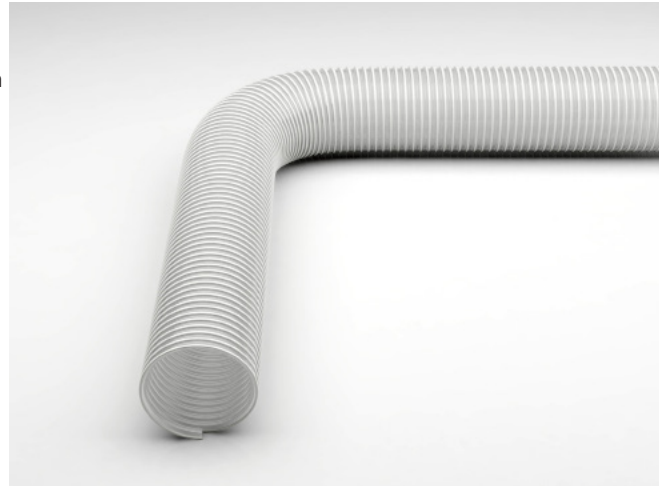
- 1 spiral: anti-rust spring steel wire (material no. 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA), with non-migratory permanent antistatic agent
- 3 wall thickness between spirals approx. 1.7 -2.1 mm depending on DN

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade category: E (contact duration acc. to Test Report)
- the material of the wall complies with the FDA food regulations 21 CFR § 177.1680 and 21 CFR § 177.2600
- extremely abrasion resistant via specific reinforcements underneath the spiral
- flexible
- heavy
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- mostly smooth inner lining
- odourless/tasteless
- microbe and hydrolysis-resistant
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- high tensile strength
- generally good UV and ozone resistance

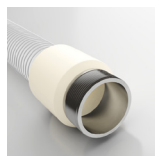


### Temperature Range

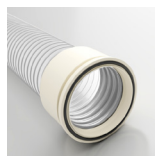
- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	4.85	0.94	80	42	0.66	114FA-032-x	000157-032-x	10	20
40*	4.27	0.94	100	50	0.83	114FA-040-x	000157-040-x	10	20
50*	4.02	0.94	123	60	1.02	114FA-050-x	000157-050-x	10	20
51*	4	0.94	125	61	1.04	114FA-051-x	000157-051-x	10	20
55*	3.75	0.89	140	65	1.1	114FA-055-x	000157-055-x	10	20
60*	3.6	0.89	150	70	1.2	114FA-060-x	000157-060-x	10	20
65*	3.3	0.89	165	75	1.29	114FA-065-x	000157-065-x	10	20
70*	3.15	0.89	175	80	1.38	114FA-070-x	000157-070-x	10	20
75*	2.96	0.89	188	86	1.57	114FA-075-x	000157-075-x	10	20
76*	2.92	0.89	190	87	1.61	114FA-076-x	000157-076-x	10	20
80*	2.77	0.89	200	93	1.93	114FA-080-x	000157-080-x	10	20
90*	2.4	0.89	225	103	2.16	114FA-090-x	000157-090-x	10	20
100*	2.15	0.87	246	113	2.53	114FA-100-x	000157-100-x	10	20
102*	2.1	0.87	250	115	2.6	114FA-102-x	000157-102-x	10	20
110*	1.95	0.87	275	124	2.82	114FA-110-x	000157-110-x	10	20
115*	1.8	0.87	290	129	2.94	114FA-115-x	000157-115-x	10	20
120*	1.65	0.87	300	134	3.07	114FA-120-x	000157-120-x	10	20
125*	1.65	0.87	310	138	3.33	114FA-125-x	000157-125-x	10	20
127*	1.65	0.87	315	140	3.44	114FA-127-x	000157-127-x	10	20
130*	1.65	0.84	325	145	3.54	114FA-130-x	000157-130-x	10	20
140*	1.5	0.83	350	153	3.81	114FA-140-x	000157-140-x	10	20
150*	1.5	0.82	433	165	4.08	114FA-150-x	000157-150-x	10	20
152*	1.5	0.82	450	167	4.13	114FA-152-x	000157-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



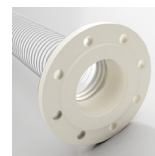
Combiflex PU Cast-On Connectors, Food



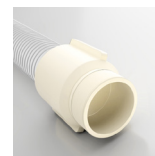
Combiflex PU Cone Flange Food



Master-Grip Double-Wire Clamp



Combiflex PU Fixed Flange Food



Combiflex PU Threaded Sockets Food

## Polderflex PUR Food

PU Suction & Transport Hose, extremely pressure/vacuum-proof, smooth inner and outer linings, food-grade quality acc. to EU 10/2011 and FDA

### Material

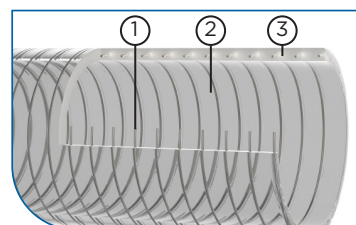
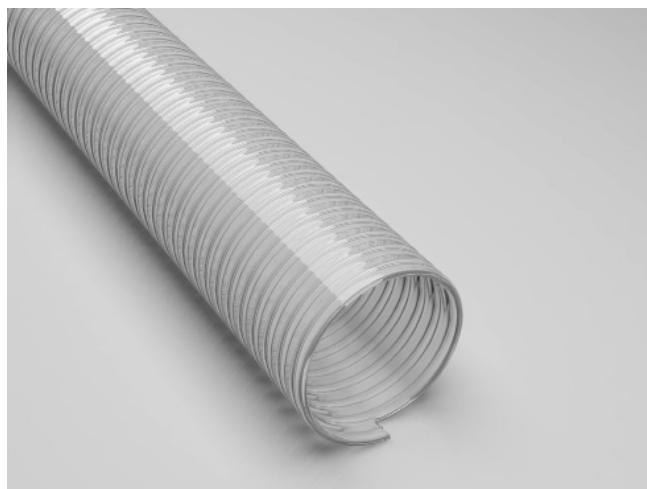
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade quality (FDA)
- 3 wall thickness 3-5 mm depending on DN

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade categories: A, B, C, D1, D2, E (contact durations acc. to Test Report)
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- extra heavyweight
- flexible
- smooth inner and outer linings
- odourless/tasteless
- microbe and hydrolysis-resistant
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- highly abrasion-resistant
- high tensile strength
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	5.75	0.93	160	41.5	0.88	118F-032-x	000188-032-x	10	20
38*	5,625	0.93	190	47.5	1.03	118F-038-x	000188-038-x	10	20
40*	5.5	0.93	200	49.5	1.07	118F-040-x	000188-040-x	10	20
50*	5	0.93	245	61.5	1.23	118F-050-x	000188-050-x	10	20
51*	5.25	0.93	250	62.5	1.25	118F-051-x	000188-051-x	10	20
60*	5,125	0.93	300	71.5	1.44	118F-060-x	000188-060-x	10	20
65*	5	0.93	325	76.5	1.56	118F-065-x	000188-065-x	10	20
70*	5.05	0.93	350	81.5	1.77	118F-070-x	000188-070-x	10	20
75*	5.01	0.93	375	86.5	1.9	118F-075-x	000188-075-x	10	20
76*	5	0.93	380	87.5	1.92	118F-076-x	000188-076-x	10	20
80*	4.5	0.88	400	91.5	2.01	118F-080-x	000188-080-x	10	20
100*	4.16	0.86	580	111	3	118F-100-x	000188-100-x	10	20
102*	4,125	0.86	600	113	3.1	118F-102-x	000188-102-x	10	20
125*	3	0.66	692	136	3.79	118F-125-x	000188-125-x	10	20
127*	3.25	0.64	700	138.5	3.85	118F-127-x	000188-127-x	10	20
150*	2.22	0.44	792	162	4.53	118F-150-x	000188-150-x	10	20
152*	2,125	0.42	800	164	4.59	118F-152-x	000188-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request.  
 Subject to technical changes and colour deviations.



Hose Clamp with Bolts

## Polderflex PUR Food A

PU Suction & Transport Hose, extremely pressure/vacuum-proof, smooth inner and outer linings, permanently antistatic, food-grade quality acc. to EU 10/2011 and FDA

### Material

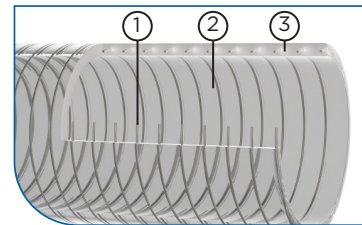
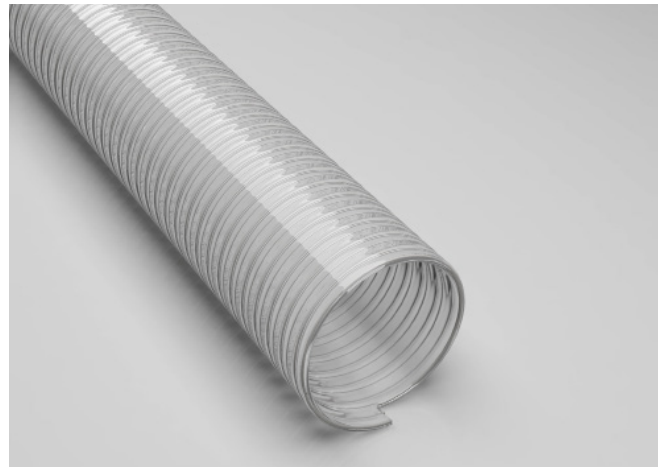
- 1 spiral: spring steel wire (stainless steel 1.4310)
- 2 wall: pure polyether polyurethane, food-grade (FDA), with non-migratory permanent antistatic agent
- 3 wall thickness 3-5 mm depending on DN

### Applications

- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for food-grade category: E (contact duration acc. to Test Report)
- the material of the wall complies with the FDA food regulations 21 CFR § 177.1680 and 21 CFR § 177.2600
- permanently antistatic, surface resistance < 10<sup>9</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- extra heavyweight
- flexible
- odourless/tasteless
- microbe and hydrolysis-resistant
- increased pressure and vacuum resistance
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- highly abrasion-resistant
- high tensile strength
- generally good UV and ozone resistance



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	5.75	0.93	160	41.5	0.88	118FA-032-x	000189-032-x	10	20
38*	5.625	0.93	190	47.5	1.03	118FA-038-x	000189-038-x	10	20
40*	5.5	0.93	200	49.5	1.07	118FA-040-x	000189-040-x	10	20
50*	5	0.93	245	61.5	1.23	118FA-050-x	000189-050-x	10	20
51	5.25	0.93	250	62.5	1.25	118FA-051-x	000189-051-x	10	20
60*	5.125	0.93	300	71.5	1.44	118FA-060-x	000189-060-x	10	20
65	5	0.93	325	76.5	1.56	118FA-065-x	000189-065-x	10	20
70*	5.05	0.93	350	81.5	1.77	118FA-070-x	000189-070-x	10	20
75*	5.01	0.93	375	86.5	1.9	118FA-075-x	000189-075-x	10	20
76	5	0.93	380	87.5	1.92	118FA-076-x	000189-076-x	10	20
80	4.5	0.88	400	91.5	2.01	118FA-080-x	000189-080-x	10	20
100*	4.16	0.86	580	111	3	118FA-100-x	000189-100-x	10	20
102	4.125	0.86	600	113	3.1	118FA-102-x	000189-102-x	10	20
125*	3	0.66	692	136	3.79	118FA-125-x	000189-125-x	10	20
127*	3.25	0.64	700	138.5	3.85	118FA-127-x	000189-127-x	10	20
150*	2.22	0.44	792	162	4.53	118FA-150-x	000189-150-x	10	20
152*	2.125	0.42	800	164	4.59	118FA-152-x	000189-152-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Bolts

## Master-PUR Flat Food A

Spiral-Free PU Transport Hose, light duty, food-grade quality acc. to EU 10/2011 and FDA

### Material

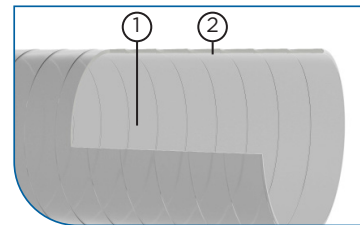
- 1 wall: pure polyether polyurethane, food-grade quality (FDA)
- 2 wall thickness approx. 1 mm

### Applications

- application as compensator
- spiral-free transport hose for abrasive solids
- solids transport for sieving machines
- conductor hose on charging station
- pharmaceutical industry
- chemicals industry
- food industry

### Properties

- the hose conforms with EU Guideline 10/2011
- approved for direct food contact according to EU Directive 1935/2004, 10/2011 and its latest amending Directives
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- extremely vibration resistant
- solvent, oil and petroleum resistant
- smooth inner lining
- abrasion-resistant
- surface resistance  $R_0 < 10^9$  Ohm
- optimum flow characteristics
- high tensile strength
- generally good UV and ozone resistance



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	weight/m	old article no.	new article no.	standard length	max. production length
	kg			m	m
50*	0.22	313-050-x	00405-050-x	5	5
51*	0.23	313-051-x	00405-051-x	5	5
60*	0.28	313-060-x	00405-060-x	5	5
63*	0.29	313-063-x	00405-063-x	5	5
65*	0.29	313-065-x	00405-065-x	5	5
70*	0.32	313-070-x	00405-070-x	5	5
75*	0.34	313-075-x	00405-075-x	5	5
76*	0.34	313-076-x	00405-076-x	5	5
80*	0.36	313-080-x	00405-080-x	5	5
90*	0.41	313-090-x	00405-090-x	5	5
100*	0.44	313-100-x	00405-100-x	5	5
102	0.44	313-102-x	00405-102-x	5	5
110	0.47	313-110-x	00405-110-x	5	5
115*	0.49	313-115-x	00405-115-x	5	5
120*	0.52	313-120-x	00405-120-x	5	5
125*	0.53	313-125-x	00405-125-x	5	5
127*	0.53	313-127-x	00405-127-x	5	5
130*	0.55	313-130-x	00405-130-x	5	5
140*	0.59	313-140-x	00405-140-x	5	5
150*	0.64	313-150-x	00405-150-x	5	5
152	0.64	313-152-x	00405-152-x	5	5
160*	0.68	313-160-x	00405-160-x	5	5
170*	0.72	313-170-x	00405-170-x	5	5
175*	0.75	313-175-x	00405-175-x	5	5
180*	0.77	313-180-x	00405-180-x	5	5
200*	0.81	313-200-x	00405-200-x	5	5
203	0.82	313-203-x	00405-203-x	5	5
225*	0.92	313-225-x	00405-225-x	5	5
250	1.01	313-250-x	00405-250-x	5	5
254	1.03	313-254-x	00405-254-x	5	5
275*	1.13	313-275-x	00405-275-x	5	5
280*	1.14	313-280-x	00405-280-x	5	5
300	1.23	313-300-x	00405-300-x	5	5

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Worm-Gear Drive



Hose Clamp with Bolts

Master-PUR L FishTec

PU with PVC helix Suction & Transport Hose, food-grade quality acc. to FDA

Material

- 1 spiral: Shock resistant PVC helix
- 2 wall: pure polyether polyurethane, food-grade (FDA)
- 3 wall thickness between spirals from 0.6 mm to 0.8

Applications

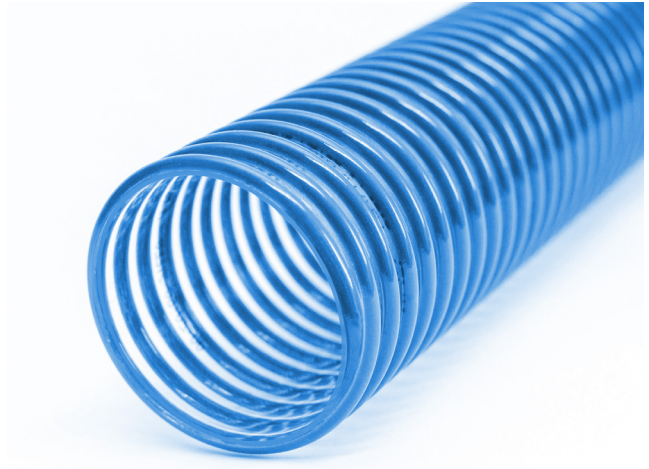
- pharmaceutical industry
- fish industry
- food industry

Properties

- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- odourless/tasteless
- smooth inner lining
- abrasion-resistant
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- generally good UV and ozone resistance

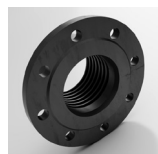
Temperature Range

- -40°C to +80°C



DN	min wall	max wall	bend radius	vacuum	weight/m	article no.	Min length	Max length
mm	mm	mm	mm	bar	kg		m	m
76	0.6	4.2	100	0.15	0.6	012553-076-x	10	30
102	0.6	4.8	140	0.12	0.87	012553-102-x	10	30
152	0.7	5.8	200	0.07	1.61	012553-152-x	10	20
203	0.7	7.2	260	0.04	2.41	012553-203-x	10	20
250	0.8	8	300	0.03	3.57	012553-250-x	10	10
305	0.8	8.2	350	0.03	4.52	012553-305-x	10	10

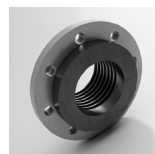
All data refers to a medium and ambient temperature of +20 °C.  
Subject to technical changes and colour deviations.



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Threaded Socket, pre-fixed



Combiflex PU Swivel Flange, pre-fixed



Master-PUR M FishTec

PU with PVC helix Suction & Transport Hose, food-grade quality acc. to FDA

Material

- 1 spiral: Shock resistant PVC helix
- 2 wall: pure polyether polyurethane, food-grade (FDA)
- 3 wall thickness between spirals from 1 mm to 1.2 mm

Applications

- pharmaceutical industry
- fish industry
- food industry



Properties

- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- odourless/tasteless
- smooth inner lining
- abrasion-resistant
- halogen and plasticizer-free
- optimum flow characteristics
- good chemical resistance
- generally good UV and ozone resistance

Temperature Range

- -40°C to +80°C

DN	min wall	max wall	bend radius	vacuum	weight/m	article no.	Min length	Max length
mm	mm	mm	mm	bar	kg		m	m
76	1	4.8	270	0.24	0.87	012560-076-x	10	30
102	1	5.9	400	0.24	1.36	012560-102-x	10	30
152	1	6.6	600	0.19	2.14	012560-152-x	10	20
203	1.2	9.4	400	0.09	3.18	012560-203-x	10	20
254	1.2	9.4	500	0.09	3.95	012560-250-x	10	10
305	1.2	9.4	610	0.03	4.71	012560-305-x	10	10

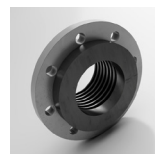
All data refers to a medium and ambient temperature of +20 °C.  
Subject to technical changes and colour deviations.



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Threaded Socket, pre-fixed



Combiflex PU Swivel Flange, pre-fixed

Master- PUR H FishTec

PU suction hose / transport hose, heavy weight, good flexibility, microbe and hydrolysis resistant, certified according to NS 9416:2013

Material

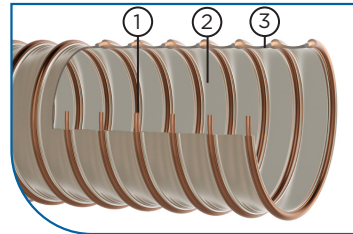
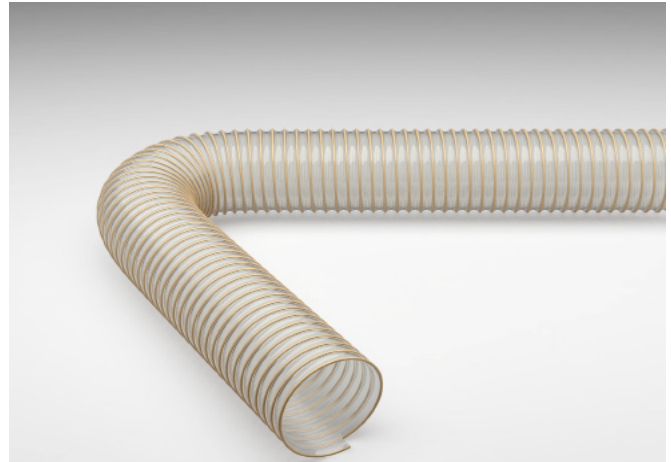
- 1 spiral: spring steel wire
- 2 wall: pure polyether polyurethane, food-grade (FDA),
- 3 wall thickness between spirals approx. 1.8 mm

Applications

- pharmaceutical industry
- fish industry
- food industry

Properties

- the hose conforms with EU Guideline 10/2011
- approved for direct food contact according to EU Directive 1935/2004, 10/2011 and its latest amending Directives
- materials comply with the following food regulations:
  - FDA 21 CFR §177.2600
  - FDA 21 CFR §178.2010
- extremely abrasion resistant
- solvent, oil and petroleum resistant
- smooth inner lining
- abrasion-resistant
- surface resistance  $R_0 < 10^9$  Ohm
- optimum flow characteristics
- high tensile strength
- generally good UV and ozone resistance



Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	Outer diameter	weight/m	article no.	standard length	Max production length
mm	bar	bar	mm	mm	kg		m	m
102	1.77	0.62	187	111	1.72	008686-102-x	10	25
140	1.05	0.25	224	151	2.02	008686-140-x	10	25
152	0.9	0.25	242	163	2.1	008686-152-x	10	25
160	0.9	0.25	255	171	2.35	008686-160-x	10	25
178	0.75	0.19	284	191	2.79	008686-178-x	10	25
203	0.75	0.18	321	215	3.5	008686-203-x	10	25
254	0.58	0.12	296	267	3.84	008686-254-x	10	20
305	0.45	0.12	475	318	4.93	008686-305-x	10	20
355	0.45	0.12	552	368	6.88	008686-355-x	10	20
406	0.3	0.07	631	419	7.87	008686-406-x	10	20
457	0.3	0.07	710	470	8.86	008686-457-x	10	20
508	0.3	0.07	789	521	9.85	008686-508-x	10	20

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request





# 5

## Antistatic & Electroconductive Hoses

For preventing danger of ignition  
through electrostatic charges





Master-VAC EL

PE-EVA Suction Hose & Transport Hose, lightweight, crush-resistant, electroconductive

Material

1 wall: PE-EVA Co-polymer

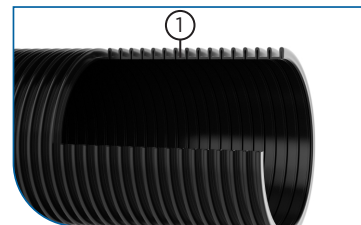
Applications

- suction hose for fine-grained particles, e.g. dust, powders, fibres
- protective hose
- swimming pool cleaning
- ventilation
- conveyance and suction of solid, liquid and gaseous media
- chemicals industry
- dust removal units
- household vacuum cleaners
- industrial vacuum cleaners
- handheld machines



Properties

- surface resistance <math>< 10^6 \text{ Ohm}</math>
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- floatable (spec. Weight 0.94)
- crush-resistant
- super lightweight
- UV/ozone-proof
- air-tight / watertight



Temperature Range

- -40°C to +60°C
- peaks to +70°C

DN	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar						
25	0.74	60	0.15	670E-025-x	000467-025-x	15	20
28*	0.74	70	0.19	670E-028-x	000467-028-x	15	20
32	0.49	70	0.22	670E-032-x	000467-032-x	20	20
38	0.49	80	0.29	670E-038-x	000467-038-x	20	20
45*	0.49	90	0.37	670E-045-x	000467-045-x	20	20
50	0.39	100	0.42	670E-050-x	000467-050-x	20	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Clamp with Worm-Gear Drive



Cuff for Master-VAC

Master-PUR L-EL

PU Suction & Transport Hose, light duty, highly flexible, electroconductive

Material

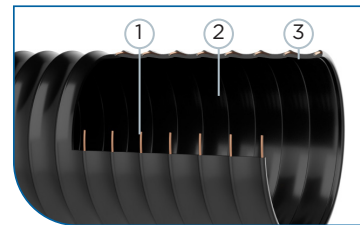
- 1 spiral: spring steel wire
- 2 wall: electrically conductive polyester polyurethane
- 3 wall thickness between spirals approx. 0.7 mm

Applications

- suction/extraction of paper and textile fibres
- danger zones, which require electrically conductive hoses
- transport of fine-grained particles, such as dust and powder
- suction & transport hose for abrasive solids, liquids and gases
- protective hose against mechanical wear
- oil mist extraction/suction
- extraction of flammable vapours

Properties

- surface resistance  $R_o < 10^3 \text{ Ohm}$
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- halogen-free
- light
- very good flexibility
- smallest bending radius
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance
- acc. to DIN 26057 type II



Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25*	3.23	0.8	30	30	0.24	110E-025-x	000009-025-x	10	25
26	3.22	0.79	31	31	0.25	110E-026-x	000009-026-x	10	25
32	2.52	0.71	40	40	0.35	110E-032-x	000009-032-x	10	25
38	2.1	0.66	46	46	0.39	110E-038-x	000009-038-x	10	25
40	2.1	0.66	48	48	0.4	110E-040-x	000009-040-x	10	25
45*	1.84	0.59	53	53	0.42	110E-045-x	000009-045-x	10	25
50*	1.71	0.53	57	57	0.45	110E-050-x	000009-050-x	10	25
51	1.68	0.52	58	58	0.45	110E-051-x	000009-051-x	10	25
55*	1.54	0.44	63	63	0.51	110E-055-x	000009-055-x	10	25
60	1.4	0.44	68	68	0.53	110E-060-x	000009-060-x	10	25
65	1.26	0.37	73	73	0.64	110E-065-x	000009-065-x	10	25
70	1.12	0.37	78	78	0.68	110E-070-x	000009-070-x	10	25
75*	1.12	0.3	83	83	0.71	110E-075-x	000009-075-x	10	25
76	1.12	0.29	84	84	0.72	110E-076-x	000009-076-x	10	25
80	0.98	0.29	88	88	0.76	110E-080-x	000009-080-x	10	25
90*	0.84	0.22	99	99	0.88	110E-090-x	000009-090-x	10	25
100*	0.84	0.22	108	108	0.94	110E-100-x	000009-100-x	10	25
102	0.84	0.22	110	110	0.95	110E-102-x	000009-102-x	10	25
110*	0.7	0.22	119	119	1.03	110E-110-x	000009-110-x	10	25
115*	0.7	0.22	124	124	1.06	110E-115-x	000009-115-x	10	25
120*	0.7	0.22	129	129	1.12	110E-120-x	000009-120-x	10	25
125*	0.7	0.22	133	133	1.16	110E-125-x	000009-125-x	10	25
127	0.7	0.22	135	135	1.18	110E-127-x	000009-127-x	10	25
130*	0.56	0.22	139	139	1.2	110E-130-x	000009-130-x	10	25
140*	0.56	0.15	149	149	1.38	110E-140-x	000009-140-x	10	25
150*	0.56	0.15	159	159	1.46	110E-150-x	000009-150-x	10	25
152	0.56	0.15	161	161	1.48	110E-152-x	000009-152-x	10	25
160*	0.56	0.15	170	170	1.74	110E-160-x	000009-160-x	10	25
170*	0.42	0.15	180	180	1.8	110E-170-x	000009-170-x	10	25
175*	0.42	0.15	185	185	1.85	110E-175-x	000009-175-x	10	25
180*	0.42	0.15	190	190	1.9	110E-180-x	000009-180-x	10	25
200*	0.42	0.15	211	211	2.25	110E-200-x	000009-200-x	10	25
203	0.42	0.15	214	214	2.3	110E-203-x	000009-203-x	10	25
225*	0.28	0.07	235	235	2.55	110E-225-x	000009-225-x	10	25
250*	0.28	0.07	256	256	2.96	110E-250-x	000009-250-x	10	25
254*	0.28	0.07	260	260	3.02	110E-254-x	000009-254-x	10	25
275*	0.28	0.07	284	284	3.11	110E-275-x	000009-275-x	10	25
280*	0.28	0.07	290	290	3.14	110E-280-x	000009-280-x	10	25
300*	0.25	0.07	310	310	3.2	110E-300-x	000009-300-x	10	20
315*	0.25	0.07	325	325	3.32	110E-315-x	000009-315-x	10	20
325*	0.25	0.07	335	335	3.4	110E-325-x	000009-325-x	10	20
350*	0.13	0.07	360	360	3.6	110E-350-x	000009-350-x	10	20
375*	0.13	0.05	386	386	3.85	110E-375-x	000009-375-x	10	20
400*	0.13	0.05	410	411	4.45	110E-400-x	000009-400-x	10	20
450*	0.13	0.05	460	461	5.06	110E-450-x	000009-450-x	10	20
500*	0.13	0.05	510	511	5.7	110E-500-x	000009-500-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector

Master-PUR H-EL

PU Suction & Transport Hose, medium duty, highly flexible, electroconductive

Material

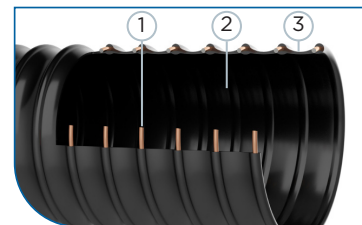
- 1 spiral: spring steel wire
- 2 wall: electrically conductive polyurethane
- 3 wall thickness between spirals approx. 1.4

Applications

- danger zones, which require electrically conductive hoses
- special hose for industrial vacuum cleaners in explosion protected areas
- suction of coarse-grained media with high flow rate
- suction & transport hose for abrasive solids, liquids and gases
- protective hose against mechanical wear
- oil mist extraction/suction

Properties

- surface resistance  $R_o < 10^3$  Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- small bending radius
- good flexibility
- medium duty
- halogen-free
- increased pressure and vacuum resistance
- optimum flow characteristics
- highly abrasion-resistant
- good resistance to chemicals, oil and fuel
- generally good UV and ozone resistance
- acc. to DIN 26057 type III



Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25*	4.17	0.92	46	32	0.28	111E-025-x	000075-025-x	10	25
26	4.16	0.92	47	33	0.29	111E-026-x	000075-026-x	10	25
32	3.25	0.92	60	41	0.39	111E-032-x	000075-032-x	10	25
38	3.12	0.82	69	47	0.46	111E-038-x	000075-038-x	10	25
40	3	0.82	72	49	0.49	111E-040-x	000075-040-x	10	25
45*	2.95	0.81	80	55	0.55	111E-045-x	000075-045-x	10	25
50*	2.91	0.79	86	60	0.68	111E-050-x	000075-050-x	10	25
51	2.9	0.79	87	61	0.71	111E-051-x	000075-051-x	10	25
55*	2.75	0.76	95	65	0.77	111E-055-x	000075-055-x	10	25
60	2.55	0.74	102	70	0.84	111E-060-x	000075-060-x	10	25
65	2.4	0.66	112	75	0.91	111E-065-x	000075-065-x	10	25
70	2.25	0.66	117	80	0.97	111E-070-x	000075-070-x	10	25
75*	2.04	0.6	125	86	1.05	111E-075-x	000075-075-x	10	25
76*	2	0.59	126	87	1.06	111E-076-x	000075-076-x	10	25
80	2	0.59	132	91	1.11	111E-080-x	000075-080-x	10	25
90*	1.65	0.52	149	101	1.25	111E-090-x	000075-090-x	10	25
100*	1.53	0.45	162	110	1.44	111E-100-x	000075-100-x	10	25
102	1.5	0.44	165	112	1.48	111E-102-x	000075-102-x	10	25
110*	1.35	0.44	179	121	1.61	111E-110-x	000075-110-x	10	25
115*	1.35	0.31	186	126	1.68	111E-115-x	000075-115-x	10	25
120*	1.3	0.31	194	131	1.75	111E-120-x	000075-120-x	10	25
125*	1.3	0.31	203	138	1.91	111E-125-x	000075-125-x	10	25
127*	1.3	0.31	205	139	1.91	111E-127-x	000075-127-x	10	25
130*	1.3	0.31	209	141	1.96	111E-130-x	000075-130-x	10	25
140*	1.05	0.25	224	151	2.11	111E-140-x	000075-140-x	10	25
150*	1.05	0.25	239	161	2.26	111E-150-x	000075-150-x	10	25
152*	1.05	0.25	242	163	2.29	111E-152-x	000075-152-x	10	25
160*	0.9	0.25	255	171	2.51	111E-160-x	000075-160-x	10	25
170*	0.9	0.18	270	181	2.67	111E-170-x	000075-170-x	10	25
175*	0.9	0.18	278	186	2.74	111E-175-x	000075-175-x	10	25
180*	0.75	0.18	285	191	2.82	111E-180-x	000075-180-x	10	25
200*	0.75	0.18	316	212	3.41	111E-200-x	000075-200-x	10	25
203*	0.75	0.18	321	215	3.5	111E-203-x	000075-203-x	10	25
225*	0.6	0.12	353	237	3.65	111E-225-x	000075-225-x	10	25
250*	0.6	0.12	385	259	3.84	111E-250-x	000075-250-x	10	25
254*	0.6	0.12	390	263	3.84	111E-254-x	000075-254-x	10	25
275*	0.45	0.12	426	288	4.22	111E-275-x	000075-275-x	10	25
280*	0.45	0.12	435	293	4.3	111E-280-x	000075-280-x	10	25
300*	0.45	0.12	465	313	4.94	111E-300-x	000075-300-x	10	20
315*	0.45	0.12	488	328	5.19	111E-315-x	000075-315-x	10	20
325*	0.45	0.12	503	338	5.35	111E-325-x	000075-325-x	10	20
350*	0.45	0.12	540	363	6.96	111E-350-x	000075-350-x	10	20
375*	0.3	0.07	580	388	7.45	111E-375-x	000075-375-x	10	20
400*	0.3	0.07	615	413	7.95	111E-400-x	000075-400-x	10	20
450*	0.3	0.07	690	463	8.94	111E-450-x	000075-450-x	10	20
500*	0.3	0.07	765	513	9.93	111E-500-x	000075-500-x	10	20

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Clip-Grip Quick-Fix Clamp



Clip-Grip Hose Clamp, screwable



Combiflex PU Threaded Socket



PU Cuff, electroconductive



Hose Connector

Master-PUR HX EL

PU Suction & Transport Hose, heavy duty, flexible, electroconductive

Material

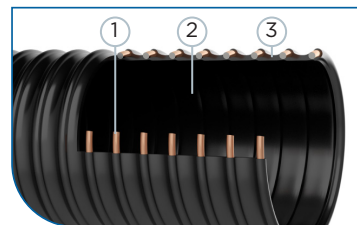
- 1 spiral: spring steel wire
- 2 wall: electrically conductive polyurethane
- 3 wall thickness between spirals approx. 1.7 - 2.1 mm, depending on DN

Applications

- danger zones, which require electrically conductive hoses
- suction of coarse-grained media with highest flow rate
- protective hose against greater mechanical wear
- suction and transport hose for extremely abrasive solid, liquid and gaseous media

Properties

- surface resistance  $R_o < 10^3 \text{ Ohm}$
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- extremely abrasion resistant via specific reinforcements underneath the spiral
- flexible
- high vacuum and apex pressure resistance
- highly durable, long service lives
- optimum flow characteristics
- mostly smooth inner lining
- good resistance to chemicals, oil and fuel
- high tensile strength
- generally good UV and ozone resistance
- acc. to DIN 26057 type IV

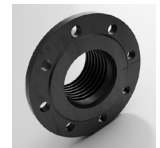


Temperature Range

- -40°C to +90°C
- peaks to +125°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
32*	4.85	0.94	80	42	0.69	114E-032-x	000159-32-x	10	20
38*	4.39	0.94	95	48	0.78	114E-038-x	000159-38-x	10	20
40*	4.27	0.94	100	50	0.81	114E-040-x	000159-40-x	10	20
45*	4.1	0.94	115	55	0.88	114E-045-x	000159-45-x	10	20
50*	4.02	0.94	123	60	0.94	114E-050-x	000159-50-x	10	20
51*	4	0.94	125	61	0.95	114E-051-x	000159-51-x	10	20
55*	3.75	0.89	140	65	1.08	114E-055-x	000159-55-x	10	20
60*	3.6	0.89	150	70	1.2	114E-060-x	000159-60-x	10	20
65*	3.3	0.89	165	75	1.33	114E-065-x	000159-65-x	10	20
70*	3.15	0.89	175	80	1.49	114E-070-x	000159-70-x	10	20
75*	2.96	0.89	188	86	1.65	114E-075-x	000159-75-x	10	20
76*	2.92	0.89	190	87	1.68	114E-076-x	000159-76-x	10	20
80*	2.77	0.89	200	93	1.85	114E-080-x	000159-80-x	10	20
90*	2.4	0.89	225	103	2.1	114E-090-x	000159-90-x	10	20
100*	2.15	0.87	246	113	2.28	114E-100-x	000159-100-x	10	20
102*	2.1	0.87	250	115	2.32	114E-102-x	000159-102-x	10	20
110*	1.95	0.87	275	124	2.6	114E-110-x	000159-110-x	10	20
115*	1.8	0.87	290	129	2.73	114E-115-x	000159-115-x	10	20
120*	1.65	0.87	300	134	2.86	114E-120-x	000159-120-x	10	20
125*	1.65	0.87	311	138	2.97	114E-125-x	000159-125-x	10	20
127*	1.65	0.87	315	140	3.01	114E-127-x	000159-127-x	10	20
130*	1.65	0.84	325	143	3.25	114E-130-x	000159-130-x	10	20
140*	1.5	0.83	350	153	3.66	114E-140-x	000159-140-x	10	20
150*	1.5	0.82	371	165	4.07	114E-150-x	000159-150-x	10	20
152*	1.5	0.82	375	167	4.15	114E-152-x	000159-152-x	10	20
160*	1.35	0.81	400	175	4.55	114E-160-x	000159-160-x	10	20
170*	1.2	0.8	425	185	5.01	114E-170-x	000159-170-x	10	20
175*	1.2	0.79	440	190	5.27	114E-175-x	000159-175-x	10	20
180*	1.2	0.77	450	195	5.52	114E-180-x	000159-180-x	10	20
200*	1.07	0.67	493	217	5.99	114E-200-x	000159-200-x	10	15
203*	1.05	0.66	500	220	6.06	114E-203-x	000159-203-x	10	15
225*	0.9	0.58	565	241	6.99	114E-225-x	000159-225-x	10	10
250*	0.9	0.52	617	263	7.91	114E-250-x	000159-250-x	10	10
254*	0.9	0.51	625	267	7.91	114E-254-x	000159-254-x	10	10
275*	0.75	0.47	690	292	8.67	114E-275-x	000159-275-x	10	10
300*	0.6	0.42	750	317	9.42	114E-300-x	000159-300-x	10	10

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Combiflex PU Fixed Flange, pre-fixed



Combiflex PU Swivel Flange, pre-fixed



Combiflex PU Cone Flange, pre-fixed



Hose Clamp with



Combiflex metal male threaded socket



Master-PVC L-F EL

PVC Film/Foil Hose, lightweight, electroconductive

Material

- 1 spiral: spring steel wire, plastic-coated
- 2 wall: soft PVC, electrically conductive
- 3 wall thickness between spirals approx. 0.5 mm

Applications

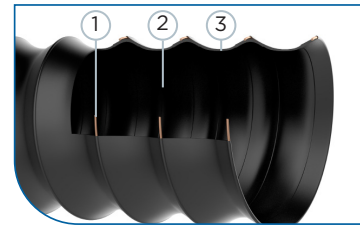
- chemicals industry
- apparatus construction
- suction and transport hose for solid, liquid and gaseous media
- danger zones, which require electrically conductive hoses
- transport of fine-grained particles, such as dust and powder

Properties

- surface resistance < 10<sup>6</sup> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- extremely flexible
- axial compressable
- mostly smooth inner lining
- good oil/alkali/acid resistance
- light
- smallest bending radius
- good chemical resistance

Temperature Range

- -20°C to +70°C
- peaks to +80°C



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	mm	kg			m	m
50*	0.7	0.19	29	56	0.33	340-050-x	000434-050-x	10	25
51*	0.7	0.19	30	57	0.33	340-051-x	000434-051-x	10	25
60*	0.68	0.19	35	68	0.39	340-060-x	000434-060-x	10	25
63*	0.65	0.17	37	70	0.41	340-063-x	000434-063-x	10	25
65*	0.61	0.16	38	72	0.42	340-065-x	000434-065-x	10	25
70*	0.55	0.13	40	77	0.45	340-070-x	000434-070-x	10	25
75*	0.53	0.13	42	81	0.48	340-075-x	000434-075-x	10	25
76*	0.52	0.13	43	82	0.48	340-076-x	000434-076-x	10	25
80*	0.48	0.13	45	87	0.51	340-080-x	000434-080-x	10	25
90*	0.41	0.09	50	98	0.58	340-090-x	000434-090-x	10	25
100*	0.39	0.09	54	107	0.63	340-100-x	000434-100-x	10	25
102	0.38	0.09	55	109	0.64	340-102-x	000434-102-x	10	25
110	0.34	0.09	60	117	0.69	340-110-x	000434-110-x	10	25
115*	0.34	0.09	63	122	0.72	340-115-x	000434-115-x	10	25
120*	0.32	0.09	65	128	0.76	340-120-x	000434-120-x	10	25
125*	0.32	0.09	67	131	0.77	340-125-x	000434-125-x	10	25
127	0.32	0.09	68	133	0.78	340-127-x	000434-127-x	10	25
130*	0.27	0.09	70	136	0.81	340-130-x	000434-130-x	10	25
140*	0.27	0.06	75	147	0.87	340-140-x	000434-140-x	10	25
150*	0.27	0.06	79	156	0.93	340-150-x	000434-150-x	10	25
152*	0.27	0.06	80	158	0.94	340-152-x	000434-152-x	10	25
160	0.21	0.06	85	170	1.14	340-160-x	000434-160-x	10	25
170*	0.21	0.06	90	180	1.21	340-170-x	000434-170-x	10	25
175*	0.21	0.06	93	185	1.24	340-175-x	000434-175-x	10	25
180*	0.21	0.06	95	190	1.28	340-180-x	000434-180-x	10	25
200*	0.21	0.06	103	207	1.4	340-200-x	000434-200-x	10	25
203*	0.21	0.06	105	210	1.42	340-203-x	000434-203-x	10	25
225*	0.14	0.03	118	235	1.59	340-225-x	000434-225-x	10	25
250*	0.14	0.03	128	257	1.75	340-250-x	000434-250-x	10	25
254*	0.14	0.03	130	261	1.77	340-254-x	000434-254-x	10	25
275*	0.13	0.03	143	285	1.94	340-275-x	000434-275-x	10	25
280*	0.13	0.03	145	290	1.97	340-280-x	000434-280-x	10	25
300*	0.13	0.03	155	311	2.11	340-300-x	000434-300-x	10	25

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose Clamp, screwable



Clip-Grip Quick-Fix Clamp



Hose Connector



Master-Clip PTFE S-EL

Suction & Blower hose for corrosive media up to +250°C

Material

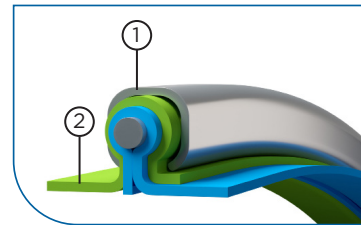
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: inner PTFE foil, electroconductive, outer layer: silicone-coated glass fabric

Applications

- danger zones, which require electrically conductive hoses
- suction and conveyance of aggressive media, explosive gases and fumes
- paint, wood and paper industry
- solvent extraction
- pharmaceutical industry
- low pressure range
- chemicals industry

Properties

- excellent chemical resistance
- outer chafing protection spiral
- PTFE-foil: surface resistance  $R_{\text{O}} < 10^6 \text{ Ohm}$
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- vibration-proof
- cold and heat resistant
- super lightweight
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- smallest bending radius
- extremely compressible to approx. 1:4
- UV/ozone-proof
- weather-proof
- robust outer wall material anti-adhesive internal wall lining material
- optimum medium flow characteristics



Temperature Range

- -70°C to +250°C
- peaks to +270°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.85	0.35	30	0.5	262-050-x	000373-050-x	10	10
55	0.78	0.29	33	0.5	262-055-x	000373-055-x	10	10
60	0.68	0.24	36	0.6	262-060-x	000373-060-x	10	10
65	0.59	0.21	39	0.7	262-065-x	000373-065-x	10	10
70	0.53	0.17	42	0.7	262-070-x	000373-070-x	10	10
75	0.47	0.15	45	0.8	262-075-x	000373-075-x	10	10
80	0.43	0.14	48	0.8	262-080-x	000373-080-x	10	10
90	0.355	0.11	54	0.9	262-090-x	000373-090-x	10	10
100	0.3	0.09	60	1	262-100-x	000373-100-x	10	10
110	0.258	0.07	66	1.1	262-110-x	000373-110-x	10	10
120	0.224	0.06	72	1.1	262-120-x	000373-120-x	10	10
125	0.21	0.05	75	1.2	262-125-x	000373-125-x	10	10
130	0.197	0.05	78	1.2	262-130-x	000373-130-x	10	10
140	0.175	0.05	84	1.3	262-140-x	000373-140-x	10	10
150	0.157	0.04	90	1.3	262-150-x	000373-150-x	10	10
160	0.14	0.03	96	1.3	262-160-x	000373-160-x	10	10
170	0.128	0.03	102	1.4	262-170-x	000373-170-x	10	10
175	0.123	0.03	105	1.4	262-175-x	000373-175-x	10	10
180	0.117	0.03	108	1.4	262-180-x	000373-180-x	10	10
200	0.099	0.02	120	1.6	262-200-x	000373-200-x	10	10
215	0.088	0.02	151	1.8	262-215-x	000373-215-x	10	10
225	0.082	0.02	158	2	262-225-x	000373-225-x	10	10
250	0.069	0.02	175	2.1	262-250-x	000373-250-x	10	10
275	0.059	0.01	193	2.3	262-275-x	000373-275-x	10	10
300	0.052	0.01	210	2.4	262-300-x	000373-300-x	10	10
315	0.048	0.01	221	2.6	262-315-x	000373-315-x	10	10
325	0.046	0.01	228	2.8	262-325-x	000373-325-x	10	10
350	0.04	0.01	245	3.3	262-350-x	000373-350-x	10	10
375	0.036	0.01	263	3.5	262-375-x	000373-375-x	10	10
400	0.033	0.01	280	3.8	262-400-x	000373-400-x	10	10
450	0.027	0.01	360	4.2	262-450-x	000373-450-x	10	10
500	0.023	0.01	400	4.7	262-500-x	000373-500-x	10	10
550	0.02	0.01	440	5.3	262-550-x	000373-550-x	10	10
600	0.017	0.01	480	5.9	262-600-x	000373-600-x	10	10
700	0.014	0.01	560	6.9	262-700-x	000373-700-x	6	6
800	0.011	0.01	640	7.6	262-800-x	000373-800-x	6	6
900	0.009	0.01	720	8.2	262-900-x	000373-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip VINYL EL

Suction & Blower hose made from PVC coated polyester fabric, electroconductive

### Material

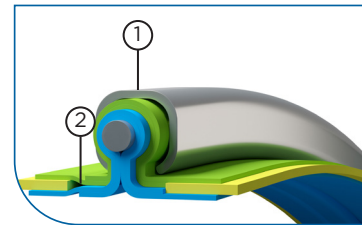
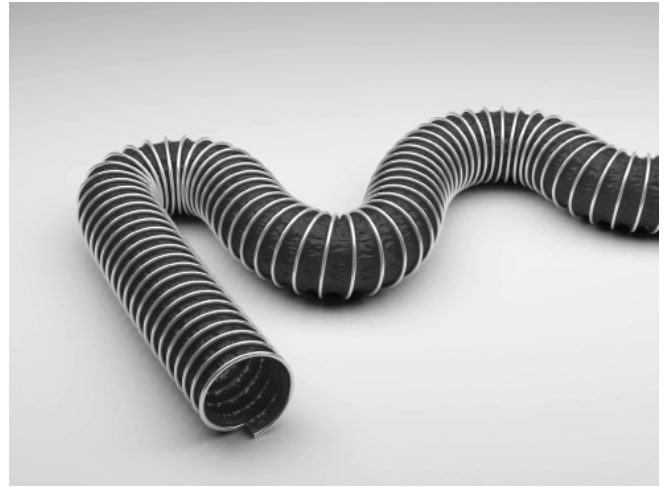
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: PVC-coated polyester fabric, electrically conductive <math>< 10^6 \text{ Ohm}</math>

### Applications

- danger zones, which requires electro-conductivity acc. to TRGS
- suction and conveyance of aggressive media, explosive gases and fumes
- air supply and extraction in explosion-protected areas
- for greater mechanical demands
- low pressure range

### Properties

- outer chafing protection spiral
- surface resistance <math>< 10^6 \text{ Ohm}</math>
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- vibration-proof
- robust wall material
- withstands high mechanical loads
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- extremely compressable to approx. 1:6
- highly flexible
- smallest bending radius
- extremely lightweight

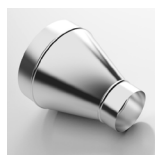


### Temperature Range

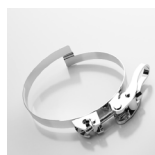
- -20°C to +70°C
- peaks to +80°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.31	30	0.55	260-050-x	000367-050-x	10	10
55	0.85	0.26	33	0.6	260-055-x	000367-055-x	10	10
60	0.78	0.22	36	0.64	260-060-x	000367-060-x	10	10
65	0.68	0.19	39	0.69	260-065-x	000367-065-x	10	10
70	0.67	0.16	42	0.74	260-070-x	000367-070-x	10	10
75	0.62	0.14	45	0.79	260-075-x	000367-075-x	10	10
80	0.61	0.12	48	0.84	260-080-x	000367-080-x	10	10
90	0.56	0.11	54	0.94	260-090-x	000367-090-x	10	10
100	0.51	0.1	60	0.77	260-100-x	000367-100-x	10	20
110	0.48	0.08	66	0.85	260-110-x	000367-110-x	10	20
120	0.36	0.07	72	0.93	260-120-x	000367-120-x	10	20
125	0.33	0.06	75	0.97	260-125-x	000367-125-x	10	20
130	0.28	0.06	78	1	260-130-x	000367-130-x	10	20
140	0.25	0.05	84	1.1	260-140-x	000367-140-x	10	20
150	0.22	0.04	90	1.16	260-150-x	000367-150-x	10	20
160	0.21	0.04	96	3.14	260-160-x	000367-160-x	10	20
170	0.19	0.03	102	3.33	260-170-x	000367-170-x	10	20
175	0.185	0.03	105	3.43	260-175-x	000367-175-x	10	20
180	0.172	0.03	108	3.52	260-180-x	000367-180-x	10	20
200	0.148	0.03	120	3.9	260-200-x	000367-200-x	10	20
215	0.128	0.02	151	4.18	260-215-x	000367-215-x	10	20
225	0.115	0.02	158	4.73	260-225-x	000367-225-x	10	20
250	0.1	0.02	175	4.84	260-250-x	000367-250-x	10	20
275	0.08	0.01	193	5.31	260-275-x	000367-275-x	10	20
300	0.07	0.01	210	5.78	260-300-x	000367-300-x	10	20
315	0.062	0.01	221	6.1	260-315-x	000367-315-x	10	10
325	0.059	0.01	228	6.25	260-325-x	000367-325-x	10	10
350	0.056	0.01	245	6.72	260-350-x	000367-350-x	10	10
375	0.05	0.01	263	7.19	260-375-x	000367-375-x	10	10
400	0.047	0.01	280	7.66	260-400-x	000367-400-x	10	10
450	0.045	0.01	360	8.6	260-450-x	000367-450-x	10	10
500	0.043	0.01	400	5.64	260-500-x	000367-500-x	10	10
550	0.042	0.01	440	10.49	260-550-x	000367-550-x	10	10
600	0.039	0.01	480	11.43	260-600-x	000367-600-x	10	10
700	0.031	0.01	560	10.84	260-700-x	000367-700-x	6	6
800	0.022	0.01	640	15.2	260-800-x	000367-800-x	6	6
900	0.016	0.01	720	17.1	260-900-x	000367-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip VITON EL

Suction & Blower hose made from VITON-coated Polyester fabric, for corrosive media up to +210 °C

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: Viton®-coated polyester fabric, electrically conductive <math> < 10^4 </math> Ohm

### Applications

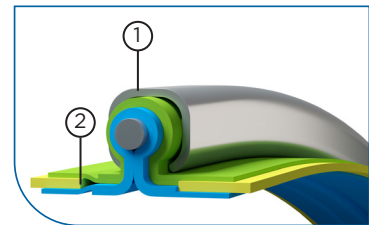
- danger zones, which requires electro-conductivity acc. to TRGS
- paint mist extraction
- suction/extraction of aggressive media in medium temperature range
- low pressure range
- chemicals industry

### Properties

- very good chemical resistance
- outer chafing protection spiral
- high temperature resistance
- surface resistance <math> < 10^4 </math> Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- vibration-proof
- robust wall material
- withstands high mechanical loads
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- extremely compressable to approx. 1:6
- tear-proof
- smallest bending radius
- UV/ozone-proof
- extremely lightweight

### Temperature Range

- -25°C to +210°C
- peaks to +240°C

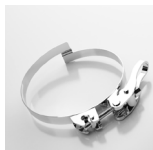


DN	op. pressure		vacuum	bend radius	weight/m	old article no.	new article no.	standard length	
	bar	bar						m	m
50	0.9	0.39	30	0.4	222-050-x	000286-050-x	10	25	
55	0.85	0.32	33	0.4	222-055-x	000286-055-x	10	25	
60	0.78	0.27	36	0.5	222-060-x	000286-060-x	10	25	
65	0.68	0.23	39	0.5	222-065-x	000286-065-x	10	25	
70	0.67	0.2	42	0.5	222-070-x	000286-070-x	10	25	
75	0.62	0.18	45	0.6	222-075-x	000286-075-x	10	25	
80	0.61	0.15	48	0.6	222-080-x	000286-080-x	10	25	
90	0.56	0.12	54	0.6	222-090-x	000286-090-x	10	25	
100	0.51	0.1	60	0.6	222-100-x	000286-100-x	10	25	
110	0.48	0.08	66	0.7	222-110-x	000286-110-x	10	25	
120	0.36	0.07	72	0.7	222-120-x	000286-120-x	10	25	
125	0.33	0.06	75	0.8	222-125-x	000286-125-x	10	25	
130	0.28	0.06	78	0.8	222-130-x	000286-130-x	10	25	
140	0.25	0.05	84	0.8	222-140-x	000286-140-x	10	25	
150	0.22	0.04	90	0.9	222-150-x	000286-150-x	10	25	
160	0.21	0.04	96	0.9	222-160-x	000286-160-x	10	25	
170	0.19	0.03	102	0.9	222-170-x	000286-170-x	10	25	
175	0.185	0.03	105	1	222-175-x	000286-175-x	10	25	
180	0.172	0.03	108	1	222-180-x	000286-180-x	10	25	
200	0.148	0.03	120	1.2	222-200-x	000286-200-x	10	25	
215	0.128	0.02	151	1.3	222-215-x	000286-215-x	10	25	
225	0.115	0.02	158	1.4	222-225-x	000286-225-x	10	25	
250	0.1	0.02	175	1.6	222-250-x	000286-250-x	10	25	
275	0.08	0.01	193	1.9	222-275-x	000286-275-x	10	25	
300	0.07	0.01	210	2.1	222-300-x	000286-300-x	10	25	
325	0.059	0.01	228	2.5	222-325-x	000286-325-x	10	25	
350	0.056	0.01	245	2.5	222-350-x	000286-350-x	10	25	
375	0.05	0.01	263	2.9	222-375-x	000286-375-x	10	25	
400	0.047	0.01	280	3.1	222-400-x	000286-400-x	10	25	
450	0.045	0.01	360	3.6	222-450-x	000286-450-x	10	25	
500	0.043	0.01	400	4.1	222-500-x	000286-500-x	10	25	
550	0.042	0.01	440	4.6	222-550-x	000286-550-x	10	25	
600	0.039	0.01	480	5.1	222-600-x	000286-600-x	10	20	
700	0.031	0.01	560	6	222-700-x	000286-700-x	10	20	
800	0.022	0.01	640	6.9	222-800-x	000286-800-x	10	20	
900	0.016	0.01	720	7.8	222-900-x	000286-900-x	10	20	

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

Master-Clip PTFE H EL

Suction & Blower hose for corrosive media up to +175°C, electroconductive

Material

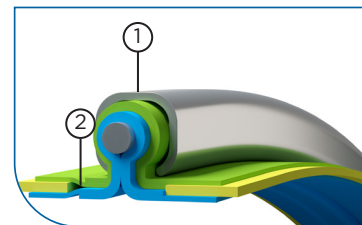
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: inner PTFE foil, electroconductive, outer layer: HYPALON®-coated polyester fabric

Applications

- danger zones, which require electrically conductive hoses
- suction and conveyance of aggressive media, explosive gases and fumes
- paint, wood and paper industry
- solvent extraction
- pharmaceutical industry
- low pressure range
- chemicals industry

Properties

- excellent chemical resistance
- outer chafing protection spiral
- PTFE-foil: surface resistance  $R_o < 10^6$  Ohm
- approved acc. to TRGS 727 and ATEX 2014/34 EU. Details acc. to certificate
- vibration-proof
- cold and heat resistant
- super lightweight
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- smallest bending radius
- extremely compressable to approx. 1:4
- UV/ozone-proof
- weather-proof
- anti-adhesive internal wall lining material
- optimum medium flow characteristics



Temperature Range

- -40°C to +175°C
- peaks to +190°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.43	30	0.5	261-050-x	000369-050-x	10	10
55	0.85	0.36	33	0.5	261-055-x	000369-055-x	10	10
60	0.78	0.3	36	0.6	261-060-x	000369-060-x	10	10
65	0.68	0.26	39	0.7	261-065-x	000369-065-x	10	10
70	0.67	0.22	42	0.7	261-070-x	000369-070-x	10	10
75	0.62	0.19	45	0.8	261-075-x	000369-075-x	10	15
80	0.61	0.17	48	0.8	261-080-x	000369-080-x	10	15
90	0.56	0.13	54	0.9	261-090-x	000369-090-x	10	15
100	0.51	0.11	60	1	261-100-x	000369-100-x	10	15
110	0.48	0.09	66	1.1	261-110-x	000369-110-x	10	15
120	0.36	0.08	72	1.1	261-120-x	000369-120-x	10	15
125	0.33	0.07	75	1.2	261-125-x	000369-125-x	10	15
130	0.28	0.06	78	1.2	261-130-x	000369-130-x	10	15
140	0.25	0.06	84	1.3	261-140-x	000369-140-x	10	15
150	0.22	0.05	90	1.3	261-150-x	000369-150-x	10	15
160	0.21	0.04	96	1.3	261-160-x	000369-160-x	10	15
170	0.19	0.04	102	1.4	261-170-x	000369-170-x	10	15
175	0.185	0.04	105	1.4	261-175-x	000369-175-x	10	15
180	0.172	0.03	108	1.4	261-180-x	000369-180-x	10	15
200	0.148	0.03	120	1.6	261-200-x	000369-200-x	10	15
215	0.128	0.03	151	1.8	261-215-x	000369-215-x	10	15
225	0.115	0.02	158	2	261-225-x	000369-225-x	10	15
250	0.1	0.02	175	2.1	261-250-x	000369-250-x	10	15
275	0.08	0.02	193	2.3	261-275-x	000369-275-x	10	15
300	0.07	0.01	210	2.4	261-300-x	000369-300-x	10	15
325	0.059	0.01	228	2.8	261-325-x	000369-325-x	10	10
350	0.056	0.01	245	3.3	261-350-x	000369-350-x	10	10
375	0.05	0.01	263	3.5	261-375-x	000369-375-x	10	10
400	0.047	0.01	280	3.8	261-400-x	000369-400-x	10	10
450	0.045	0.01	360	4.2	261-450-x	000369-450-x	10	10
500	0.043	0.01	400	4.7	261-500-x	000369-500-x	10	10
550	0.042	0.01	440	5.3	261-550-x	000369-550-x	10	10
600	0.039	0.01	480	5.9	261-600-x	000369-600-x	10	10
700	0.031	0.01	560	6.9	261-700-x	000369-700-x	6	6
800	0.022	0.01	640	7.6	261-800-x	000369-800-x	6	6
900	0.016	0.01	720	8.2	261-900-x	000369-900-x	6	6
900	0.016	0.01	720	17.1	260-900-x	000367-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



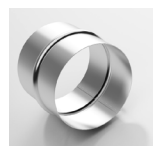
Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector







# 6

## Air-Conditioning, Ventilation & Welding Fumes Hoses

Air supply & ventilation in air-conditioning technology & extractor units



## Master-Clip VINYL

Suction & Blower Hose made from PVC foil/film

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall:100% PVC Film

### Applications

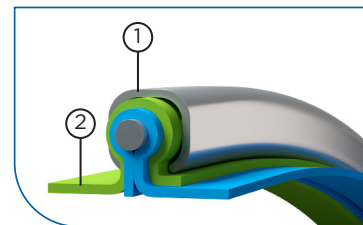
- air-conditioning and ventilation systems
- air supply and extraction
- low pressure range

### Properties

- outer chafing protection spiral
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- robust and inexpensive
- highly flexible
- extremely compressible to approx. 1:6
- smallest bending radius
- extremely lightweight

### Temperature Range

- -20°C to +70°C
- peaks to +80°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50*	0.6	0.13	30	0.4	210-050-x	000251-050-x	10	10
55*	0.58	0.13	33	0.4	210-055-x	000251-055-x	10	10
60*	0.55	0.12	36	0.5	210-060-x	000251-060-x	10	10
65*	0.5	0.11	39	0.5	210-065-x	000251-065-x	10	10
70*	0.4	0.11	42	0.5	210-070-x	000251-070-x	10	10
75*	0.35	0.1	45	0.5	210-075-x	000251-075-x	10	15
80*	0.3	0.09	48	0.5	210-080-x	000251-080-x	10	20
90*	0.26	0.08	54	0.6	210-090-x	000251-090-x	10	20
100*	0.23	0.07	60	0.6	210-100-x	000251-100-x	10	25
110*	0.2	0.06	66	0.6	210-110-x	000251-110-x	10	25
120*	0.18	0.05	72	0.7	210-120-x	000251-120-x	10	25
125*	0.17	0.05	75	0.7	210-125-x	000251-125-x	10	25
130*	0.15	0.05	78	0.8	210-130-x	000251-130-x	10	25
140*	0.14	0.04	84	0.8	210-140-x	000251-140-x	10	25
150*	0.14	0.04	90	0.9	210-150-x	000251-150-x	10	25
160*	0.13	0.04	96	0.9	210-160-x	000251-160-x	10	25
170*	0.12	0.03	102	0.9	210-170-x	000251-170-x	10	25
175*	0.11	0.03	105	1	210-175-x	000251-175-x	10	25
180*	0.11	0.03	108	1	210-180-x	000251-180-x	10	25
200*	0.1	0.03	120	1.1	210-200-x	000251-200-x	10	25
215*	0.09	0.02	151	1.1	210-215-x	000251-215-x	10	25
225*	0.08	0.02	158	1.2	210-225-x	000251-225-x	10	25
250*	0.08	0.02	175	1.4	210-250-x	000251-250-x	10	25
275*	0.07	0.01	193	1.7	210-275-x	000251-275-x	10	25
300*	0.06	0.01	210	1.9	210-300-x	000251-300-x	10	25
315*	0.06	0.01	221	1.9	210-315-x	000251-315-x	10	15
325*	0.05	0.01	228	2	210-325-x	000251-325-x	10	15
350*	0.05	0.01	245	2.2	210-350-x	000251-350-x	10	15
375*	0.04	0.01	263	2.6	210-375-x	000251-375-x	10	15
400*	0.03	0.01	280	2.8	210-400-x	000251-400-x	10	15
450*	0.03	0.01	360	3.3	210-450-x	000251-450-x	10	15
500*	0.03	0.01	400	3.8	210-500-x	000251-500-x	10	10
550*	0.02	0.01	440	4.3	210-550-x	000251-550-x	10	10
600*	0.02	0.01	480	4.9	210-600-x	000251-600-x	10	10
700*	0.02	0.01	560	5.6	210-700-x	000251-700-x	10	10
800*	0.02	0.01	640	6.2	210-800-x	000251-800-x	10	10
900*	0.01	0.01	720	7	210-900-x	000251-900-x	10	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip VINYL B

Suction & Blower Hose made from PVC-coated Polyester fabric, hardly inflammable

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: PVC-coated polyester fabric, hardly inflammable

### Applications

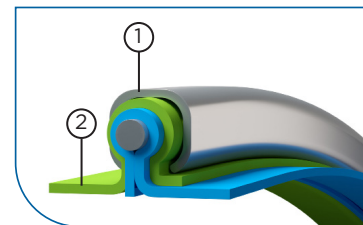
- air-conditioning and ventilation systems
- air supply and extraction
- tent heating
- solder fume extraction
- low pressure range

### Properties

- hardly inflammable
- outer chafing protection spiral
- good mechanical resistance
- light
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- robust and inexpensive
- highly flexible
- extremely compressable to approx. 1:6
- smallest bending radius
- extremely lightweight

### Temperature Range

- -20°C to +70°C
- peaks to +80°C

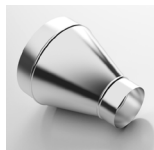


DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.31	30	0.4	212-050-x	000252-050-x	10	10
55	0.85	0.26	33	0.4	212-055-x	000252-055-x	10	10
60	0.78	0.22	36	0.5	212-060-x	000252-060-x	10	10
65	0.68	0.19	39	0.5	212-065-x	000252-065-x	10	10
70	0.67	0.16	42	0.5	212-070-x	000252-070-x	10	10
75	0.62	0.14	45	0.6	212-075-x	000252-075-x	10	15
80	0.61	0.12	48	0.6	212-080-x	000252-080-x	10	20
90	0.56	0.1	54	0.6	212-090-x	000252-090-x	10	20
100	0.51	0.08	60	0.6	212-100-x	000252-100-x	10	25
110	0.48	0.07	66	0.7	212-110-x	000252-110-x	10	25
120	0.36	0.06	72	0.7	212-120-x	000252-120-x	10	25
125	0.33	0.05	75	0.8	212-125-x	000252-125-x	10	25
130	0.28	0.05	78	0.8	212-130-x	000252-130-x	10	25
140	0.25	0.04	84	0.8	212-140-x	000252-140-x	10	25
150	0.22	0.04	90	0.9	212-150-x	000252-150-x	10	25
160	0.21	0.03	96	0.9	212-160-x	000252-160-x	10	25
170	0.19	0.03	102	0.9	212-170-x	000252-170-x	10	25
175	0.185	0.03	105	1	212-175-x	000252-175-x	10	25
180	0.172	0.02	108	1	212-180-x	000252-180-x	10	25
200	0.148	0.02	120	1.2	212-200-x	000252-200-x	10	25
215	0.128	0.02	129	1.3	212-215-x	000252-215-x	10	25
225	0.115	0.02	135	1.4	212-225-x	000252-225-x	10	25
250	0.1	0.01	175	1.6	212-250-x	000252-250-x	10	25
275	0.08	0.01	193	1.9	212-275-x	000252-275-x	10	25
300	0.07	0.01	210	2.1	212-300-x	000252-300-x	10	25
315	0.062	0.01	221	2.1	212-315-x	000252-315-x	10	15
325	0.059	0.01	228	2.2	212-325-x	000252-325-x	10	15
350	0.056	0.01	245	2.5	212-350-x	000252-350-x	10	15
375	0.05	0.01	263	2.9	212-375-x	000252-375-x	10	15
400	0.047	0.01	280	3.1	212-400-x	000252-400-x	10	15
450	0.045	0.01	360	3.6	212-450-x	000252-450-x	10	15
500	0.043	0.01	400	4.1	212-500-x	000252-500-x	10	10
550	0.042	0.01	440	4.6	212-550-x	000252-550-x	10	10
600	0.039	0.01	480	5.1	212-600-x	000252-600-x	10	10
700	0.031	0.01	560	6	212-700-x	000252-700-x	10	10
800	0.022	0.01	640	6.9	212-800-x	000252-800-x	10	10
900	0.016	0.01	720	7.8	212-900-x	000252-900-x	10	10

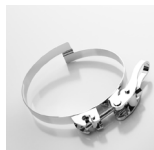
All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip PE

Suction & Blower Hose made from PE-coated PE fabric, environmentally friendly

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: double-sided PE-coated PE fabric

### Applications

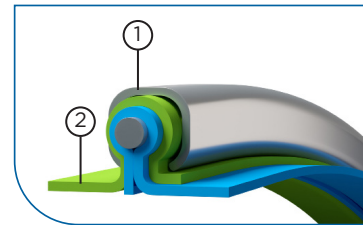
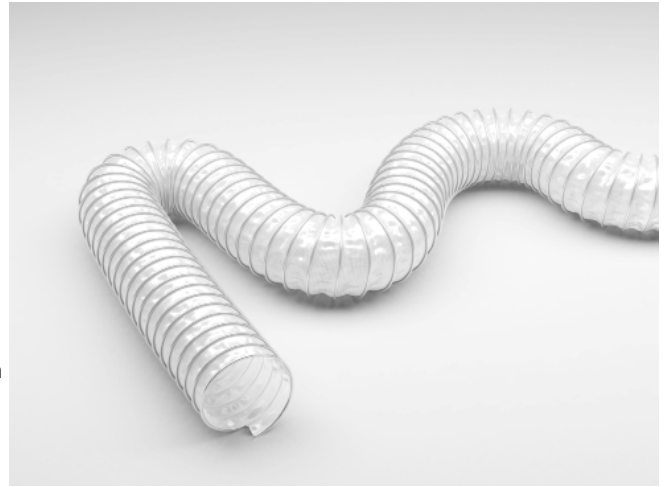
- air-conditioning and ventilation systems
- air supply and extraction
- vacuum devices for asbestos removal
- low pressure range

### Properties

- outer chafing protection spiral
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- higher temperature resistance than PVC hose
- highly flexible
- increased vacuum resistance
- extremely compressable to approx. 1:6
- smallest bending radius
- halogen and plasticizer-free
- more environmentally friendly alternative to PVC hoses
- extremely lightweight

### Temperature Range

- 40°C to +85°C
- peaks to +95°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.39	30	0.4	213-050-x	000254-050-x	10	10
55	0.85	0.32	33	0.4	213-055-x	000254-055-x	10	10
60	0.78	0.27	36	0.5	213-060-x	000254-060-x	10	10
65	0.68	0.23	39	0.5	213-065-x	000254-065-x	10	10
70	0.67	0.2	42	0.5	213-070-x	000254-070-x	10	10
75	0.62	0.18	45	0.5	213-075-x	000254-075-x	10	15
80	0.61	0.15	48	0.6	213-080-x	000254-080-x	10	20
90	0.56	0.12	54	0.6	213-090-x	000254-090-x	10	20
100	0.51	0.1	60	0.6	213-100-x	000254-100-x	10	25
110	0.48	0.08	66	0.6	213-110-x	000254-110-x	10	25
120	0.36	0.07	72	0.6	213-120-x	000254-120-x	10	25
125	0.33	0.06	75	0.7	213-125-x	000254-125-x	10	25
130	0.28	0.06	78	0.7	213-130-x	000254-130-x	10	25
140	0.25	0.05	84	0.7	213-140-x	000254-140-x	10	25
150	0.22	0.04	90	0.8	213-150-x	000254-150-x	10	25
160	0.21	0.04	96	0.8	213-160-x	000254-160-x	10	25
170	0.19	0.03	102	0.8	213-170-x	000254-170-x	10	25
175	0.185	0.03	105	0.9	213-175-x	000254-175-x	10	25
180	0.172	0.03	108	0.9	213-180-x	000254-180-x	10	25
200	0.148	0.03	120	1	213-200-x	000254-200-x	10	25
215	0.128	0.02	151	1.1	213-215-x	000254-215-x	10	25
225	0.115	0.02	158	1.1	213-225-x	000254-225-x	10	25
250	0.1	0.02	175	1.3	213-250-x	000254-250-x	10	25
275	0.08	0.01	193	1.4	213-275-x	000254-275-x	10	25
300	0.07	0.01	210	1.5	213-300-x	000254-300-x	10	25
315	0.062	0.01	221	1.6	213-315-x	000254-315-x	10	15
325	0.059	0.01	228	1.7	213-325-x	000254-325-x	10	15
350	0.056	0.01	245	1.9	213-350-x	000254-350-x	10	15
375	0.05	0.01	263	2.2	213-375-x	000254-375-x	10	15
400	0.047	0.01	280	2.4	213-400-x	000254-400-x	10	15
450	0.045	0.01	360	2.7	213-450-x	000254-450-x	10	15
500	0.043	0.01	400	3.1	213-500-x	000254-500-x	10	10
550	0.042	0.01	440	3.5	213-550-x	000254-550-x	10	10
600	0.039	0.01	480	3.9	213-600-x	000254-600-x	10	10
700	0.031	0.01	560	4.5	213-700-x	000254-700-x	10	10
800	0.022	0.01	640	5.2	213-800-x	000254-800-x	10	10
900	0.016	0.01	720	6	213-900-x	000254-900-x	10	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector



## Master-Clip PUR

Suction & Blower Hose made from PU foil, extremely abrasion-proof

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: pure polyurethane foil, plasticiser-free

### Applications

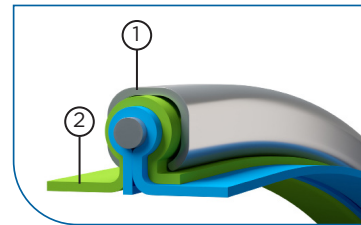
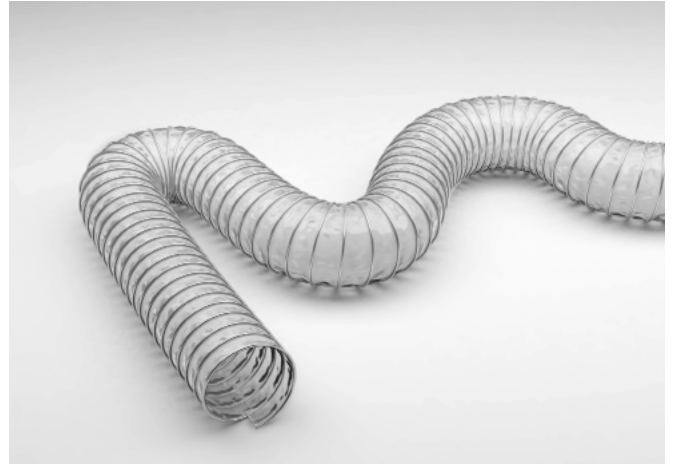
- suction of abrasive solids
- air-conditioning and ventilation systems
- low pressure range

### Properties

- outer chafing protection spiral
- good mechanical resistance
- good resistance to oil and petrol fumes
- cold resistant
- highly flexible
- extremely compressible to approx. 1:6
- smallest bending radius
- highly abrasion-resistant
- more environmentally friendly alternative to PVC hoses
- significantly higher temperature resistance than PVC hoses
- extremely lightweight
- good chemical resistance

### Temperature Range

- -20°C to +70°C
- peaks to +80°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.6	0.13	30	0.4	214-050-x	000262-050-x	10	10
55	0.575	0.13	33	0.4	214-055-x	000262-055-x	10	10
60	0.55	0.12	36	0.5	214-060-x	000262-060-x	10	10
65	0.5	0.11	39	0.5	214-065-x	000262-065-x	10	10
70	0.4	0.11	42	0.5	214-070-x	000262-070-x	10	10
75	0.35	0.1	45	0.6	214-075-x	000262-075-x	10	10
80	0.3	0.09	48	0.6	214-080-x	000262-080-x	10	10
90	0.26	0.08	54	0.6	214-090-x	000262-090-x	10	10
100	0.23	0.07	60	0.6	214-100-x	000262-100-x	10	10
110	0.2	0.06	66	0.6	214-110-x	000262-110-x	10	10
120	0.18	0.05	72	0.7	214-120-x	000262-120-x	10	10
125	0.17	0.05	75	0.7	214-125-x	000262-125-x	10	10
130	0.15	0.05	78	0.7	214-130-x	000262-130-x	10	10
140	0.14	0.04	84	0.8	214-140-x	000262-140-x	10	10
150	0.135	0.04	90	0.8	214-150-x	000262-150-x	10	10
160	0.13	0.04	96	0.9	214-160-x	000262-160-x	10	10
170	0.12	0.03	102	0.9	214-170-x	000262-170-x	10	10
175	0.11	0.03	105	1	214-175-x	000262-175-x	10	10
180	0.105	0.03	108	1	214-180-x	000262-180-x	10	10
200	0.1	0.03	120	1.1	214-200-x	000262-200-x	10	10
215	0.09	0.02	151	1.2	214-215-x	000262-215-x	10	10
225	0.08	0.02	158	1.3	214-225-x	000262-225-x	10	10
250	0.075	0.02	175	1.4	214-250-x	000262-250-x	10	10
275	0.07	0.01	193	1.7	214-275-x	000262-275-x	10	10
300	0.06	0.01	210	1.9	214-300-x	000262-300-x	10	10
315	0.055	0.01	221	2	214-315-x	000262-315-x	6	6
325	0.053	0.01	228	2.1	214-325-x	000262-325-x	6	6
350	0.05	0.01	245	2.3	214-350-x	000262-350-x	6	6
375	0.04	0.01	263	2.7	214-375-x	000262-375-x	6	6
400	0.03	0.01	280	2.9	214-400-x	000262-400-x	6	6
450	0.028	0.01	360	3.5	214-450-x	000262-450-x	6	6
500	0.025	0.01	400	3.9	214-500-x	000262-500-x	6	6
550	0.024	0.01	440	4.4	214-550-x	000262-550-x	6	6
600	0.022	0.01	480	4.9	214-600-x	000262-600-x	6	6
700	0.02	0.01	560	5.8	214-700-x	000262-700-x	6	6
800	0.015	0.01	640	6.7	214-800-x	000262-800-x	6	6
900	0.01	0.01	720	7.6	214-900-x	000262-900-x	6	6

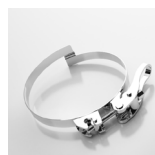
All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip SPARK

Special hose for welding fumes extraction, made from PVC-coated glass fabric

### Material

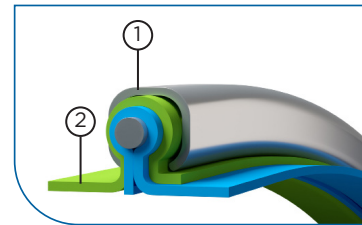
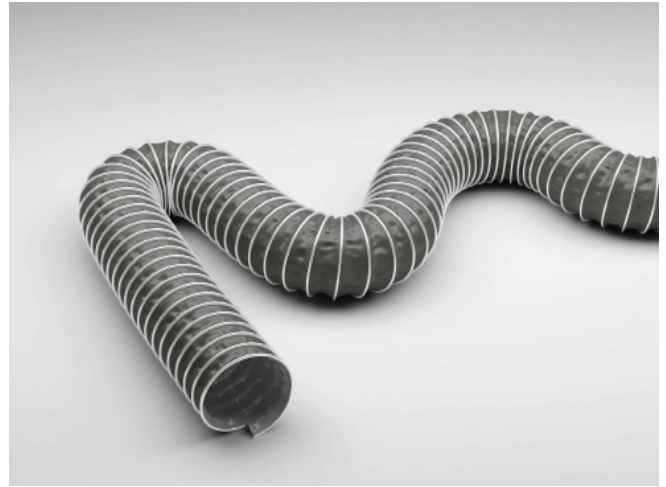
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall:PVC-coated glass fabric, flame retardent

### Applications

- welding fume extraction
- for greater safety requirements
- air-conditioning and ventilation systems
- air supply and extraction
- tent heating
- solder fume extraction
- low pressure range
- extractor units

### Properties

- hardly inflammable
- outer chafing protection spiral
- primarily resistant to flying sparks
- good mechanical resistance
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- extremely compressable to approx. 1:6
- smallest bending radius
- extremely lightweight



### Temperature Range

- -20°C to +90°C
- peaks to +110°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.85	0.31	30	0.4	215-050-x	000264-050-x	10	10
55	0.78	0.26	33	0.4	215-055-x	000264-055-x	10	10
60	0.68	0.22	36	0.5	215-060-x	000264-060-x	10	10
65	0.59	0.19	39	0.5	215-065-x	000264-065-x	10	10
70	0.53	0.16	42	0.5	215-070-x	000264-070-x	10	10
75	0.47	0.14	45	0.6	215-075-x	000264-075-x	10	15
80	0.43	0.12	48	0.6	215-080-x	000264-080-x	10	20
90	0.355	0.1	54	0.6	215-090-x	000264-090-x	10	20
100	0.3	0.08	60	0.6	215-100-x	000264-100-x	10	25
110	0.258	0.07	66	0.7	215-110-x	000264-110-x	10	25
120	0.224	0.06	72	0.7	215-120-x	000264-120-x	10	25
125	0.21	0.05	75	0.8	215-125-x	000264-125-x	10	25
130	0.197	0.05	78	0.8	215-130-x	000264-130-x	10	25
140	0.175	0.04	84	0.8	215-140-x	000264-140-x	10	25
150	0.157	0.04	90	0.9	215-150-x	000264-150-x	10	25
160	0.14	0.03	96	0.9	215-160-x	000264-160-x	10	25
170	0.128	0.03	102	0.9	215-170-x	000264-170-x	10	25
175	0.123	0.03	105	1	215-175-x	000264-175-x	10	25
180	0.117	0.02	108	1	215-180-x	000264-180-x	10	25
200	0.099	0.02	120	1.2	215-200-x	000264-200-x	10	25
215	0.088	0.02	151	1.3	215-215-x	000264-215-x	10	25
225	0.082	0.02	158	1.4	215-225-x	000264-225-x	10	25
250	0.069	0.01	175	1.6	215-250-x	000264-250-x	10	25
275	0.059	0.01	193	1.9	215-275-x	000264-275-x	10	25
300	0.052	0.01	210	2.1	215-300-x	000264-300-x	10	25
315	0.048	0.01	221	2.1	215-315-x	000264-315-x	10	15
325	0.046	0.01	228	2.2	215-325-x	000264-325-x	10	15
350	0.04	0.01	245	2.5	215-350-x	000264-350-x	10	15
375	0.036	0.01	263	2.9	215-375-x	000264-375-x	10	15
400	0.033	0.01	280	3.1	215-400-x	000264-400-x	10	15
450	0.027	0	360	3.6	215-450-x	000264-450-x	10	15
500	0.023	0.01	400	4.1	215-500-x	000264-500-x	10	10
550	0.02	0.01	440	4.6	215-550-x	000264-550-x	10	10
600	0.017	0.01	480	5.1	215-600-x	000264-600-x	10	10
700	0.013	0.01	560	6	215-700-x	000264-700-x	10	10
800	0.011	0.01	640	6.9	215-800-x	000264-800-x	10	10
900	0.009	0.01	720	7.8	215-900-x	000264-900-x	10	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-VENT 2

Suction & Blower hose made from co-polymer coated Polyester fabric

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: two layer construction
  - inner layer: aluminium lamination
  - outer layer: co-polymer coated polyester fabric

### Applications

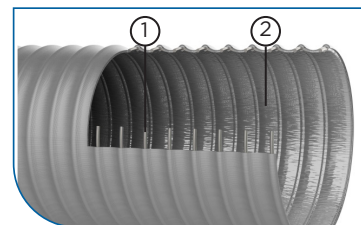
- steam extraction
- air-conditioning and ventilation systems
- extractor units, which require normal inflammable hoses
- extractors

### Properties

- flammability rating acc. to DIN 4102 B2
- acc.to DIN EN 13180
- extremely compressible to approx. 1:5
- extremely flexible
- reinforced with a semi-concealed spring steel spiral
- smallest bending radius
- extremely lightweight

### Temperature Range

- -30°C to +140°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
51*	0.36	0.4	51	0.13	664-051-x	000456-051-x	10	10
63*	0.29	0.29	63	0.14	664-063-x	000456-063-x	10	10
76*	0.24	0.22	76	0.16	664-076-x	000456-076-x	10	10
82*	0.23	0.2	82	0.17	664-082-x	000456-082-x	10	10
89*	0.21	0.17	89	0.18	664-089-x	000456-089-x	10	10
102*	0.18	0.14	102	0.21	664-102-x	000456-102-x	10	10
127*	0.14	0.1	127	0.25	664-127-x	000456-127-x	10	10
152*	0.12	0.08	152	0.3	664-152-x	000456-152-x	10	10
160*	0.12	0.07	160	0.37	664-160-x	000456-160-x	10	10
178*	0.11	0.06	178	0.39	664-178-x	000456-178-x	10	10
203*	0.09	0.05	203	0.4	664-203-x	000456-203-x	10	10
254	0.07	0.04	254	0.58	664-254-x	000456-254-x	10	10
304*	0.06	0.03	304	0.74	664-304-x	000456-304-x	10	10
356*	0.05	0.02	356	0.9	664-356-x	000456-356-x	10	10
406*	0.05	0.02	406	1.05	664-406-x	000456-406-x	10	10
457*	0.04	0.02	457	1.2	664-457-x	000456-457-x	10	10
508*	0.04	0.01	508	1.35	664-508-x	000456-508-x	10	10
560*	0.04	0.01	560	1.5	664-560-x	000456-560-x	10	10
610*	0.03	0.01	610	1.6	664-610-x	000456-610-x	10	10

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



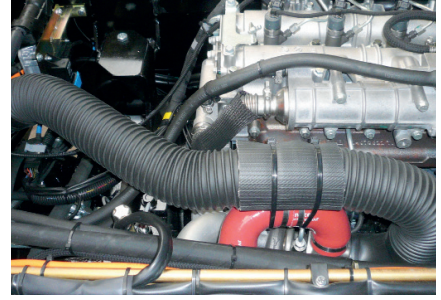
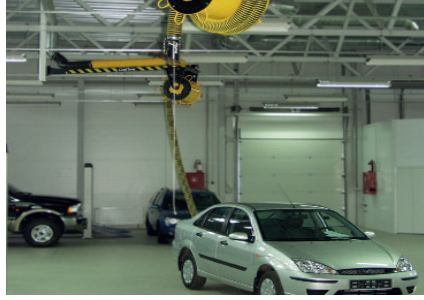
Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector



# 7

## Exhaust Gas Hoses & Temperature-Resistant Hoses up to +1100 °C

Hoses for suction/extraction of exhaust fumes from combustion engines at temperatures up to +1100 °C





## Master-SANTO SL

TPV transport and suction hose, very light weight, for increased temperatures

### Material

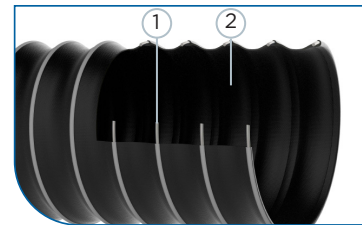
- 1 spiral: spring steel wire, TPV-coated
- 2 wall: TPV-coated polyester fabric

### Applications

- steam extraction
- air supply and extraction in engine applications
- conveyance of hot and cold air in vehicle and machine manufacturing
- gaseous media
- air supply at blown film machines

### Properties

- good resistance to acids, alkalis and solvent fumes
- smooth inner lining
- super lightweight
- smallest bending radius
- highly flexible
- halogen and plasticizer-free
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

- -40°C to +130°C
- peaks to +150°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25*	3	0.88	25	33	0.14	325-025-x	000424-025-x	10	25
26*	3	0.88	25	33	0.15	325-026-x	000424-026-x	10	25
30*	3	0.86	30	38	0.18	325-030-x	000424-030-x	10	25
32*	2.6	0.83	32	40	0.2	325-032-x	000424-032-x	10	25
38*	2.5	0.81	38	48	0.24	325-038-x	000424-038-x	10	25
40	2.4	0.8	40	49	0.25	325-040-x	000424-040-x	10	25
45*	2.3	0.8	45	54	0.28	325-045-x	000424-045-x	10	25
50*	2.2	0.79	50	60	0.34	325-050-x	000424-050-x	10	25
51	2.2	0.79	50	60	0.36	325-051-x	000424-051-x	10	25
60	1.6	0.71	60	70	0.43	325-060-x	000424-060-x	10	25
63*	1.5	0.68	63	72	0.44	325-063-x	000424-063-x	10	25
65*	1.4	0.67	65	74	0.46	325-065-x	000424-065-x	10	25
70*	1.3	0.63	70	79	0.49	325-070-x	000424-070-x	10	25
75*	1.2	0.59	75	83	0.57	325-075-x	000424-075-x	10	25
76	1.2	0.59	75	84	0.59	325-076-x	000424-076-x	10	25
80	1.1	0.55	80	89	0.63	325-080-x	000424-080-x	10	25
90	1	0.47	90	100	0.71	325-090-x	000424-090-x	10	25
100*	0.9	0.39	100	110	0.61	325-100-x	000424-100-x	10	25
102	0.9	0.39	100	111	0.63	325-102-x	000424-102-x	10	25
110	0.9	0.37	110	119	0.68	325-110-x	000424-110-x	10	25
115*	0.8	0.36	115	124	0.71	325-115-x	000424-115-x	10	25
120*	0.8	0.35	120	130	0.74	325-120-x	000424-120-x	10	25
125*	0.8	0.34	125	133	0.75	325-125-x	000424-125-x	10	25
127	0.8	0.34	125	135	0.77	325-127-x	000424-127-x	10	25
130*	0.7	0.33	130	138	0.79	325-130-x	000424-130-x	10	25
140	0.7	0.31	140	149	0.86	325-140-x	000424-140-x	10	25
150*	0.6	0.29	150	160	0.93	325-150-x	000424-150-x	10	25
152	0.6	0.29	150	160	0.95	325-152-x	000424-152-x	10	25
160	0.6	0.28	160	170	1.01	325-160-x	000424-160-x	10	25
170*	0.6	0.26	170	180	1.07	325-170-x	000424-170-x	10	25
175*	0.5	0.25	175	185	1.1	325-175-x	000424-175-x	10	25
180*	0.5	0.24	180	190	1.13	325-180-x	000424-180-x	10	25
200*	0.5	0.2	200	210	1.66	325-200-x	000424-200-x	10	25
203	0.5	0.2	200	211	1.68	325-203-x	000424-203-x	10	25
225*	0.4	0.18	225	236	1.88	325-225-x	000424-225-x	10	25
250*	0.4	0.16	250	260	1.76	325-250-x	000424-250-x	10	25
254	0.4	0.16	250	262	1.78	325-254-x	000424-254-x	10	25
275*	0.3	0.14	275	287	1.96	325-275-x	000424-275-x	10	25
280*	0.3	0.14	280	291	1.98	325-280-x	000424-280-x	10	25
300	0.3	0.12	300	313	2.75	325-300-x	000424-300-x	10	25
350*	0.2	0.08	350	362	3.19	325-350-x	000424-350-x	10	25
400*	0.2	0.05	400	413	3.65	325-400-x	000424-400-x	10	25

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-SANTO L F

TPV transport and suction hose, light weight, for increased temperatures

### Material

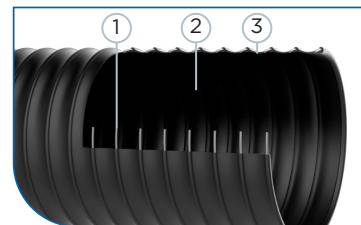
- 1 spiral: spring steel wire
- 2 wall: thermoplastic vulcanisate (TPV)
- 3 wall thickness between spirals approx. 0.5 mm

### Applications

- steam extraction
- air supply and extraction in engine applications
- conveyance of hot and cold air in vehicle and machine manufacturing
- liquid and gaseous media
- protective hose against mechanical wear
- low pressure range

### Properties

- good resistance to acids, alkalis and solvent fumes
- mostly smooth inner lining
- very good flexibility
- light
- smallest bending radius
- halogen and plasticizer-free
- optimum flow characteristics
- generally good UV and ozone resistance
- acc. to TRGS 727 and ATEX 2014/34 EU, with earthing at both ends of the spiral for non-flammable dust/bulk solids in Zone 22. For gases/liquids with low conductivity of electrostatic charges in Zone 2.



### Temperature Range

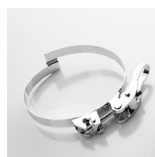
- -40°C to +130°C
- peaks to +150°C

DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
26	1.7	0.4	25	31	0.19	321-026-x	007576-026-x	10	20
32	1.5	0.35	32	38	0.26	321-032-x	007576-032-x	10	20
38	1.4	0.3	38	44	0.32	321-038-x	007576-038-x	10	20
44	1.3	0.28	44	50	0.39	321-044-x	007576-044-x	10	20
51	1.3	0.28	51	57	0.45	321-050-x	007576-050-x	10	20
63	1	0.25	63	69	0.5	321-065-x	007576-065-x	10	20
76	0.8	0.2	76	82	0.65	321-075-x	007576-075-x	10	20
80	0.7	0.18	80	86	0.7	321-080-x	007576-080-x	10	20
102	0.6	0.18	102	111	0.75	321-100-x	007576-100-x	10	20
127	0.6	0.12	127	132	0.85	321-125-x	007576-125-x	10	20
152	0.5	0.11	152	157	0.95	321-150-x	007576-150-x	10	20
203	0.4	0.1	203	210	1.7	321-200-x	007576-200-x	10	15
254	0.4	0.1	254	262	1.8	321-250-x	007576-250-x	10	15
304	0.3	0.1	304	312	2.8	321-300-x	007576-300-x	10	15

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick-Fix Clamp



Hose Connector



Clip-Grip Hose Clamp, screwable

## Master-NEO 1

Medium and high temperature hose up to +135°C

### Material

- 1 spiral: spring steel wire
- 2 wall: neoprene-coated glass fabric
- 3 cord: fibreglass fabric

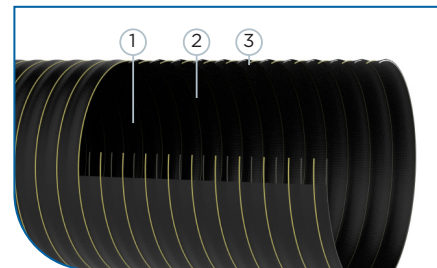
### Applications

- chemicals industry
- hot air hose for granulate dryer
- machine and engine manufacturing
- shipbuilding
- plastic processing industry
- waste incineration plants
- conveyance of air and gaseous media with high nominal and ambient temperatures
- automotive manufacturing
- aircraft manufacturing
- gaseous media



### Properties

- mostly smooth inner lining
- bend-proof
- fixed vulcanised wall and steel filament
- approved acc.to DIN 75200 and FMVSS 302 for application in transit vehicles
- light
- symmetrical fold behaviour
- smallest bending radius
- highly flexible
- good chemical resistance



### Temperature Range

- -35°C to +135°C
- peaks -55°C to +150°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar					mm	kg
13*	1.7	0.51	8	0.1	680-013-x	000479-013-x	4	4
19	1.6	0.5	8	0.11	680-019-x	000479-019-x	4	4
22	1.6	0.5	8	0.12	680-022-x	000479-022-x	4	4
25	1.6	0.5	8	0.12	680-025-x	000479-025-x	4	4
30*	1.4	0.49	10	0.14	680-030-x	000479-030-x	4	4
32	1.37	0.49	11	0.15	680-032-x	000479-032-x	4	4
35*	1.35	0.49	11	0.15	680-035-x	000479-035-x	4	4
38	1.3	0.49	12	0.17	680-038-x	000479-038-x	4	4
41	1.3	0.47	13	0.2	680-041-x	000479-041-x	4	4
42*	1.2	0.47	13	0.2	680-042-x	000479-042-x	4	4
44	1.2	0.45	14	0.21	680-044-x	000479-044-x	4	4
45*	1.2	0.45	14	0.21	680-045-x	000479-045-x	4	4
51	1.2	0.42	16	0.25	680-051-x	000479-051-x	4	4
55	1.1	0.41	18	0.27	680-055-x	000479-055-x	4	4
57	1.1	0.4	18	0.28	680-057-x	000479-057-x	4	4
60	1.1	0.39	20	0.3	680-060-x	000479-060-x	4	4
63	1.1	0.38	22	0.32	680-063-x	000479-063-x	4	4
64*	1.1	0.38	22	0.32	680-064-x	000479-064-x	4	4
65*	1.1	0.37	22	0.34	680-065-x	000479-065-x	4	4
70	1.1	0.35	24	0.36	680-070-x	000479-070-x	4	4
76	1.1	0.33	27	0.41	680-076-x	000479-076-x	4	4
80	1	0.31	28	0.44	680-080-x	000479-080-x	4	4
83	1	0.3	28	0.46	680-083-x	000479-083-x	4	4
90	1	0.29	29	0.49	680-090-x	000479-090-x	4	4
91*	1	0.29	29	0.49	680-091-x	000479-091-x	4	4
95	0.9	0.28	32	0.56	680-095-x	000479-095-x	4	4
102	0.9	0.26	35	0.65	680-102-x	000479-102-x	4	4
108*	0.9	0.24	38	0.68	680-108-x	000479-108-x	4	4
110*	0.9	0.24	38	0.69	680-110-x	000479-110-x	4	4
114	0.9	0.22	40	0.71	680-114-x	000479-114-x	4	4
120	0.8	0.2	43	0.76	680-120-x	000479-120-x	4	4
127	0.8	0.17	46	0.8	680-127-x	000479-127-x	4	4
130	0.8	0.17	47	0.82	680-130-x	000479-130-x	4	4
140	0.7	0.15	48	0.9	680-140-x	000479-140-x	4	4
152	0.7	0.14	51	0.99	680-152-x	000479-152-x	4	4
160	0.6	0.13	53	1.05	680-160-x	000479-160-x	4	4
165	0.6	0.12	55	1.08	680-165-x	000479-165-x	4	4
180	0.6	0.11	60	1.19	680-180-x	000479-180-x	4	4
203	0.5	0.07	68	1.33	680-203-x	000479-203-x	4	4
229*	0.4	0.06	84	1.48	680-229-x	000479-229-x	4	4
254*	0.4	0.04	102	1.68	680-254-x	000479-254-x	4	4
305*	0.2	0.02	123	2.05	680-305-x	000479-305-x	4	4

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-NEO 2

Medium and high temperature hose up to +135°C, two layers

### Material

- 1 spiral: spring steel wire
- 2 wall: neoprene-coated glass fabric, double-layered
- 3 cord: fibreglass fabric

### Applications

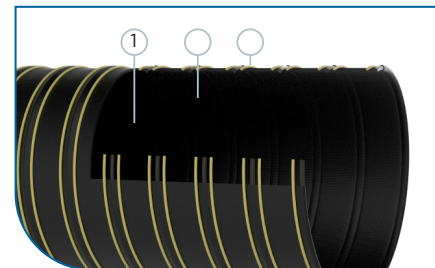
- chemicals industry
- conveyance of air and gaseous media with high nominal and ambient temperatures with greater mechanical requirements
- hot air hose for granulate dryer
- machine and engine manufacturing
- shipbuilding
- plastic processing industry
- waste incineration plants
- automotive manufacturing

### Properties

- mostly smooth inner lining
- bend-proof
- fixed vulcanised wall and steel filament
- light
- symmetrical fold behaviour
- smallest bending radius
- highly flexible
- good chemical resistance

### Temperature Range

- -35°C to +135°C
- peaks -55°C to +150°C\*



DN	op. pressure	vacu-	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	um						
13	2.8	0.64	15	0.16	681-013-x	000485-013-x	4	4
19	2.8	0.64	15	0.19	681-019-x	000485-019-x	4	4
25	2.8	0.64	15	0.22	681-025-x	000485-025-x	4	4
30*	2.8	0.64	15	0.25	681-030-x	000485-030-x	4	4
32	2.7	0.62	16	0.27	681-032-x	000485-032-x	4	4
35	2.7	0.59	17	0.3	681-035-x	000485-035-x	4	4
38	2.6	0.59	18	0.31	681-038-x	000485-038-x	4	4
41	2.6	0.59	19	0.32	681-041-x	000485-041-x	4	4
42*	2.6	0.59	19	0.32	681-042-x	000485-042-x	4	4
44	2.6	0.55	21	0.34	681-044-x	000485-044-x	4	4
45*	2.6	0.55	21	0.34	681-045-x	000485-045-x	4	4
51	2.6	0.51	24	0.36	681-051-x	000485-051-x	4	4
55	2.5	0.48	27	0.42	681-055-x	000485-055-x	4	4
57	2.5	0.48	28	0.43	681-057-x	000485-057-x	4	4
60	2.4	0.47	31	0.47	681-060-x	000485-060-x	4	4
63	2.4	0.47	31	0.49	681-063-x	000485-063-x	4	4
64*	2.4	0.47	31	0.49	681-064-x	000485-064-x	4	4
65	2.4	0.47	31	0.5	681-065-x	000485-065-x	4	4
70	2.3	0.43	35	0.53	681-070-x	000485-070-x	4	4
76	2.2	0.42	38	0.58	681-076-x	000485-076-x	4	4
80	2.1	0.41	40	0.62	681-080-x	000485-080-x	4	4
83	2.1	0.4	42	0.64	681-083-x	000485-083-x	4	4
90	2	0.39	44	0.7	681-090-x	000485-090-x	4	4
91*	2	0.39	44	0.7	681-091-x	000485-091-x	4	4
95	1.9	0.36	48	0.73	681-095-x	000485-095-x	4	4
102	1.9	0.34	52	0.77	681-102-x	000485-102-x	4	4
108	1.7	0.3	55	0.83	681-108-x	000485-108-x	4	4
110	1.7	0.29	57	0.85	681-110-x	000485-110-x	4	4
114	1.6	0.28	57	0.89	681-114-x	000485-114-x	4	4
120*	1.6	0.28	61	0.94	681-120-x	000485-120-x	4	4
127	1.4	0.25	64	1	681-127-x	000485-127-x	4	4
130*	1.3	0.23	65	1.02	681-130-x	000485-130-x	4	4
140	1.3	0.19	70	1.11	681-140-x	000485-140-x	4	4
152	1.2	0.17	75	1.2	681-152-x	000485-152-x	4	4
160	1.1	0.15	80	1.28	681-160-x	000485-160-x	4	4
165*	1	0.14	83	1.32	681-165-x	000485-165-x	4	4
173*	1	0.13	87	1.4	681-173-x	000485-173-x	4	4
180	1	0.12	90	1.48	681-180-x	000485-180-x	4	4
203	0.7	0.09	101	1.65	681-203-x	000485-203-x	4	4
229*	0.6	0.08	125	1.9	681-229-x	000485-229-x	4	4
254*	0.5	0.07	150	2.14	681-254-x	000485-254-x	4	4
305*	0.3	0.04	210	2.58	681-305-x	000485-305-x	4	4

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-NEO 2 NR

Medium and high temperature hose up to +135°C, three layers

### Material

- 1 spiral: spring steel wire
- 2 wall: neoprene coated nylon fabric with nitrile rubber lining
- 3 cord: fibreglass fabric

### Applications

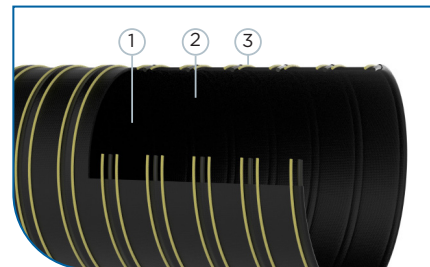
- chemicals industry
- hot air hose for granulate dryer
- machine and engine manufacturing
- shipbuilding
- plastic processing industry
- waste incineration plants
- aircraft manufacturing
- gaseous media
- air supply at blown film machines
- fuel filler hose in the motorsport industry
- extraction of dust, fume and oil mist where aq smooth bore and reduced permeability is required

### Properties

- mostly smooth inner lining
- bend-proof
- flexible
- vibration resistant
- smooth bore
- excellent resistance to petrol

### Temperature Range

- -35°C to +135°C
- peaks -50°C to +150°C\*



DN	op. pressure	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
mm	bar	bar	mm	mm	kg			m	m
25*	2.8	0.62	50	29	0.22	681NR-025-x	007579-025-x	4	4
38*	2.7	0.59	60	43	0.25	681NR-038-x	007579-038-x	4	4
44*	2.5	0.55	90	48	0.29	681NR-044-x	007579-044-x	4	4
51*	2.4	0.51	100	56	0.33	681NR-051-x	007579-051-x	4	4
57*	2.2	0.48	120	62	0.38	681NR-057-x	007579-057-x	4	4
63*	2.1	0.47	130	68	0.42	681NR-063-x	007579-063-x	4	4
76*	2	0.45	140	81	0.58	681NR-076-x	007579-076-x	4	4

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector



## Master-Clip Iso NEOPRENE

Medium and high temperature hose up to +130°C

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: 2 ply Neoprene coated polyester fabric

### Applications

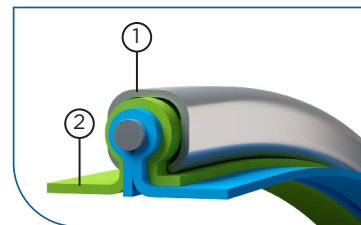
- air-conditioning and ventilation systems
- engine manufacturing
- transport of hot and cold air
- suction of aggressive media
- automotive manufacturing
- low pressure range
- exhaust gas extraction
- chemicals industry

### Properties

- outer chafing protection spiral
- increased temperature resistance
- vibration-proof
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- extremely compressible to approx. 1:3
- smallest bending radius
- good chemical resistance
- extremely light weight

### Temperature Range

- -35°C to +130°C
- peaks to +150°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
76	0.62	0.25	45	0.8	231-075-x	007582-075-x	10	15
100	0.51	0.16	60	1.3	231-100-x	007582-100-x	10	15
125	0.33	0.1	75	1.4	231-125-x	007582-125-x	10	15
150	0.22	0.07	90	1.8	231-150-x	007582-150-x	10	15
200	0.15	0.04	120	2.4	231-200-x	007582-200-x	6	10
225	0.12	0.03	160	2.1	231-225-x	007582-225-x	6	10
250	0.1	0.02	180	2.3	231-250-x	007582-250-x	6	10
300	0.07	0.01	210	2.4	231-300-x	007582-300-x	6	10

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip NEOPRENE

Medium and high temperature hose up to +125°C

### Material

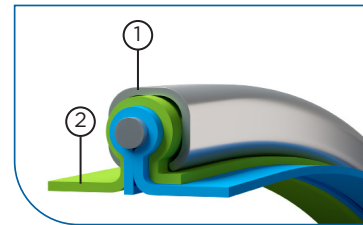
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: neoprene-coated polyester fabric

### Applications

- air-conditioning and ventilation systems
- engine manufacturing
- exhaust gas extraction
- suction of aggressive media
- transport of hot and cold air
- automotive manufacturing
- low pressure range
- chemicals industry

### Properties

- outer chafing protection spiral
- increased temperature resistance
- extremely compressible to approx. 1:6
- vibration-proof
- smallest bending radius
- highly flexible
- extremely lightweight
- good chemical resistance
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- -35°C to +125°C
- peaks to +150°C

DN	op. pressure bar	vacuum bar	bend radius mm	weight/m kg	old article no.	new article no.	standard length m	max. production length m
50	0.9	0.39	30	0.4	220-050-x	000269-50-x	10	10
55	0.85	0.32	33	0.4	220-055-x	000269-55-x	10	10
60	0.78	0.27	36	0.5	220-060-x	000269-60-x	10	10
65	0.68	0.23	39	0.5	220-065-x	000269-65-x	10	10
70	0.67	0.2	42	0.5	220-070-x	000269-70-x	10	10
75	0.62	0.18	45	0.6	220-075-x	000269-75-x	10	15
80	0.61	0.15	48	0.6	220-080-x	000269-80-x	10	15
90	0.56	0.12	54	0.6	220-090-x	000269-90-x	10	15
100	0.51	0.1	60	0.6	220-100-x	000269-100-x	10	15
110	0.48	0.08	66	0.7	220-110-x	000269-110-x	10	15
120	0.36	0.07	72	0.7	220-120-x	000269-120-x	10	15
125	0.33	0.06	75	0.8	220-125-x	000269-125-x	10	15
130	0.28	0.06	78	0.8	220-130-x	000269-130-x	10	15
140	0.25	0.05	84	0.8	220-140-x	000269-140-x	10	15
150	0.22	0.04	90	0.9	220-150-x	000269-150-x	10	15
160	0.21	0.04	96	0.9	220-160-x	000269-160-x	10	15
170	0.19	0.03	102	0.9	220-170-x	000269-170-x	10	15
175	0.185	0.03	105	1	220-175-x	000269-175-x	10	15
180	0.172	0.03	108	1	220-180-x	000269-180-x	10	15
200	0.148	0.03	120	1.2	220-200-x	000269-200-x	10	15
215	0.128	0.02	151	1.3	220-215-x	000269-215-x	10	15
225	0.115	0.02	158	1.4	220-225-x	000269-225-x	10	15
250	0.1	0.02	175	1.6	220-250-x	000269-250-x	10	15
275	0.08	0.01	193	1.9	220-275-x	000269-275-x	10	15
300	0.07	0.01	210	2.1	220-300-x	000269-300-x	10	15
315	0.062	0.01	221	2.1	220-315-x	000269-315-x	10	10
325	0.059	0.01	228	2.2	220-325-x	000269-325-x	10	10
350	0.056	0.01	245	2.5	220-350-x	000269-350-x	10	10
375	0.05	0.01	263	2.9	220-375-x	000269-375-x	10	10
400	0.047	0.01	280	3.1	220-400-x	000269-400-x	10	10
450	0.045	0.01	360	3.6	220-450-x	000269-450-x	10	10
500	0.043	0.01	400	4.1	220-500-x	000269-500-x	10	10
550	0.042	0.01	440	4.6	220-550-x	000269-550-x	10	10
600	0.039	0.01	480	5.1	220-600-x	000269-600-x	10	10
700	0.031	0.01	560	6	220-700-x	000269-700-x	6	6
800	0.022	0.01	640	6.9	220-800-x	000269-800-x	6	6
900	0.016	0.01	720	7.8	220-900-x	000269-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip HYPALON

Medium and high temperature hose up to +175°C

### Material

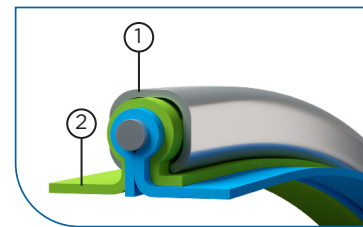
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: HYPALON®-coated polyester fabric

### Applications

- air-conditioning and ventilation systems
- engine manufacturing
- exhaust gas extraction
- suction of aggressive media
- transport of hot and cold air
- granulate drying
- standard industrial hose
- automotive manufacturing
- low pressure range
- extractor units

### Properties

- hardly inflammable
- increased temperature resistance
- extremely compressible to approx. 1:6
- outer chafing protection spiral
- vibration-proof
- excellent UV / ozone resistance
- smallest bending radius
- highly flexible
- very good chemical resistance
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- extremely lightweight



### Temperature Range

- -40°C to +175°C
- peaks to +190°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg				
50	0.9	0.39	30	0.4	221-050-x	000273-50-x	10	10
55	0.85	0.32	33	0.4	221-055-x	000273-55-x	10	10
60	0.78	0.27	36	0.5	221-060-x	000273-60-x	10	10
65	0.68	0.23	39	0.5	221-065-x	000273-65-x	10	10
70	0.67	0.2	42	0.5	221-070-x	000273-70-x	10	10
75	0.62	0.18	45	0.6	221-075-x	000273-75-x	10	15
80	0.61	0.15	48	0.6	221-080-x	000273-80-x	10	15
90	0.56	0.12	54	0.6	221-090-x	000273-90-x	10	15
100	0.51	0.1	60	0.6	221-100-x	000273-100-x	10	15
110	0.48	0.08	66	0.7	221-110-x	000273-110-x	10	15
120	0.36	0.07	72	0.7	221-120-x	000273-120-x	10	15
125	0.33	0.06	75	0.8	221-125-x	000273-125-x	10	15
130	0.28	0.06	78	0.8	221-130-x	000273-130-x	10	15
140	0.25	0.05	84	0.8	221-140-x	000273-140-x	10	15
150	0.22	0.04	90	0.9	221-150-x	000273-150-x	10	15
160	0.21	0.04	96	0.9	221-160-x	000273-160-x	10	15
170	0.19	0.03	102	0.9	221-170-x	000273-170-x	10	15
175	0.185	0.03	105	1	221-175-x	000273-175-x	10	15
180	0.172	0.03	108	1	221-180-x	000273-180-x	10	15
200	0.148	0.03	120	1.2	221-200-x	000273-200-x	10	15
215	0.128	0.02	151	1.3	221-215-x	000273-215-x	10	15
225	0.115	0.02	158	1.4	221-225-x	000273-225-x	10	15
250	0.1	0.02	175	1.6	221-250-x	000273-250-x	10	15
275	0.08	0.01	193	1.9	221-275-x	000273-275-x	10	15
300	0.07	0.01	210	2.1	221-300-x	000273-300-x	10	15
315	0.062	0.01	221	2.1	221-315-x	000273-315-x	10	10
325	0.059	0.01	228	2.2	221-325-x	000273-325-x	10	10
350	0.056	0.01	245	2.5	221-350-x	000273-350-x	10	10
375	0.05	0.01	263	2.9	221-375-x	000273-375-x	10	10
400	0.047	0.01	280	3.1	221-400-x	000273-400-x	10	10
450	0.045	0.01	360	3.6	221-450-x	000273-450-x	10	10
500	0.043	0.01	400	4.1	221-500-x	000273-500-x	10	10
550	0.042	0.01	440	4.6	221-550-x	000273-550-x	10	10
600	0.039	0.01	480	5.1	221-600-x	000273-600-x	10	10
700	0.031	0.01	560	6	221-700-x	000273-700-x	6	6
800	0.022	0.01	640	6.9	221-800-x	000273-800-x	6	6
900	0.016	0.01	720	7.8	221-900-x	000273-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip PTFE H

Suction & Blower hose for corrosive media up to +175°C

### Material

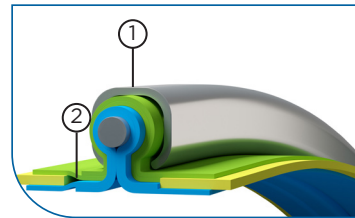
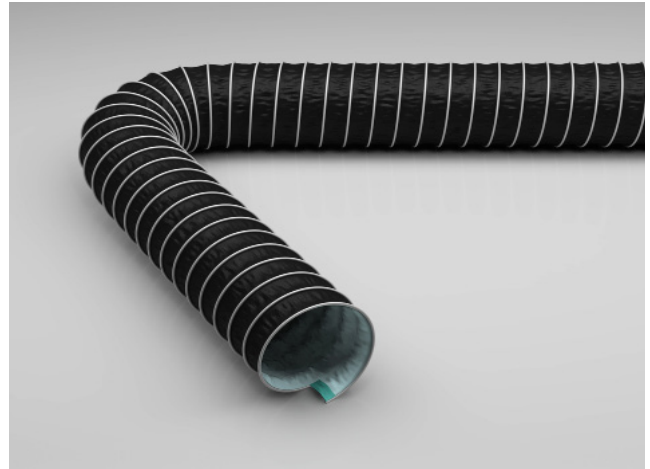
1 clip profile spiral: hot-dip galvanised steel band  
 2 wall: inner layer: PTFE foil, outer layer: HYPALON®-coated polyester fabric

### Applications

- pharmaceutical industry
- chemicals industry
- low pressure range
- suction and conveyance of aggressive media, explosive gases and fumes
- paint mist extraction
- paint, wood and paper industry
- solvent extraction

### Properties

- highly flexible
- UV/ozone-proof
- vibration-proof
- excellent chemical resistance
- cold and heat-resistant
- weather-proof
- optimum medium flow characteristics
- outer chafing protection spiral
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- PTFE: no health risk
- extremely compressible to approx. 1:4
- robust outer wall material
- anti-adhesive internal wall lining material



### Temperature Range

- -40°C to +175°C
- peaks to +190°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.43	30	0.5	251-050-x	000358-050-x	10	10
55	0.85	0.36	33	0.5	251-055-x	000358-055-x	10	10
60	0.78	0.3	36	0.6	251-060-x	000358-060-x	10	10
65	0.68	0.26	39	0.7	251-065-x	000358-065-x	10	10
70	0.67	0.22	42	0.7	251-070-x	000358-070-x	10	10
75	0.62	0.19	45	0.8	251-075-x	000358-075-x	10	15
80	0.61	0.17	48	0.8	251-080-x	000358-080-x	10	15
90	0.56	0.13	54	0.9	251-090-x	000358-090-x	10	15
100	0.51	0.11	60	1	251-100-x	000358-100-x	10	15
110	0.48	0.09	66	1.1	251-110-x	000358-110-x	10	15
120	0.36	0.08	72	1.1	251-120-x	000358-120-x	10	15
125	0.33	0.07	75	1.2	251-125-x	000358-125-x	10	15
130	0.28	0.06	78	1.2	251-130-x	000358-130-x	10	15
140	0.25	0.06	84	1.3	251-140-x	000358-140-x	10	15
150	0.22	0.05	90	1.3	251-150-x	000358-150-x	10	15
160	0.21	0.04	96	1.3	251-160-x	000358-160-x	10	15
170	0.19	0.04	102	1.4	251-170-x	000358-170-x	10	15
175	0.185	0.04	105	1.4	251-175-x	000358-175-x	10	15
180	0.172	0.03	108	1.4	251-180-x	000358-180-x	10	15
200	0.148	0.03	120	1.6	251-200-x	000358-200-x	10	15
215	0.128	0.03	151	1.8	251-215-x	000358-215-x	10	15
225	0.115	0.02	158	2	251-225-x	000358-225-x	10	15
250	0.1	0.02	175	2.1	251-250-x	000358-250-x	10	15
275	0.08	0.02	193	2.3	251-275-x	000358-275-x	10	15
300	0.07	0.01	210	2.4	251-300-x	000358-300-x	10	15
325	0.059	0.01	228	2.8	251-325-x	000358-325-x	10	10
350	0.056	0.01	245	3.3	251-350-x	000358-350-x	10	10
375	0.05	0.01	263	3.5	251-375-x	000358-375-x	10	10
400	0.047	0.01	280	3.8	251-400-x	000358-400-x	10	10
450	0.045	0.01	360	4.2	251-450-x	000358-450-x	10	10
500	0.043	0.01	400	4.7	251-500-x	000358-500-x	10	10
550	0.042	0.01	440	5.3	251-550-x	000358-550-x	10	10
600	0.039	0.01	480	5.9	251-600-x	000358-600-x	10	10
700	0.031	0.01	560	6.9	251-700-x	000358-700-x	6	6
800	0.022	0.01	640	7.6	251-800-x	000358-800-x	6	6
900	0.016	0.01	720	8.2	251-900-x	000358-900-x	6	6
900	0.009	0.01	720	8.2	262-900-x	000373-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Carflex 200

Exhaust gas hose for exhaust fumes/gases up to +200°C

### Material

- 1 clamp profile spiral: hot-dip galvanised steel band with additional plastic outer scuff-protection profile
- 2 wall: neoprene-coated polyester fabric

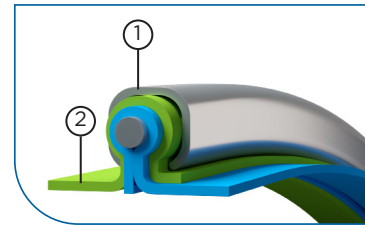
### Applications

- suction of engine exhaust fumes up to max.+200 °C acc. to exhaust guidelines and sufficient fresh air intake (approx. 50%)
- all conventional exhaust systems, such as: - Exhaust Hose Reel - Suction Rail System - Upper/Lower Floor Systems - Stationary Systems
- light to medium wear during extraction of petrol and diesel engine fumes from passenger vehicles



### Properties

- good flow characteristics
- extremely compressible to approx. 1:5
- vibration-proof
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- smallest bending radius
- extremely lightweight



### Temperature Range

- +200°C with appropriate use of exhaust regulators and sufficient air supply (approx. 50%)

DN	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
	bar	mm	mm	kg				
63	0.23	38	76	0.55	240-063-x	000334-063-x	10	25
75	0.18	46	89	0.6	240-075-x	000334-075-x	10	25
80	0.15	48	93	0.63	240-080-x	000334-080-x	10	25
100	0.1	60	117	0.79	240-100-x	000334-100-x	10	25
125	0.06	75	142	0.95	240-125-x	000334-125-x	10	25
150	0.04	90	167	1.47	240-150-x	000334-150-x	10	25
200	0.03	120	217	1.76	240-200-x	000334-200-x	10	25

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector



## Carflex Super

Exhaust hose for exhaust fume temperatures up to +200°C, super lightweight, crush-resistant

### Material

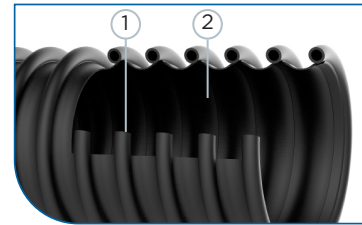
- 1 spiral: plastic-profile helix
- 2 wall: EPDM/PP-coated polyester fabric

### Applications

- suction of engine exhaust fumes up to max.+200 °C acc. to exhaust guidelines and sufficient fresh air intake (approx. 50%)
- permanently rollover-proof exhaust hose
- medium wear during extraction of petrol and diesel engine exhaust fumes
- all conventional exhaust systems, such as: - Exhaust Hose Reel - Suction Rail System - Upper/Lower Floor Systems - Stationary Systems

### Properties

- permanently rollover-proof
- high tension/tear-proof
- robust
- good flow characteristics
- tight bending radius
- extremely flexible
- withstands high mechanical loads
- excellent recovery properties
- super lightweight



### Temperature Range

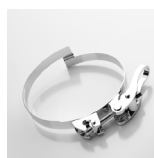
- +200°C with appropriate use of exhaust regulators and sufficient air supply (approx. 50%)

DN	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
	bar	mm	mm	kg			m	m
38*	0.34	38	48	0.24	320-038-x	000412-038-x	10	25
51	0.31	55	63	0.4	320-051-x	000412-051-x	10	25
60*	0.29	59	76	0.4	320-060-x	000412-060-x	10	25
63	0.28	60	79	0.41	320-063-x	000412-063-x	10	25
76	0.24	75	95	0.48	320-076-x	000412-076-x	10	25
80	0.23	80	100	0.51	320-080-x	000412-080-x	10	25
102	0.18	100	120	0.64	320-102-x	000412-102-x	10	25
127	0.12	125	145	0.78	320-127-x	000412-127-x	10	25
152	0.05	150	170	0.93	320-152-x	000412-152-x	10	25
203	0.02	200	220	1.22	320-203-x	000412-203-x	10	25

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip VITON

Medium and high temperature hose up to +210°C

### Material

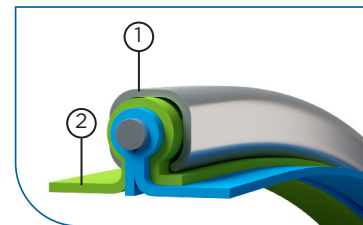
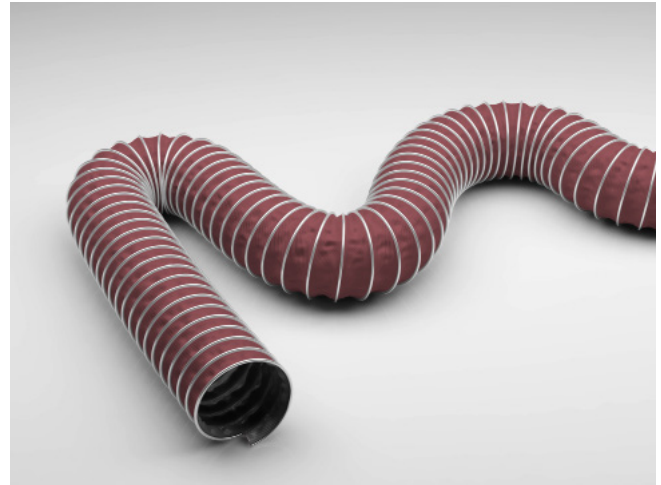
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: Viton®-coated polyester fabric

### Applications

- paint mist extraction
- suction/extraction of aggressive media in medium temperature range
- low pressure range
- chemicals industry

### Properties

- very good chemical resistance
- increased temperature resistance
- extremely compressible to approx. 1:6
- outer chafing protection spiral
- vibration-proof
- smallest bending radius
- highly flexible
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- tear-proof
- excellent UV / ozone resistance
- extremely lightweight



### Temperature Range

- -25°C to +210°C
- peaks to +240°C

DN	op. pressure		vacuum	band radius		weight/m		old article no.	new article no.	standard length		max. production length	
	bar	bar	bar	mm	kg	m	m			m	m		
50	0.9	0.39	30	0.4	222-050-x	000285-50-x	10	10					
55	0.85	0.32	33	0.4	222-055-x	000285-55-x	10	10					
60	0.78	0.27	36	0.5	222-060-x	000285-60-x	10	10					
65	0.68	0.23	39	0.5	222-065-x	000285-65-x	10	10					
70	0.67	0.2	42	0.5	222-070-x	000285-70-x	10	10					
75	0.62	0.18	45	0.6	222-075-x	000285-75-x	10	10					
80	0.61	0.15	48	0.6	222-080-x	000285-80-x	10	15					
90	0.56	0.12	54	0.6	222-090-x	000285-90-x	10	15					
100	0.51	0.1	60	0.6	222-100-x	000285-100-x	10	15					
110	0.48	0.08	66	0.7	222-110-x	000285-110-x	10	15					
120	0.36	0.07	72	0.7	222-120-x	000285-120-x	10	15					
125	0.33	0.06	75	0.8	222-125-x	000285-125-x	10	15					
130	0.28	0.06	78	0.8	222-130-x	000285-130-x	10	15					
140	0.25	0.05	84	0.8	222-140-x	000285-140-x	10	15					
150	0.22	0.04	90	0.9	222-150-x	000285-150-x	10	15					
160	0.21	0.04	96	0.9	222-160-x	000285-160-x	10	15					
170	0.19	0.03	102	0.9	222-170-x	000285-170-x	10	15					
175	0.185	0.03	105	1	222-175-x	000285-175-x	10	15					
180	0.172	0.03	108	1	222-180-x	000285-180-x	10	15					
200	0.148	0.03	120	1.2	222-200-x	000285-200-x	10	15					
215	0.128	0.02	151	1.3	222-215-x	000285-215-x	10	15					
225	0.115	0.02	158	1.4	222-225-x	000285-225-x	10	15					
250	0.1	0.02	175	1.6	222-250-x	000285-250-x	10	15					
275	0.08	0.01	193	1.9	222-275-x	000285-275-x	10	15					
300	0.07	0.01	210	2.1	222-300-x	000285-300-x	10	15					
315	0.062	0.01	221	2.1	222-315-x	000285-315-x	10	15					
325	0.059	0.01	228	2.2	222-325-x	000285-325-x	10	10					
350	0.056	0.01	245	2.5	222-350-x	000285-350-x	10	10					
375	0.05	0.01	263	2.9	222-375-x	000285-375-x	10	10					
400	0.047	0.01	280	3.1	222-400-x	000285-400-x	10	10					
450	0.045	0.01	360	3.6	222-450-x	000285-450-x	10	10					
500	0.043	0.01	400	4.1	222-500-x	000285-500-x	10	10					
550	0.042	0.01	440	4.6	222-550-x	000285-550-x	10	10					
600	0.039	0.01	480	5.1	222-600-x	000285-600-x	10	10					
700	0.031	0.01	560	6	222-700-x	000285-700-x	6	6					
800	0.022	0.01	640	6.9	222-800-x	000285-800-x	6	6					
900	0.016	0.01	720	7.8	222-900-x	000285-900-x	6	6					

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-SIL 1

Medium and high temperature hose up to +250°C

### Material

- 1 spiral: spring steel wire
- 2 wall: silicone-coated glass-fibre fabric
- 3 cord: fibreglass fabric

### Applications

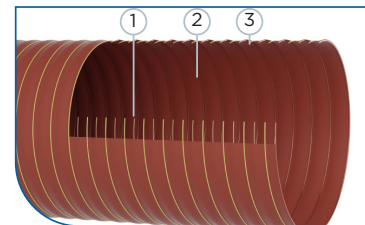
- chemicals industry
- hot air hose for granulate dryer
- machine and engine manufacturing
- shipbuilding
- plastic processing industry
- waste incineration plants
- conveyance of air and gaseous media with high nominal and ambient temperatures
- automotive manufacturing

### Properties

- mostly smooth inner lining
- bend-proof
- fixed vulcanised wall and steel filament
- light
- symmetrical fold behaviour
- smallest bending radius
- highly flexible
- good chemical resistance

### Temperature Range

- -70°C to +250°C
- peaks -85°C to +300°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar						
13*	1.7	0.51	8	0.1	685-013-x	000493-013-x	4	4
19	1.6	0.5	8	0.11	685-019-x	000493-019-x	4	4
25	1.6	0.5	8	0.12	685-025-x	000493-025-x	4	4
30*	1.4	0.49	10	0.14	685-030-x	000493-030-x	4	4
32	1.4	0.49	10	0.14	685-032-x	000493-032-x	4	4
38	1.3	0.49	12	0.17	685-038-x	000493-038-x	4	4
41	1.3	0.47	13	0.2	685-041-x	000493-041-x	4	4
42*	1.2	0.45	14	0.21	685-042-x	000493-042-x	4	4
44	1.2	0.45	14	0.21	685-044-x	000493-044-x	4	4
45*	1.2	0.45	14	0.21	685-045-x	000493-045-x	4	4
51	1.2	0.42	16	0.25	685-051-x	000493-051-x	4	4
55*	1.1	0.41	18	0.27	685-055-x	000493-055-x	4	4
57	1.1	0.4	18	0.28	685-057-x	000493-057-x	4	4
60	1.1	0.39	20	0.3	685-060-x	000493-060-x	4	4
63	1.1	0.38	22	0.32	685-063-x	000493-063-x	4	4
64*	1.1	0.38	22	0.32	685-064-x	000493-064-x	4	4
65	1.1	0.37	22	0.34	685-065-x	000493-065-x	4	4
70	1.1	0.35	24	0.36	685-070-x	000493-070-x	4	4
76	1.1	0.33	27	0.41	685-076-x	000493-076-x	4	4
80	1	0.31	28	0.44	685-080-x	000493-080-x	4	4
83	1	0.3	28	0.46	685-083-x	000493-083-x	4	4
90	1	0.29	29	0.49	685-090-x	000493-090-x	4	4
95	0.9	0.28	32	0.56	685-095-x	000493-095-x	4	4
102	0.9	0.26	35	0.65	685-102-x	000493-102-x	4	4
108	0.9	0.24	38	0.68	685-108-x	000493-108-x	4	4
110	0.9	0.24	38	0.69	685-110-x	000493-110-x	4	4
114*	0.9	0.22	40	0.71	685-114-x	000493-114-x	4	4
120	0.8	0.2	43	0.76	685-120-x	000493-120-x	4	4
127	0.8	0.17	46	0.8	685-127-x	000493-127-x	4	4
130*	0.8	0.17	47	0.82	685-130-x	000493-130-x	4	4
140	0.7	0.15	48	0.9	685-140-x	000493-140-x	4	4
152	0.7	0.14	51	0.99	685-152-x	000493-152-x	4	4
160	0.6	0.13	53	1.05	685-160-x	000493-160-x	4	4
165*	0.6	0.12	55	1.08	685-165-x	000493-165-x	4	4
180*	0.6	0.11	60	1.19	685-180-x	000493-180-x	4	4
203	0.5	0.07	68	1.33	685-203-x	000493-203-x	4	4
229*	0.4	0.06	84	1.48	685-229-x	000493-229-x	4	4
254*	0.4	0.04	102	1.68	685-254-x	000493-254-x	4	4
305*	0.2	0.02	123	2.05	685-305-x	000493-305-x	4	4
229*	0.6	0.08	125	1.9	681-229-x	000485-229-x	4	4
254*	0.5	0.07	150	2.14	681-254-x	000485-254-x	4	4
305*	0.3	0.04	210	2.58	681-305-x	000485-305-x	4	4

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-SIL 2

Medium and high temperature hose up to +250°C, two layers

### Material

- 1 spiral: spring steel wire
- 2 wall: silicone-coated glass-fibre fabric, double-layered
- 3 cord: fibreglass fabric

### Applications

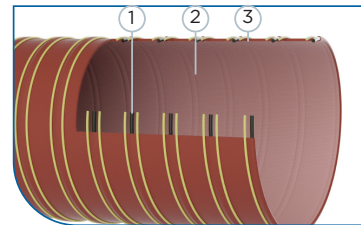
- chemicals industry
- conveyance of air and gaseous media with high nominal and ambient temperatures with greater mechanical requirements
- hot air hose for granulate dryer
- machine and engine manufacturing
- shipbuilding
- plastic processing industry
- waste incineration plants

### Properties

- mostly smooth inner lining
- bend-proof
- fixed vulcanised wall and steel filament
- light
- symmetrical fold behaviour
- smallest bending radius
- highly flexible
- good chemical resistance

### Temperature Range

- -70°C to +250°C
- peaks -85°C to +300°C



DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar						
13	2.8	0.64	15	0.16	686-013-x	000495-013-x	4	4
19	2.8	0.64	15	0.19	686-019-x	000495-019-x	4	4
25	2.8	0.64	15	0.22	686-025-x	000495-025-x	4	4
30*	2.8	0.64	15	0.25	686-030-x	000495-030-x	4	4
32	2.8	0.64	16	0.26	686-032-x	000495-032-x	4	4
38	2.6	0.59	18	0.31	686-038-x	000495-038-x	4	4
41	2.6	0.59	19	0.32	686-041-x	000495-041-x	4	4
42*	2.6	0.59	19	0.32	686-042-x	000495-042-x	4	4
44	2.6	0.55	21	0.34	686-044-x	000495-044-x	4	4
45*	2.6	0.55	21	0.34	686-045-x	000495-045-x	4	4
51	2.6	0.51	24	0.36	686-051-x	000495-051-x	4	4
55	2.5	0.48	27	0.42	686-055-x	000495-055-x	4	4
57	2.5	0.48	28	0.43	686-057-x	000495-057-x	4	4
60	2.4	0.47	31	0.47	686-060-x	000495-060-x	4	4
63	2.4	0.47	31	0.49	686-063-x	000495-063-x	4	4
64	2.4	0.47	31	0.49	686-064-x	000495-064-x	4	4
65	2.4	0.47	31	0.5	686-065-x	000495-065-x	4	4
70	2.3	0.43	35	0.53	686-070-x	000495-070-x	4	4
76	2.2	0.42	38	0.58	686-076-x	000495-076-x	4	4
80	2.1	0.41	40	0.62	686-080-x	000495-080-x	4	4
83	2.1	0.4	42	0.64	686-083-x	000495-083-x	4	4
90	2	0.39	44	0.69	686-090-x	000495-090-x	4	4
95	1.9	0.36	48	0.73	686-095-x	000495-095-x	4	4
102	1.9	0.34	52	0.77	686-102-x	000495-102-x	4	4
108	1.7	0.3	55	0.83	686-108-x	000495-108-x	4	4
110	1.7	0.29	57	0.85	686-110-x	000495-110-x	4	4
114	1.6	0.28	57	0.89	686-114-x	000495-114-x	4	4
120	1.6	0.28	61	0.94	686-120-x	000495-120-x	4	4
127	1.4	0.25	64	1	686-127-x	000495-127-x	4	4
130	1.3	0.23	65	1.02	686-130-x	000495-130-x	4	4
140	1.3	0.19	70	1.11	686-140-x	000495-140-x	4	4
152	1.2	0.17	75	1.2	686-152-x	000495-152-x	4	4
160	1.1	0.15	80	1.28	686-160-x	000495-160-x	4	4
165*	1	0.14	83	1.32	686-165-x	000495-165-x	4	4
180	1	0.12	90	1.48	686-180-x	000495-180-x	4	4
203	0.7	0.09	101	1.65	686-203-x	000495-203-x	4	4
229*	0.6	0.08	125	1.9	686-229-x	000495-229-x	4	4
254*	0.5	0.07	150	2.14	686-254-x	000495-254-x	4	4
305*	0.3	0.04	210	2.58	686-305-x	000495-305-x	4	4

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



## Master-Clip PTFE

Suction & Blower Hose for corrosive media up to +250 °C

### Material

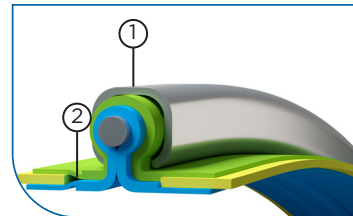
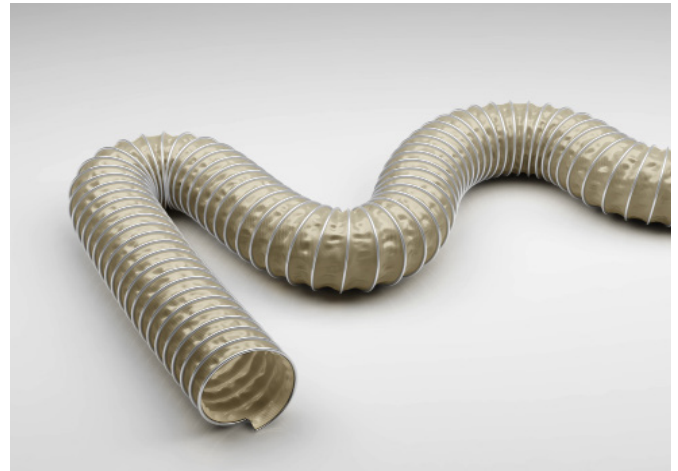
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: PTFE-coated glass fabric

### Applications

- pharmaceutical industry
- chemical industry
- low pressure range
- paint mist extraction
- paint, wood and paper industry
- solvent extraction
- suction of aggressive media

### Properties

- highly flexible
- excellent chemical resistance
- cold and heat-resistant
- weather-proof
- extremely compressable to approx. 1:6
- anti-adhesive wall lining material
- optimum medium flow characteristics
- outer chafing protection spiral
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- PTFE: no health risk
- adheres to TRBS 2153 (Zone 1, 21) for non-flammable dusts and gases with low conductivity for dissipation of electrostatic charges with double-ended grounding of Clips and gradient of < 30 mm (see chapter 17.10.5)



### Temperature Range

- -70°C to +250°C
- peaks to +270°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.85	0.31	30	0.4	250-050-x	000354-050-x	10	10
55	0.78	0.26	33	0.4	250-055-x	000354-055-x	10	10
60	0.68	0.22	36	0.5	250-060-x	000354-060-x	10	10
65	0.59	0.19	39	0.5	250-065-x	000354-065-x	10	10
70	0.53	0.16	42	0.5	250-070-x	000354-070-x	10	10
75	0.47	0.14	45	0.6	250-075-x	000354-075-x	10	15
80	0.43	0.12	48	0.6	250-080-x	000354-080-x	10	15
90	0.355	0.1	54	0.6	250-090-x	000354-090-x	10	15
100	0.3	0.08	60	0.6	250-100-x	000354-100-x	10	20
110	0.258	0.07	66	0.6	250-110-x	000354-110-x	10	20
120	0.224	0.06	72	0.7	250-120-x	000354-120-x	10	20
125	0.21	0.05	75	0.7	250-125-x	000354-125-x	10	20
130	0.197	0.05	78	0.7	250-130-x	000354-130-x	10	20
140	0.175	0.04	84	0.8	250-140-x	000354-140-x	10	20
150	0.157	0.04	90	0.8	250-150-x	000354-150-x	10	20
160	0.14	0.03	96	0.9	250-160-x	000354-160-x	10	20
170	0.128	0.03	102	0.9	250-170-x	000354-170-x	10	20
175	0.123	0.03	105	1	250-175-x	000354-175-x	10	20
180	0.117	0.02	108	1	250-180-x	000354-180-x	10	20
200	0.099	0.02	120	1.1	250-200-x	000354-200-x	10	20
215	0.088	0.02	151	1.2	250-215-x	000354-215-x	10	20
225	0.082	0.02	158	1.3	250-225-x	000354-225-x	10	20
250	0.069	0.01	175	1.4	250-250-x	000354-250-x	10	20
275	0.059	0.01	193	1.7	250-275-x	000354-275-x	10	20
300	0.052	0.01	210	1.9	250-300-x	000354-300-x	10	20
315	0.048	0.01	221	2	250-315-x	000354-315-x	10	20
325	0.046	0.01	228	2.1	250-325-x	000354-325-x	10	10
350	0.04	0.01	245	2.3	250-350-x	000354-350-x	10	10
375	0.036	0.01	263	2.7	250-375-x	000354-375-x	10	10
400	0.033	0.01	280	2.9	250-400-x	000354-400-x	10	10
450	0.027	0.01	360	3.5	250-450-x	000354-450-x	10	10
500	0.023	0.01	400	3.9	250-500-x	000354-500-x	10	10
550	0.02	0.01	440	4.4	250-550-x	000354-550-x	10	10
600	0.017	0.01	480	4.9	250-600-x	000354-600-x	10	10
700	0.014	0.01	560	5.8	250-700-x	000354-700-x	6	6
800	0.011	0.01	640	6.7	250-800-x	000354-800-x	6	6
900	0.009	0.01	720	7.6	250-900-x	000354-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector



## Master-Clip PTFE S

Suction & Blower Hose for corrosive media up to +250 °C

### Material

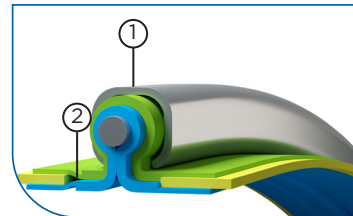
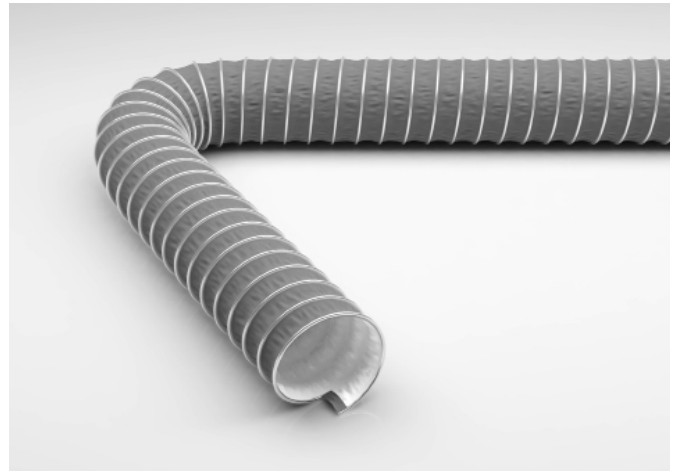
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: PTFE-coated glass fabric

### Applications

- pharmaceutical industry
- chemical industry
- low pressure range
- suction and conveyance of aggressive media, explosive gases and fumes
- paint mist extraction
- paint, wood and paper industry
- solvent extraction

### Properties

- highly flexible
- UV/ozone-proof
- excellent chemical resistance
- cold and heat-resistant
- weather-proof
- optimum medium flow characteristics
- outer chafing protection spiral
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- PTFE: no health risk
- extremely compressible to approx. 1:4
- robust outer wall material
- anti-adhesive internal wall lining material
- adheres to TRBS 2153 (Zone 1, 21) for non-flammable dusts and gases with low conductivity for dissipation of electrostatic charges with double-ended grounding of clips and gradient of < 30 mm (see chapter 17.10.5)



### Temperature Range

- -70°C to +250°C
- peaks to +270°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.85	0.35	30	0.5	252-050-x	000361-050-x	10	10
55	0.78	0.29	33	0.5	252-055-x	000361-055-x	10	10
60	0.68	0.24	36	0.6	252-060-x	000361-060-x	10	10
65	0.59	0.21	39	0.7	252-065-x	000361-065-x	10	10
70	0.53	0.17	42	0.7	252-070-x	000361-070-x	10	10
75	0.47	0.15	45	0.8	252-075-x	000361-075-x	10	15
80	0.43	0.14	48	0.8	252-080-x	000361-080-x	10	15
90	0.355	0.11	54	0.9	252-090-x	000361-090-x	10	15
100	0.3	0.09	60	1	252-100-x	000361-100-x	10	20
110	0.258	0.07	66	1.1	252-110-x	000361-110-x	10	20
120	0.224	0.06	72	1.1	252-120-x	000361-120-x	10	20
125	0.21	0.05	75	1.2	252-125-x	000361-125-x	10	20
130	0.197	0.05	78	1.2	252-130-x	000361-130-x	10	20
140	0.175	0.05	84	1.3	252-140-x	000361-140-x	10	20
150	0.157	0.04	90	1.3	252-150-x	000361-150-x	10	20
160	0.14	0.03	96	1.3	252-160-x	000361-160-x	10	20
170	0.128	0.03	102	1.4	252-170-x	000361-170-x	10	20
175	0.123	0.03	105	1.4	252-175-x	000361-175-x	10	20
180	0.117	0.03	108	1.4	252-180-x	000361-180-x	10	20
200	0.099	0.02	120	1.6	252-200-x	000361-200-x	10	20
215	0.088	0.02	151	1.8	252-215-x	000361-215-x	10	20
225	0.082	0.02	158	2	252-225-x	000361-225-x	10	20
250	0.069	0.02	175	2.1	252-250-x	000361-250-x	10	20
275	0.059	0.01	193	2.3	252-275-x	000361-275-x	10	20
300	0.052	0.01	210	2.4	252-300-x	000361-300-x	10	20
315	0.048	0.01	221	2.6	252-315-x	000361-315-x	10	20
325	0.046	0.01	228	2.8	252-325-x	000361-325-x	10	10
350	0.04	0.01	245	3.3	252-350-x	000361-350-x	10	10
375	0.036	0.01	263	3.5	252-375-x	000361-375-x	10	10
400	0.033	0.01	280	3.8	252-400-x	000361-400-x	10	10
450	0.027	0.01	360	4.2	252-450-x	000361-450-x	10	10
500	0.023	0.01	400	4.7	252-500-x	000361-500-x	10	10
550	0.02	0.01	440	5.3	252-550-x	000361-550-x	10	10
600	0.017	0.01	480	5.9	252-600-x	000361-600-x	10	10
700	0.014	0.01	560	6.9	252-700-x	000361-700-x	6	6
800	0.011	0.01	640	7.6	252-800-x	000361-800-x	6	6
900	0.009	0.01	720	8.2	252-900-x	000361-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip SILICON

Medium and high temperature hose up to +300°C

**Material**

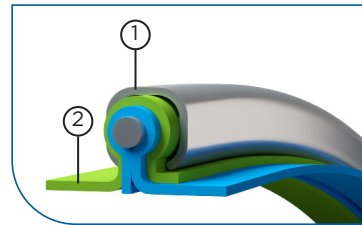
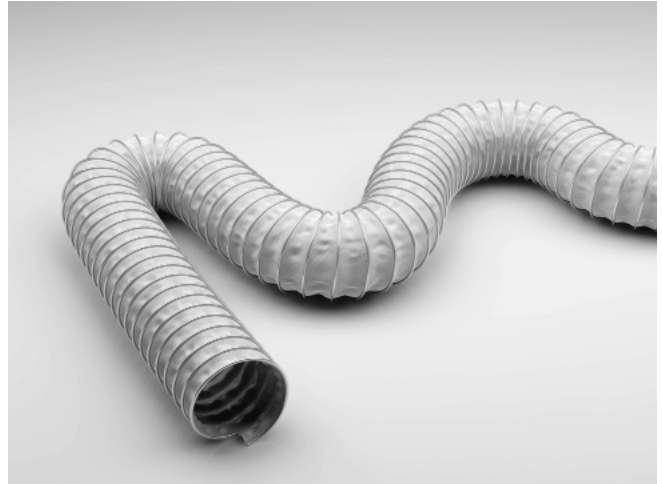
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: silicone-coated glass-fibre fabric

**Applications**

- engine manufacturing
- hot and cold air conveyance
- machine manufacturing
- automotive manufacturing
- low pressure range
- extractor units
- defence systems
- aircraft manufacturing

**Properties**

- hardly inflammable
- outer chafing protection spiral
- good temperature resistance
- limited vibration-proof
- extremely compressible to approx. 1:6
- smallest bending radius
- highly flexible
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- UV/ozone-proof
- extremely lightweight



**Temperature Range**

- -60°C to +300°C
- peaks to +350°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.85	0.31	30	0.4	223-050-x	000291-50-x	10	10
55	0.78	0.26	33	0.4	223-055-x	000291-55-x	10	10
60	0.68	0.22	36	0.5	223-060-x	000291-60-x	10	10
65	0.59	0.19	39	0.5	223-065-x	000291-65-x	10	10
70	0.53	0.16	42	0.5	223-070-x	000291-70-x	10	10
75	0.47	0.14	45	0.6	223-075-x	000291-75-x	10	10
80	0.43	0.12	48	0.6	223-080-x	000291-80-x	10	15
90	0.355	0.1	54	0.6	223-090-x	000291-90-x	10	15
100	0.3	0.08	60	0.6	223-100-x	000291-100-x	10	15
110	0.258	0.07	66	0.7	223-110-x	000291-110-x	10	15
120	0.224	0.06	72	0.7	223-120-x	000291-120-x	10	15
125	0.21	0.05	75	0.8	223-125-x	000291-125-x	10	15
130	0.197	0.05	78	0.8	223-130-x	000291-130-x	10	15
140	0.175	0.04	84	0.8	223-140-x	000291-140-x	10	15
150	0.157	0.04	90	0.9	223-150-x	000291-150-x	10	15
160	0.14	0.03	96	0.9	223-160-x	000291-160-x	10	15
170	0.128	0.03	102	0.9	223-170-x	000291-170-x	10	15
175	0.123	0.03	105	1	223-175-x	000291-175-x	10	15
180	0.117	0.02	108	1	223-180-x	000291-180-x	10	15
200	0.099	0.02	120	1.2	223-200-x	000291-200-x	10	15
215	0.088	0.02	151	1.3	223-215-x	000291-215-x	10	15
225	0.082	0.02	158	1.4	223-225-x	000291-225-x	10	15
250	0.069	0.01	175	1.6	223-250-x	000291-250-x	10	15
275	0.059	0.01	193	1.9	223-275-x	000291-275-x	10	15
300	0.052	0.01	210	2.1	223-300-x	000291-300-x	10	15
315	0.048	0.01	221	2.1	223-315-x	000291-315-x	10	15
325	0.046	0.01	228	2.2	223-325-x	000291-325-x	10	10
350	0.04	0.01	245	2.5	223-350-x	000291-350-x	10	10
375	0.036	0.01	263	2.9	223-375-x	000291-375-x	10	10
400	0.033	0.01	280	3.1	223-400-x	000291-400-x	10	10
450	0.027	0.01	360	3.6	223-450-x	000291-450-x	10	10
500	0.023	0.01	400	4.1	223-500-x	000291-500-x	10	10
550	0.02	0.01	440	4.6	223-550-x	000291-550-x	10	10
600	0.017	0.01	480	5.1	223-600-x	000291-600-x	10	10
700	0.014	0.01	560	6	223-700-x	000291-700-x	6	6
800	0.011	0.01	640	6.9	223-800-x	000291-800-x	6	6
900	0.009	0.01	720	7.8	223-900-x	000291-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



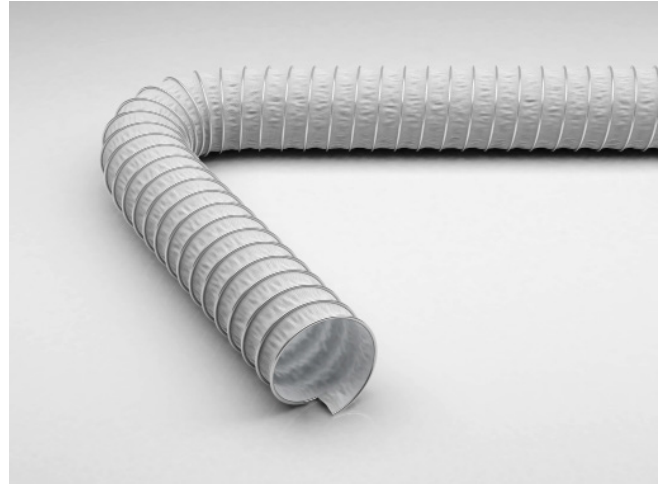
Hose Connector

## Master-Clip ISO-SILICON

Medium and high temperature hose up to +300°C, two layers

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: two layers
  - inner layer: heat resistant impregnated glass fabric
  - outer layer: Silicon coated glass fabric

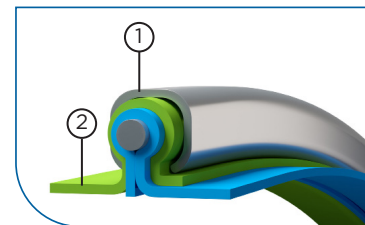


### Applications

- engine manufacturing
- hot and cold air conveyance
- extractor units with greater suction performance
- machine manufacturing
- automotive manufacturing
- low pressure range
- defence systems
- aircraft manufacturing

### Properties

- hardly inflammable
- outer chafing protection spiral
- good temperature resistance
- limited vibration-proof
- extremely compressable to approx. 1:4
- super lightweight
- smallest bending radius
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- UV/ozone-proof



### Temperature Range

- -60°C to +300°C
- peaks to +350°C\*

DN	op. pressure		vacuum	bend radius	weight/m	old article no.	new article no.	standard length	
	bar	bar						m	m
50	0.85	0.38	30	0.5	224-050-x	000293-50-x	10	10	
55	0.78	0.31	33	0.5	224-055-x	000293-55-x	10	10	
60	0.68	0.26	36	0.6	224-060-x	000293-60-x	10	10	
65	0.59	0.22	39	0.6	224-065-x	000293-65-x	10	10	
70	0.53	0.19	42	0.6	224-070-x	000293-70-x	10	10	
75	0.47	0.17	45	0.7	224-075-x	000293-75-x	10	15	
80	0.43	0.15	48	0.7	224-080-x	000293-80-x	10	15	
90	0.355	0.12	54	0.7	224-090-x	000293-90-x	10	15	
100	0.3	0.09	60	0.7	224-100-x	000293-100-x	10	15	
110	0.258	0.08	66	0.8	224-110-x	000293-110-x	10	15	
120	0.224	0.07	72	0.8	224-120-x	000293-120-x	10	15	
125	0.21	0.06	75	0.9	224-125-x	000293-125-x	10	15	
130	0.197	0.06	78	0.9	224-130-x	000293-130-x	10	15	
140	0.175	0.05	84	0.9	224-140-x	000293-140-x	10	15	
150	0.157	0.04	90	1	224-150-x	000293-150-x	10	15	
160	0.14	0.04	96	1	224-160-x	000293-160-x	10	15	
170	0.128	0.03	102	1	224-170-x	000293-170-x	10	15	
175	0.123	0.03	105	1.1	224-175-x	000293-175-x	10	15	
180	0.117	0.03	108	1.1	224-180-x	000293-180-x	10	15	
200	0.099	0.02	120	1.3	224-200-x	000293-200-x	10	15	
215	0.088	0.02	151	1.4	224-215-x	000293-215-x	10	15	
225	0.082	0.02	158	1.6	224-225-x	000293-225-x	10	15	
250	0.069	0.02	175	1.8	224-250-x	000293-250-x	10	15	
275	0.059	0.01	193	2.1	224-275-x	000293-275-x	10	15	
300	0.052	0.01	210	2.3	224-300-x	000293-300-x	10	15	
315	0.048	0.01	221	2.3	224-315-x	000293-315-x	10	10	
325	0.046	0.01	228	2.4	224-325-x	000293-325-x	10	10	
350	0.04	0.01	245	2.8	224-350-x	000293-350-x	10	10	
375	0.036	0.01	263	3.2	224-375-x	000293-375-x	10	10	
400	0.033	0.01	280	3.4	224-400-x	000293-400-x	10	10	
450	0.027	0.01	360	4	224-450-x	000293-450-x	10	10	
500	0.023	0.01	400	4.5	224-500-x	000293-500-x	10	10	
550	0.02	0.01	440	5.1	224-550-x	000293-550-x	6	6	
600	0.017	0.01	480	5.6	224-600-x	000293-600-x	6	6	
700	0.014	0.01	560	6.6	224-700-x	000293-700-x	6	6	
800	0.011	0.01	640	7.6	224-800-x	000293-800-x	6	6	
900	0.009	0.01	720	8.6	224-900-x	000293-900-x	6	6	

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Carflex 300

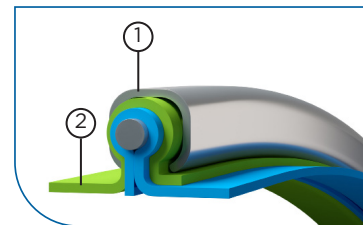
Exhaust gas hose for exhaust fumes up to +300°C

### Material

- 1 clamp profile spiral: hot-dip galvanised steel band with additional plastic outer scuff-protection profile
- 2 wall: special-coated textile high-temperature fabric

### Applications

- all conventional exhaust systems, such as: - Exhaust Hose Reel - Suction Rail System - Upper/Lower Floor Systems - Stationary Systems
- suction of engine exhaust fumes up to max.+300 °C acc. to exhaust guidelines and sufficient fresh air intake (approx. 50%)
- medium and high wear during extraction of petrol and diesel engine exhaust fumes, esp. heavy-duty and construction vehicles



### Properties

- hardly inflammable
- outer chafing protection spiral
- robust
- good flow characteristics
- extremely compressible to approx. 1:5
- vibration-proof
- withstands high mechanical loads
- high tension-proof connection of wall-lining and spiral via special clamp mechanism
- highly flexible
- abrasion-resistant to soot particles from diesel exhaust fumes
- smallest bending radius

### Temperature Range

- from -60°C to +300 °C (Exhaust temperatures)with appropriate use if exhaust regulators and sufficient air supply (approx. 50%)

DN	vacuum	bend radius	outer Ø	weight/m	old article no.	new article no.	standard length	max. production length
	bar	mm	mm	kg			m	m
63	0.17	38	76	0.55	241-063-x	000340-063-x	10	25
75	0.14	46	89	0.51	241-075-x	000340-075-x	10	25
80	0.12	48	93	0.51	241-080-x	000340-080-x	10	25
100	0.08	60	117	0.64	241-100-x	000340-100-x	10	25
125	0.05	75	142	0.79	241-125-x	000340-125-x	10	25
150	0.04	90	167	1.23	241-150-x	000340-150-x	10	25
200	0.02	120	217	1.67	241-200-x	000340-200-x	10	25

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip quick action clamp



Clip-Grip Hose clamp, screwable



Hose Connector

## Master-Clip CAR

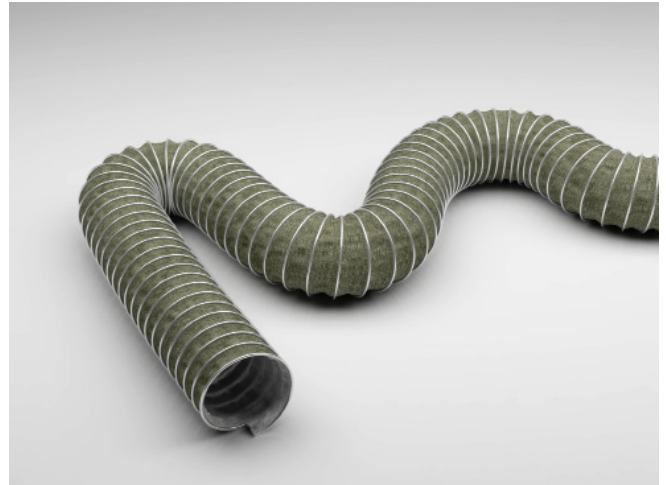
Medium and high temperature hose to +300°C

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: special-coated textile high-temperature fabric

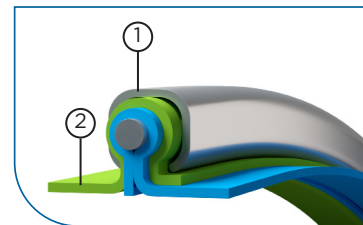
### Applications

- suction of engine exhaust fumes up to max.+300 °C acc. to exhaust guidelines and sufficient fresh air intake (approx. 50%)
- machine manufacturing
- automotive manufacturing
- low pressure range
- extractor units
- exhaust gas extraction (esp. diesel engines)
- hot air
- smoke extractors
- defence systems
- aircraft manufacturing



### Properties

- hardly inflammable
- very good temperature resistance
- outer chafing protection spiral
- primarily suitable as exhaust hose
- extremely compressible to approx. 1:6
- withstands high mechanical loads
- vibration-proof
- smallest bending radius
- highly flexible
- extremely lightweight
- abrasion-resistant
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- from -60°C to +300 °C (Exhaust temperatures) with appropriate use if exhaust regulators and sufficient air supply (approx. 50%)
- peaks to +350°C\*

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	0.9	0.31	30	0.5	225-050-x	000294-050-x	10	10
55	0.85	0.26	33	0.6	225-055-x	000294-055-x	10	10
60	0.78	0.22	36	0.6	225-060-x	000294-060-x	10	10
65	0.68	0.19	39	0.7	225-065-x	000294-065-x	10	10
70	0.67	0.16	42	0.7	225-070-x	000294-070-x	10	10
75	0.62	0.14	45	0.8	225-075-x	000294-075-x	10	10
80	0.61	0.12	48	0.8	225-080-x	000294-080-x	10	10
90	0.56	0.1	54	0.8	225-090-x	000294-090-x	10	10
100	0.51	0.08	60	0.9	225-100-x	000294-100-x	10	10
110	0.48	0.07	66	0.9	225-110-x	000294-110-x	10	10
120	0.36	0.06	72	1	225-120-x	000294-120-x	10	10
125	0.33	0.05	75	1	225-125-x	000294-125-x	10	10
130	0.28	0.05	78	1.1	225-130-x	000294-130-x	10	10
140	0.25	0.04	84	1.1	225-140-x	000294-140-x	10	10
150	0.22	0.04	90	1.2	225-150-x	000294-150-x	10	10
160	0.21	0.03	96	1.2	225-160-x	000294-160-x	10	10
170	0.19	0.03	102	1.3	225-170-x	000294-170-x	10	10
175	0.185	0.03	105	1.4	225-175-x	000294-175-x	10	10
180	0.172	0.02	126	1.4	225-180-x	000294-180-x	10	10
200	0.148	0.02	140	1.6	225-200-x	000294-200-x	10	10
215	0.128	0.02	151	1.7	225-215-x	000294-215-x	10	10
225	0.115	0.02	158	1.8	225-225-x	000294-225-x	10	10
250	0.1	0.01	175	2	225-250-x	000294-250-x	10	10
275	0.08	0.01	193	2.1	225-275-x	000294-275-x	10	10
300	0.07	0.01	210	2.2	225-300-x	000294-300-x	10	10
315	0.062	0.01	221	2.2	225-315-x	000294-315-x	10	10
325	0.059	0.01	228	2.3	225-325-x	000294-325-x	10	10
350	0.056	0.01	245	2.6	225-350-x	000294-350-x	10	10
375	0.05	0.01	300	2.9	225-375-x	000294-375-x	10	10
400	0.047	0.01	320	3.1	225-400-x	000294-400-x	10	10
450	0.045	0.01	360	3.6	225-450-x	000294-450-x	10	10
500	0.043	0.01	400	4.1	225-500-x	000294-500-x	10	10
550	0.042	0.01	440	4.6	225-550-x	000294-550-x	10	10
600	0.039	0.01	480	5.1	225-600-x	000294-600-x	10	10
700	0.031	0.01	560	6	225-700-x	000294-700-x	6	6
800	0.022	0.01	640	6.9	225-800-x	000294-800-x	6	6
900	0.016	0.01	720	7.8	225-900-x	000294-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request.  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



Clip-Grip quick action clamp



## Master-Clip ISO-CAR

Medium and high temperature hose up to +300°C, two layers

### Material

- 1 clamp profile spiral: hot-dip galvanised steel band with additional plastic outer scuff-protection profile
- 2 wall: double-layered, inner layer with heat resistant impregnated glass fabric, outer layer special-coated, textile high-temperature fabric

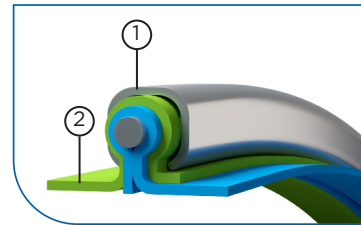


### Applications

- suction of engine exhaust fumes up to max.+300 °C acc. to exhaust guidelines and sufficient fresh air intake (approx. 50%)
- diesel engine test-benches with higher extraction performance
- machine manufacturing
- automotive manufacturing
- low pressure range
- extractor units
- hot air
- smoke extractors
- defence systems

### Properties

- very good temperature resistance
- outer chafing protection spiral
- primarily suitable as exhaust hose
- good vacuum resistance
- extremely compressable to approx. 1:4
- withstands high mechanical loads
- vibration-proof
- smallest bending radius
- highly flexible
- abrasion-resistant
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- from -60°C to +300 °C (Exhaust temperatures) with appropriate use if exhaust regulators and sufficient air supply (approx. 50%)
- peaks to +350°C\*

DN	op. pressure		vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar						m	m
50	0.9	0.38	30	0.6	226-050-x	000297-050-x	10	10	
55	0.85	0.33	33	0.7	226-055-x	000297-055-x	10	10	
60	0.78	0.29	36	0.7	226-060-x	000297-060-x	10	10	
65	0.67	0.26	39	0.8	226-065-x	000297-065-x	10	10	
70	0.67	0.22	42	0.9	226-070-x	000297-070-x	10	10	
75	0.62	0.21	45	1	226-075-x	000297-075-x	10	10	
80	0.61	0.19	48	1	226-080-x	000297-080-x	10	10	
90	0.56	0.16	54	1.2	226-090-x	000297-090-x	10	10	
100	0.51	0.13	60	1.3	226-100-x	000297-100-x	10	10	
110	0.48	0.11	66	1.3	226-110-x	000297-110-x	10	10	
120	0.36	0.09	72	1.4	226-120-x	000297-120-x	10	10	
125	0.33	0.08	75	1.4	226-125-x	000297-125-x	10	10	
130	0.28	0.08	78	1.6	226-130-x	000297-130-x	10	10	
140	0.25	0.07	84	1.6	226-140-x	000297-140-x	10	10	
150	0.22	0.06	90	1.8	226-150-x	000297-150-x	10	10	
160	0.21	0.05	96	1.8	226-160-x	000297-160-x	10	10	
170	0.19	0.05	102	2	226-170-x	000297-170-x	10	10	
175	0.185	0.04	105	2.1	226-175-x	000297-175-x	10	10	
180	0.172	0.04	126	2.1	226-180-x	000297-180-x	10	10	
200	0.148	0.03	140	2.4	226-200-x	000297-200-x	10	10	
215	0.128	0.03	151	1.9	226-215-x	000297-215-x	10	10	
225	0.115	0.03	158	2	226-225-x	000297-225-x	10	10	
250	0.1	0.02	175	2.2	226-250-x	000297-250-x	10	10	
275	0.08	0.02	193	2.3	226-275-x	000297-275-x	10	10	
300	0.07	0.02	210	2.4	226-300-x	000297-300-x	10	10	
325	0.059	0.01	228	2.5	226-325-x	000297-325-x	10	10	
350	0.056	0.01	245	2.9	226-350-x	000297-350-x	10	10	
375	0.05	0.01	300	3.2	226-375-x	000297-375-x	10	10	
400	0.047	0.01	320	3.4	226-400-x	000297-400-x	10	10	
450	0.045	0.01	360	4	226-450-x	000297-450-x	10	10	
500	0.043	0.01	400	4.5	226-500-x	000297-500-x	10	10	
550	0.042	0.01	440	5.1	226-550-x	000297-550-x	10	10	
600	0.039	0.01	480	5.6	226-600-x	000297-600-x	10	10	
700	0.031	0.01	560	6.6	226-700-x	000297-700-x	6	6	
800	0.022	0.01	640	7.6	226-800-x	000297-800-x	6	6	
900	0.016	0.01	720	8.6	226-900-x	000297-900-x	6	6	

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



Clip-Grip quick action clamp

## Master-Clip HT 400

Medium and high temperature hose up to +400°C

### Material

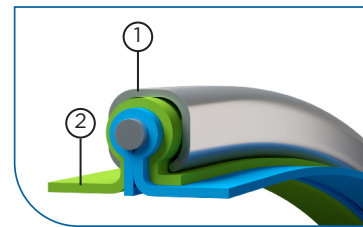
- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: special-coated high-temperature fabric, reinforced with integrated VA wire

### Applications

- oven manufacturing
- heat protection
- mining and steel industry
- primarily suitable as suction hose
- limited suitability for exhaust fume extraction
- machine manufacturing
- low pressure range
- extractor units
- hot air

### Properties

- very good temperature resistance
- outer chafing protection spiral
- increased vacuum resistance via integrated reinforcement components
- silicone-free
- limited suitability for long-term kink movements
- extremely compressible to approx. 1:6
- smallest bending radius
- extremely lightweight
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- -20°C to +400°C for vacuum applications
- peaks to +450°

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	on request	0.35	30	0.5	227-050-x	000299-050-x	10	10
55	on request	0.29	33	0.6	227-055-x	000299-055-x	10	10
60	on request	0.24	36	0.6	227-060-x	000299-060-x	10	10
65	on request	0.21	39	0.7	227-065-x	000299-065-x	10	10
70	on request	0.17	42	0.7	227-070-x	000299-070-x	10	10
75	on request	0.15	45	0.8	227-075-x	000299-075-x	10	15
80	on request	0.14	48	0.8	227-080-x	000299-080-x	10	15
90	on request	0.11	54	0.8	227-090-x	000299-090-x	10	15
100	on request	0.09	60	0.8	227-100-x	000299-100-x	10	15
110	on request	0.07	66	0.9	227-110-x	000299-110-x	10	15
120	on request	0.06	72	0.9	227-120-x	000299-120-x	10	15
125	on request	0.05	75	1	227-125-x	000299-125-x	10	15
130	on request	0.05	78	1	227-130-x	000299-130-x	10	15
140	on request	0.05	84	1	227-140-x	000299-140-x	10	15
150	on request	0.04	90	1.1	227-150-x	000299-150-x	10	15
160	on request	0.03	96	1.1	227-160-x	000299-160-x	10	15
170	on request	0.03	102	1.1	227-170-x	000299-170-x	10	15
175	on request	0.03	105	1.3	227-175-x	000299-175-x	10	15
180	on request	0.03	108	1.3	227-180-x	000299-180-x	10	15
200	on request	0.02	120	1.5	227-200-x	000299-200-x	10	15
215	on request	0.02	151	1.6	227-215-x	000299-215-x	10	15
225	on request	0.02	158	1.8	227-225-x	000299-225-x	10	15
250	on request	0.02	175	2	227-250-x	000299-250-x	10	15
275	on request	0.01	193	2.4	227-275-x	000299-275-x	10	15
300	on request	0.01	210	2.6	227-300-x	000299-300-x	10	15
325	on request	0.01	228	2.8	227-325-x	000299-325-x	10	10
350	on request	0.01	245	3.1	227-350-x	000299-350-x	10	10
375	on request	0.01	263	3.6	227-375-x	000299-375-x	10	10
400	on request	0.01	280	3.9	227-400-x	000299-400-x	10	10
450	on request	0.01	360	4.5	227-450-x	000299-450-x	10	10
500	on request	0.01	400	5.1	227-500-x	000299-500-x	10	10
550	on request	0.01	440	5.8	227-550-x	000299-550-x	10	10
600	on request	0.01	480	6.4	227-600-x	000299-600-x	10	10
700	on request	0.01	560	7.5	227-700-x	000299-700-x	6	6
800	on request	0.01	640	8.6	227-800-x	000299-800-x	6	6
900	on request	0.01	720	9.8	227-900-x	000299-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request.  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



Clip-Grip quick action clamp

## Master-Clip HT 450

Exhaust gas hose for temperatures up to +450°C, two layers

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: double-layered, inner layer with heat resistant impregnated glass fabric and outer layer with special-coated high-temperature fabric reinforced with integrated VA wire

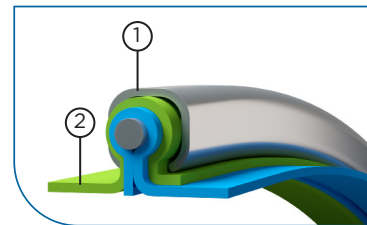


### Applications

- diesel engine test-benches with higher extraction performance
- hot air conveyance
- engine manufacturing
- exhaust gas extraction
- machine manufacturing
- automotive manufacturing
- low pressure range
- smoke extractors
- defence systems

### Properties

- extremely flexible
- hardly inflammable
- very good temperature resistance
- primarily suitable as exhaust hose
- increased vacuum resistance via integrated reinforcement components
- outer chafing protection spiral
- small bending radius
- withstands high mechanical loads
- super lightweight
- abrasion-resistant
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- -20°C to +450°C for vacuum applications
- peaks to +500°C

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg				
50	on request	0.35	30	0.59	227L-050-x	000324-050-x	10	10
55	on request	0.29	33	0.65	227L-055-x	000324-055-x	10	10
60	on request	0.24	36	0.63	227L-060-x	000324-060-x	10	10
65	on request	0.21	39	0.68	227L-065-x	000324-065-x	10	10
70	on request	0.17	42	0.73	227L-070-x	000324-070-x	10	10
75	on request	0.15	45	0.78	227L-075-x	000324-075-x	10	15
80	on request	0.14	48	0.83	227L-080-x	000324-080-x	10	15
90	on request	0.11	54	0.93	227L-090-x	000324-090-x	10	15
100	on request	0.09	60	1.2	227L-100-x	000324-100-x	10	15
110	on request	0.07	66	1.31	227L-110-x	000324-110-x	10	15
120	on request	0.06	72	1.43	227L-120-x	000324-120-x	10	15
125	on request	0.05	75	1.48	227L-125-x	000324-125-x	10	15
130	on request	0.05	78	1.54	227L-130-x	000324-130-x	10	15
140	on request	0.05	84	1.65	227L-140-x	000324-140-x	10	15
150	on request	0.04	90	1.76	227L-150-x	000324-150-x	10	15
160	on request	0.03	96	1.87	227L-160-x	000324-160-x	10	15
170	on request	0.03	102	1.99	227L-170-x	000324-170-x	10	15
175	on request	0.03	105	2.04	227L-175-x	000324-175-x	10	15
180	on request	0.03	108	2.1	227L-180-x	000324-180-x	10	15
200	on request	0.02	120	2.32	227L-200-x	000324-200-x	10	15
215	on request	0.02	151	2.78	227L-215-x	000324-215-x	10	15
225	on request	0.02	158	2.9	227L-225-x	000324-225-x	10	15
250	on request	0.02	175	3.21	227L-250-x	000324-250-x	10	15
275	on request	0.01	193	3.52	227L-275-x	000324-275-x	10	15
300	on request	0.01	210	3.83	227L-300-x	000324-300-x	10	15
315	on request	0.01	221	4.01	227L-315-x	000324-315-x	10	10
325	on request	0.01	228	4.14	227L-325-x	000324-325-x	10	10
350	on request	0.01	245	4.45	227L-350-x	000324-350-x	10	10
375	on request	0.01	263	4.78	227L-375-x	000324-375-x	10	10
400	on request	0.01	280	5.09	227L-400-x	000324-400-x	10	10
450	on request	0.01	360	5.71	227L-450-x	000324-450-x	10	10
500	on request	0.01	400	6.33	227L-500-x	000324-500-x	10	10
550	on request	0.01	440	6.94	227L-550-x	000324-550-x	6	6
600	on request	0.01	480	7.56	227L-600-x	000324-600-x	6	6
700	on request	0.01	560	8.8	227L-700-x	000324-700-x	6	6
800	on request	0.01	640	10.03	227L-800-x	000324-800-x	6	6
900	on request	0.01	720	10.27	227L-900-x	000324-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



Clip-Grip quick action clamp

## Master-Clip HT 650

Medium- and high temperature hose up to +650°C

### Material

- 1 clip profile spiral: hot-dip galvanised steel band
- 2 wall: double-layered, inner and outer layers with special coated high-temperature fabric reinforced with integrated VA wire

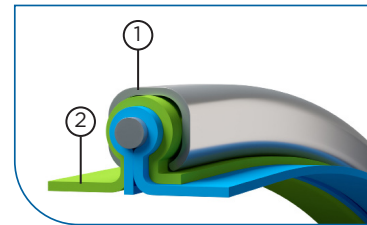


### Applications

- oven manufacturing
- exhaust gas extraction for high-performance engine test-benches in the automotive industry
- automotive and aircraft industry
- shipbuilding industry
- infrared drying units
- heat protection
- mining and steel industry
- machine manufacturing
- smoke extractors

### Properties

- very good temperature resistance
- outer chafing protection spiral
- flame-resistant
- increased vibration resistance via integrated reinforcement components
- silicone-free
- flexible
- limited suitability for long-term kink movements
- good vacuum resistance
- axial compressible
- small bending radius
- withstands high mechanical loads
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- -20°C to +650°C for vacuum applications
- peaks to +750°

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
50	on request	0.39	30	1.1	229-050-x	000309-050-x	10	10
55	on request	0.34	33	1.19	229-055-x	000309-055-x	10	10
60	on request	0.31	36	1.29	229-060-x	000309-060-x	10	10
65	on request	0.29	39	1.38	229-065-x	000309-065-x	10	10
70	on request	0.26	42	1.47	229-070-x	000309-070-x	10	10
75	on request	0.25	45	1.57	229-075-x	000309-075-x	10	15
80	on request	0.22	48	1.66	229-080-x	000309-080-x	10	15
90	on request	0.21	54	1.85	229-090-x	000309-090-x	10	15
100	on request	0.17	60	1.57	229-100-x	000309-100-x	10	15
110	on request	0.14	66	1.71	229-110-x	000309-110-x	10	15
120	on request	0.12	72	1.85	229-120-x	000309-120-x	10	15
125	on request	0.1	75	1.93	229-125-x	000309-125-x	10	15
130	on request	0.1	78	2	229-130-x	000309-130-x	10	15
140	on request	0.09	84	2.14	229-140-x	000309-140-x	10	15
150	on request	0.08	90	2.29	229-150-x	000309-150-x	10	15
160	on request	0.07	96	2.43	229-160-x	000309-160-x	10	15
170	on request	0.06	102	2.57	229-170-x	000309-170-x	10	15
175	on request	0.06	105	2.65	229-175-x	000309-175-x	10	15
180	on request	0.05	108	2.72	229-180-x	000309-180-x	10	15
200	on request	0.04	120	3.01	229-200-x	000309-200-x	10	15
215	on request	0.04	151	3.22	229-215-x	000309-215-x	10	15
225	on request	0.03	158	3.36	229-225-x	000309-225-x	10	15
250	on request	0.03	175	3.72	229-250-x	000309-250-x	10	15
275	on request	0.02	193	4.08	229-275-x	000309-275-x	10	15
300	on request	0.02	210	4.44	229-300-x	000309-300-x	10	15
315	on request	0.02	221	4.66	229-315-x	000309-315-x	10	15
325	on request	0.02	228	4.8	229-325-x	000309-325-x	10	15
350	on request	0.02	245	5.16	229-350-x	000309-350-x	10	10
375	on request	0.01	263	5.55	229-375-x	000309-375-x	10	10
400	on request	0.01	280	5.91	229-400-x	000309-400-x	10	10
450	on request	0.01	360	6.63	229-450-x	000309-450-x	10	10
500	on request	0.01	400	7.35	229-500-x	000309-500-x	10	10
550	on request	0.01	440	8.07	229-550-x	000309-550-x	6	6
600	on request	0.01	480	8.79	229-600-x	000309-600-x	6	6
700	on request	0.01	560	10.23	229-700-x	000309-700-x	6	6
800	on request	0.01	640	11.67	229-800-x	000309-800-x	6	6
900	on request	0.01	720	13.11	229-900-x	000309-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



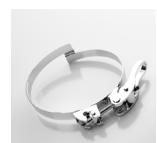
Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



Hose Connector



Clip-Grip quick action clamp



## Master-Clip HT 1100

Medium- and high temperature hose up to +1100°C

### Material

- 1 clamp profile spiral: VA steel band (1.4512)
- 2 wall: three-layered, inner layer: stainless steel wire fabric, outer layer: high-temperature, special-coated with heat stabilisers reinforced with VA wire, intermediate layer: thermo-textile fabric

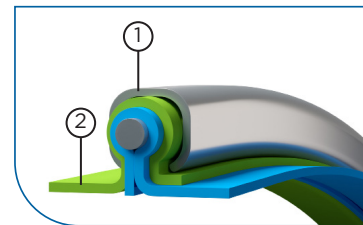


### Applications

- oven manufacturing
- automotive and aircraft industry
- shipbuilding industry
- heat protection
- mining and steel industry
- exhaust gas extraction for high performance test-benches in the automotive industry
- suction/extraction of turbojet engine exhaust fumes
- exhaust gas extraction for larger capacity engines
- extreme temperature demands
- suction during spark formation
- machine manufacturing
- defence systems

### Properties

- very good temperature resistance
- outer chafing protection spiral
- flame-resistant
- silicone-free
- flexible
- limited suitability for long-term kink movements
- small bending radius
- high tension-proof connection of wall-lining and spiral via special clamp mechanism



### Temperature Range

- -20°C to +1100°C for vacuum applications

DN	op. pressure	vacuum	bend radius	weight/m	old article no.	new article no.	standard length	max. production length
	bar	bar	mm	kg			m	m
75	on request	0.3	45	1.68	230-075-x	000319-075-x	10	10
80	on request	0.27	48	1.78	230-080-x	000319-080-x	10	10
90	on request	0.25	54	1.99	230-090-x	000319-090-x	10	10
100	on request	0.2	60	1.78	230-100-x	000319-100-x	10	10
110	on request	0.16	66	1.94	230-110-x	000319-110-x	10	10
120	on request	0.14	72	2.11	230-120-x	000319-120-x	10	10
125	on request	0.12	75	2.19	230-125-x	000319-125-x	10	10
130	on request	0.12	78	2.27	230-130-x	000319-130-x	10	10
140	on request	0.1	84	2.44	230-140-x	000319-140-x	10	10
150	on request	0.09	90	2.6	230-150-x	000319-150-x	10	10
160	on request	0.08	96	2.77	230-160-x	000319-160-x	10	10
170	on request	0.07	102	2.93	230-170-x	000319-170-x	10	10
175	on request	0.07	105	3.02	230-175-x	000319-175-x	10	10
180	on request	0.06	126	3.1	230-180-x	000319-180-x	10	10
200	on request	0.05	140	3.43	230-200-x	000319-200-x	10	10
215	on request	0.05	151	3.68	230-215-x	000319-215-x	10	10
225	on request	0.04	158	3.84	230-225-x	000319-225-x	10	10
250	on request	0.03	175	4.25	230-250-x	000319-250-x	10	10
275	on request	0.03	193	4.67	230-275-x	000319-275-x	10	10
300	on request	0.02	210	5.08	230-300-x	000319-300-x	10	10
315	on request	0.02	221	5.33	230-315-x	000319-315-x	10	10
325	on request	0.02	228	5.49	230-325-x	000319-325-x	10	10
350	on request	0.02	245	5.9	230-350-x	000319-350-x	10	10
375	on request	0.02	300	6.35	230-375-x	000319-375-x	10	10
400	on request	0.01	320	6.76	230-400-x	000319-400-x	10	10
450	on request	0.01	360	7.59	230-450-x	000319-450-x	6	6
500	on request	0.01	400	8.41	230-500-x	000319-500-x	6	6
550	on request	0.01	440	9.24	230-550-x	000319-550-x	6	6
600	on request	0.01	480	10.06	230-600-x	000319-600-x	6	6
700	on request	0.01	560	11.72	230-700-x	000319-700-x	6	6
800	on request	0.01	640	13.37	230-800-x	000319-800-x	6	6
900	on request	0.01	720	15.02	230-900-x	000319-900-x	6	6

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



Hose Reducer, symmetrical



Clip-Grip Hose clamp, screwable



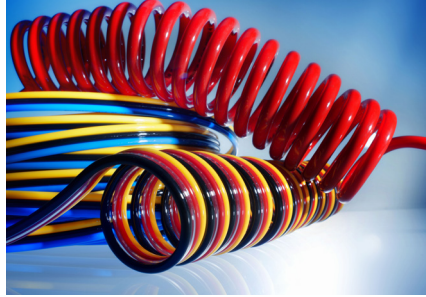
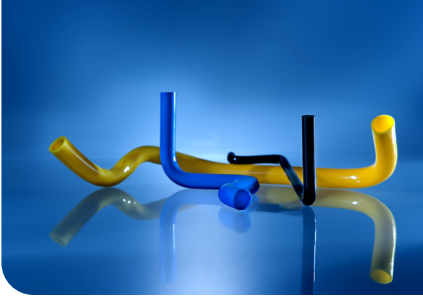
Hose Connector



Clip-Grip quick action clamp







# 8

## Pneumatic Tubing

Pneumatic tubings for flexible solutions  
in automatisisation and mechanical  
engineering



Pneumatic tubing

# NOVOPLAST

## SCHLAUCHTECHNIK

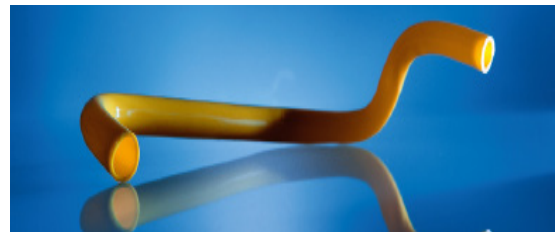
A wide range of pneumatic tubing made in PUR - Nylon - Nylon-E - LD-PE - PVDF - PE - PP - PVC - TPE - TPEE for industrial applications custom made to meet unique preferences, needs, and specifications

### Preformed tubes

Master-Tube PUR 2D/3D



Master-Tube PA 2D/3D

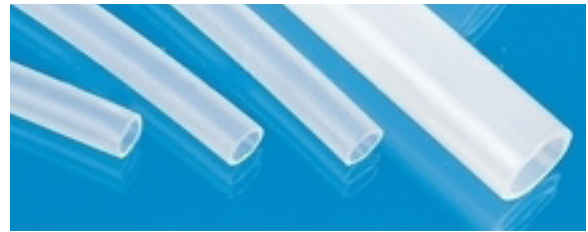


### Flame resistant tubing

XFlame® PUR



Master-Tube PDVF / Master-Tube TPE



### Profile tubing

Master-Tube PUR Channeled Profile



Master-Tube PUR Flat



### PA DUOPART®



### Food and Pharma

Master-Tube PUR 98A Food

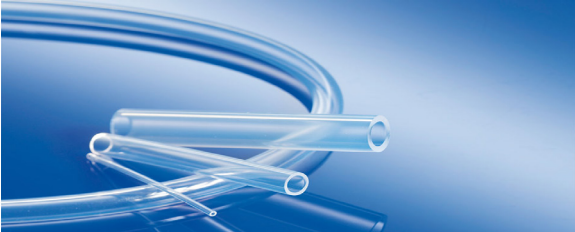




# APT Connecting Values

Using our state of the art production equipment, we produce tubes, heat shrinks and profiles made from the following polymers: PTFE - PFA - FEP - PDVF - ETFE - ECTFE - THV

PFA (Perfluoralkoxy)



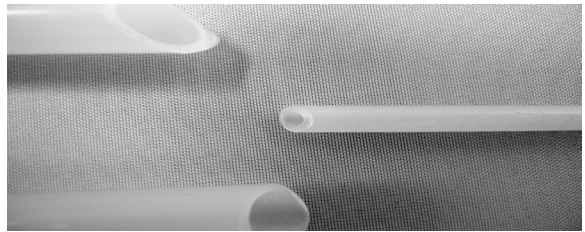
FEP (Fluorinated ethylene propylene)



PVDF (Polyvinylidene fluoride)



ETFE (Ethylene-Tetrafluorethylene)



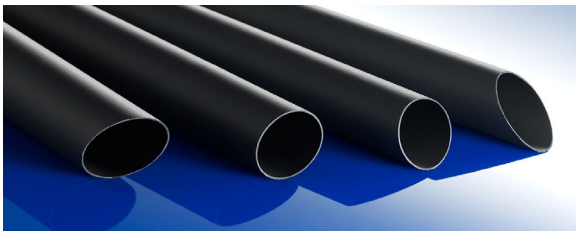
Halar® ECTFE



THV



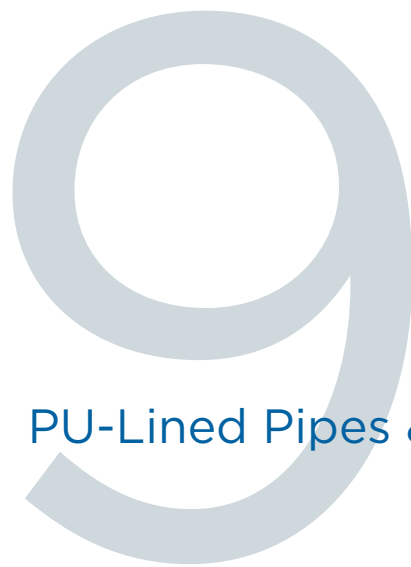
Antistatic



Customised Tubing







## PU-Lined Pipes & Pipe-Bends

Innovative wear protection for  
pipes & pipe-bends



## Master-PROTECT Assembly Set

### Connector Pipes for Master-Protect Pipe-Bends

#### Material

- 1 lining: polyurethane
- 2 bend: DIN 2448 St 37, primed
- 3 flange: R St 37, primed

#### Applications

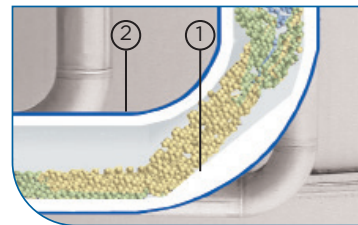
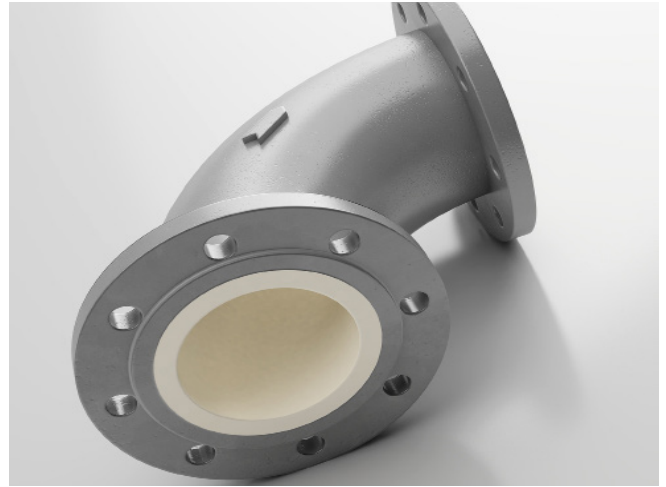
- pneumatic conveying plants
- granule silos

#### Properties

- extremely abrasion resistant
- reduced operating costs via longer maintenance intervals
- lower risk of blockages via uniform concentration distribution and a more constant speed of transported goods
- much greater wear resistance than steel pipe bends
- pressure level PN 6 and PN 10/16
- no displacement of transport media
- significantly lower pressure loss as in deflection / impact absorbers

#### Temperature Range

- -40°C to +80°C
- peaks to +110°C



#### Available on request

- available on request in other DN sizes and in stainless steel

DN	d mm	PN	A mm	adapter outer Ø mm	hole circle	no. holes
40	43	10/16	99	150	110	4
50	54	6	114	140	110	4
50	54	10/16	121	165	125	4
65	70	6	133	160	130	4
65	70	10/16	140	185	145	4
80	82	6	157	190	150	4
80	82	10/16	165	200	160	8
100	107	6	198	210	170	4
100	107	10/16	205	220	180	8
125	131	6	239	240	200	8
125	131	10/16	246	250	210	8
150	159	6	277	265	225	8
150	159	10/16	284	285	240	8

All data refers to a medium and ambient temperature of +20 °C  
 Order-specific production in the above listed sizes, lengths and pressure steps  
 Subject to technical changes and colour deviations.

## Master-PROTECT Pipe

### PU-lined Pipe

#### Material

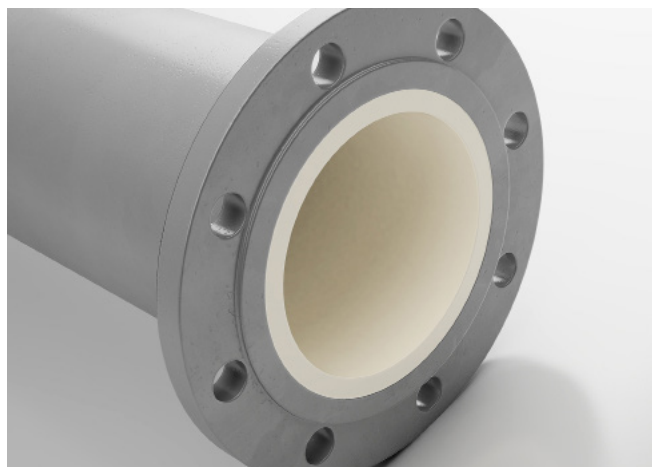
- 1 pipe: DIN 2448 St 37, primed
- 2 lining: polyurethane
- 3 flange: R St 37, primed

#### Applications

- pneumatic conveying plants

#### Properties

- extremely abrasion resistant
- much greater wear resistance than steel piping
- reduced operating costs via longer maintenance intervals
- lower risk of blockages via uniform concentration distribution and a more constant speed of transported goods
- pressure level PN 6 and PN 10/16



#### Temperature Range

- -40°C to +80°C
- peaks to +110°C

#### Available on request

- available on request in other DN sizes and in stainless steel

DN	d mm	PN	hole circle	no. holes	article no. 1m-length	article no. 2m-length
50	54	6	110	4	R11-050-006	R21-050-006
50	54	10/16	125	4	R11-050-010	R21-050-010
65	70	6	130	4	R11-065-006	R21-065-006
65	70	10/16	145	4	R11-065-010	R21-065-010
80	82	6	150	4	R11-080-006	R21-080-006
80	82	10/16	160	8	R11-080-010	R21-080-010
100	107	6	170	4	R11-100-006	R21-100-006
100	107	10/16	180	8	R11-100-010	R21-100-010
125	131	6	200	8	R11-125-006	R21-125-006
125	131	10/16	210	8	R11-125-010	R21-125-010
150	159	6	225	8	R11-150-006	R21-150-006
150	159	10/16	240	8	R11-150-010	R21-150-010
200	207	6	280	8	R11-200-006	R21-200-006

All data refers to a medium and ambient temperature of +20 °C  
 Order-specific production in the above listed sizes, lengths and pressure steps  
 Subject to technical changes and colour deviations.

## Master-PROTECT Pipe-Bend

### PU-lined pipe-bend

#### Material

- 1 pipe: DIN 2448 St 37 (untreated)
- 2 flange: R St 37 - 2, (untreated)

#### Applications

- pneumatic conveying plants

#### Properties

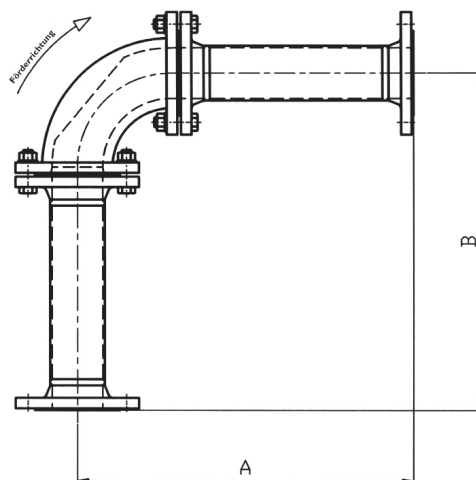
- installation sets for Master-PROTECT pipe bends instead of conventional wear-protection pipe bends with larger bedding radii in existing conveyance systems
- universally adjustable
- smooth inner intersections with existing piping and Master-PROTECT pipe-bend
- lower operating costs in connection with use of Master-PROTECT pipe bend
- longer service intervals
- no displacement of transport media
- pressure level PN 6 at DN 200 or PN 10/16 at all other DN

#### Temperature Range

- -40°C to +80°C
- peaks to +110°C

#### Available on request

- available on request in other DN sizes and in stainless steel



DN	PN	A/B mm	length in mm	hole circle	no. holes	article no.
50	10/16	545	422	125	4	M01-050-010
50	10/16	845	722	125	4	M02-050-010
50	10/16	1245	1122	125	4	M03-050-010
65	10/16	645	503	145	4	M01-065-010
65	10/16	1045	903	145	4	M02-065-010
65	10/16	1445	1303	145	4	M03-065-010
80	10/16	550	383	160	4	M01-080-010
80	10/16	1050	883	160	4	M02-080-010
80	10/16	1550	1383	160	4	M03-080-010
80	10/16	850	683	160	8	M04-080-010
80	10/16	1250	1083	160	8	M05-080-010
80	10/16	1750	1583	160	8	M06-080-010
100	10/16	952	745	180	8	M01-100-010
100	10/16	1452	1245	180	8	M02-100-010
100	10/16	1952	1745	180	8	M03-100-010
125	10/16	1055	807	210	8	M01-125-010
125	10/16	1555	1307	210	8	M02-125-010
125	10/16	2055	1807	210	8	M03-125-010
150	10/16	1055	769	240	8	M01-150-010
150	10/16	1805	1519	240	8	M02-150-010
150	10/16	2555	2269	240	8	M03-150-010
200	6	2055	1693	280	8	M01-200-006

All data refers to a medium and ambient temperature of +20 °C  
 Order-specific production in the above listed sizes, lengths and pressure steps  
 Subject to technical changes and colour deviations.







# 10

Installation & Connections  
Clamps

Connection solutions for almost any application, from standard connectors through to customised customer-specific connections



## Clip-Grip Hose Clamp, screwable

Special clamp for Masterflex hoses

### Material

1 band collar, bridge, housing: steel

### Applications

- special clamp for all hose types from Masterflex products for mobile and stationary units

### Properties

- easy to install
- robust
- rust-protected
- primarily tight and tear-proof connection via bridge profiles

### Available variants

- left-hand turning spiral for Master-Clip Hose Series



for Masterflex Hoses in DN	clamping range mm	article no.
40	40-60	530-040-0000
45	40-60	530-040-0000
50	50-70	530-050-0000
55	50-70	530-050-0000
60	60-80	530-060-0000
65	60-80	530-060-0000
70	70-90	530-070-0000
75	70-90	530-070-0000
80	80-100	530-080-0000
90	90-110	530-090-0000
100	100-120	530-100-0000
110	110-130	530-110-0000
120	120-140	530-120-0000
125	120-140	530-120-0000
130	130-150	530-130-0000
140	140-160	530-140-0000
150	150-170	530-150-0000
160	160-180	530-160-0000
170	170-190	530-170-0000
175	170-190	530-170-0000
180	180-200	530-180-0000
200	200-220	530-200-0000
215	210-230	530-215-0000
225	220-240	530-225-0000
250	250-270	530-250-0000
275	270-290	530-275-0000
280	280-300	530-280-0000
300	300-320	530-300-0000
315	310-330	530-315-0000
325	320-340	530-325-0000
350	350-370	530-350-0000
375	370-390	530-375-0000
400	400-420	530-400-0000
450	450-470	530-450-0000
500	500-520	530-500-0000
550	550-570	530-550-0000
600	600-620	530-600-0000
700	700-720	530-700-0000
800	800-820	530-800-0000
900	900-920	530-900-0000

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

Also available in stainless steel version and other sizes

## Hose Clamp with Worm-Gear

Standard clamp for universal requirements

### Material

- 1 screw: galvanised steel
- 2 band collar: steel, galvanised

### Applications

- mounting of light hose types onto connector brackets on mobile and stationary units

### Properties

- easy to install
- robust
- rust-protected
- primarily tight and tear-proof connection via bridge profiles



clamping range mm	article no.
25-40	620-025-040
32-50	620-032-050
40-60	620-040-060
50-70	620-050-070
60-80	620-060-080
70-90	620-070-090
80-100	620-080-100
90-110	620-090-110
100-120	620-100-120
110-130	620-110-130
120-140	620-120-140
130-150	620-130-150
140-160	620-140-160
150-170	620-150-170
160-180	620-160-180
170-190	620-170-190
180-200	620-180-200
190-210	620-190-210
200-220	620-200-220
210-230	620-210-230
220-240	620-220-240
230-250	620-230-250
240-260	620-240-260
250-270	620-250-270
260-280	620-260-280
270-290	620-270-290
280-300	620-280-300
290-310	620-290-310
300-320	620-300-320
310-330	620-310-330
320-340	620-320-340
330-350	620-330-350
340-360	620-340-360
350-370	620-350-370
360-380	620-360-380
370-390	620-370-390
380-400	620-380-400
390-410	620-390-410
400-420	620-400-420
410-430	620-410-430
420-440	620-420-440
430-450	620-430-450
440-460	620-440-460
450-470	620-450-470
460-480	620-460-480
470-490	620-470-490
480-500	620-480-500
490-510	620-490-510
500-520	620-500-520

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

Also available in stainless steel version and other sizes



## Clip-Grip Quick-Fix Clamp

Special clamp for Masterflex hoses

### Material

1 band collar, bridge, socket: stainless steel (1.4301)

### Applications

- special clamp for all hose types from Masterflex products for mobile and stationary units

### Properties

- rust-free
- robust
- very easy to install
- primarily tight and tear-proof connection via bridge profiles
- subsequent quick mounting also possible for pre-installed hoses
- adjustable clamping force via clamping screw



### Available variants

- left-hand turning spiral for Master-Clip Hose Series
- right-hand turning spiral for Master-PUR Hose series

for Master-Clip hoses in DN	clamping range mm	article no.
75	75-82	532-075-0000
80	80-87	532-080-0000
90	90-97	532-090-0000
100	100-107	532-100-0000
110	110-117	532-110-0000
120	120-127	532-120-0000
125	125-132	532-125-0000
130	130-137	532-130-0000
140	140-147	532-140-0000
150	150-157	532-150-0000
160	160-167	532-160-0000
170	170-177	532-170-0000
175	175-182	532-175-0000
180	180-187	532-180-0000
200	200-207	532-200-0000
215	215-222	532-215-0000
225	225-232	532-225-0000
250	250-257	532-250-0000
275	275-282	532-275-0000
300	300-307	532-300-0000
315	315-332	532-315-0000
325	325-332	532-325-0000
350	350-357	532-350-0000
375	375-382	532-375-0000
400	400-407	532-400-0000
450	450-457	532-450-0000
500	500-507	532-500-0000

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Quick-Fix Clamp for Cone Flanges

Standard clamp for universal requirements

### Material

1 stainless steel 1.4301

### Applications

- for quick connectors from:
  - Metal columns with cone flanges
  - Reductions with cone flanges
  - Combiflex PU cone flanges
  - Steel piping with cone flanges
  - Pipe bends/elbows with cone flanges

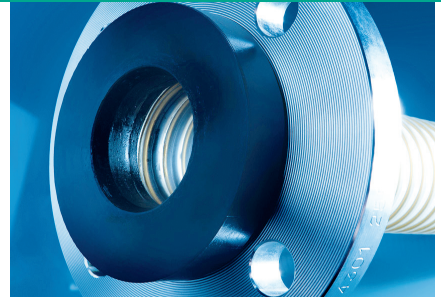
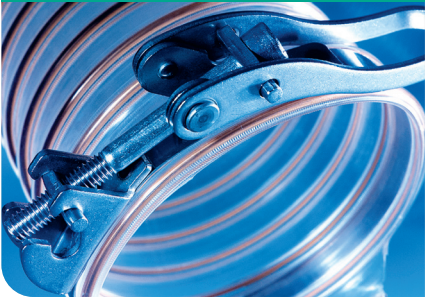
### Properties

- easy to install
- rust-free
- with safety pin to prevent from an inadvertent opening
- robust
- quick-fix clamps for cone flanges in acc.to DIN 3016



DN	D mm	R mm	weight/piece kg	old article no.	new article no.
50	147	103	0,2	623-050-900	2183
65	158	103	0,26	623-065-900	2184
80	169	103	0,29	623-080-900	2185
100	212	170	0,46	623-100-900	2186
125	241	186	0,78	623-125-900	2187
150	266	202	0,86	623-150-900	2188
160	275	207	0,91	623-160-900	2189
180	289	215	0,97	623-180-900	2190
200	313	228	1,05	623-200-900	2191
250	360	254	1,24	623-250-900	2192

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



# 11

## Installation & Connections Plastic Connectors

Connection solutions for almost any application, from standard connectors through to customised customer-specific connections



## Combiflex PU Cone Flange

acc. to DIN 3016

### Material

1 highly abrasion resistant polyurethane

### Applications

- screwable quick connection system for the hose types Master-PUR L / H / HX & Master-PUR Performance

### Properties

- abrasion and microbe-resistant
- lightweight
- connection option without adjustable constriction of the cross-section
- high tension-proof
- reusable and exchangeable
- easy to install when using quick-fit clamp connectors
- shock-proof
- dissipation of electrostatic charge via integrated earthing

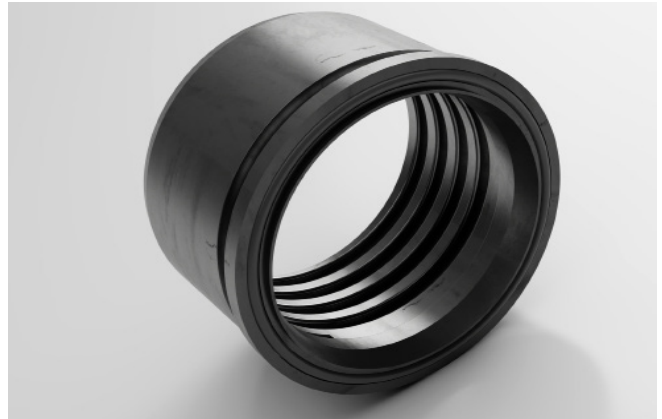


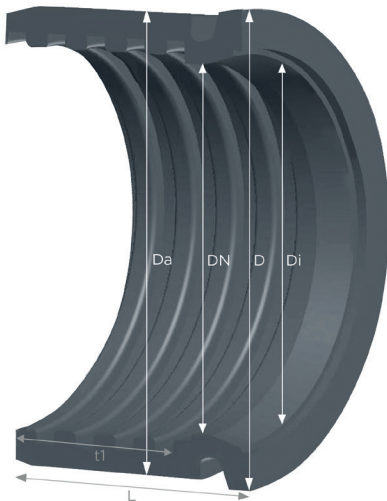
plate available for prefixed version

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN hose	total length	weight piece	D: outer Ø flange	Da: outer Ø socket	t1: screw-in depth of hose	di: inner Ø pipe	for Master PUR type	old article no.	new article no.
	mm	Kg	mm	mm	mm	mm			
50	68	0.1	78	75	43.5	54.5	L	521-050-10V	001380
50	68	0.1	78	75	43.5	54.5	L	521-050-10M	001379
65	78	0.15	91	90	48.5	70.3	L	521-065-10V	001382
65	78	0.15	91	90	48.5	70.3	L	521-065-10M	001381
80	83	0.18	104	105	53.5	82.5	L	521-080-10V	001384
80	83	0.18	104	105	53.5	82.5	L	521-080-10M	001383
100	88	0.35	129	131	58.5	107.1	L	521-100-10V	001386
100	88	0.35	129	131	58.5	107.1	L	521-100-10M	001385
125	95	0.42	161	156	63.5	131.7	L	521-125-10V	001388
125	95	0.42	161	156	63.5	131.7	L	521-125-10M	001387
150	105	0.63	190	184	73.5	159.3	L	521-150-10V	001390
150	105	0.63	190	184	73.5	159.3	L	521-150-10M	001389
160	105	0.7	200	190	73.5	167	L	521-160-10V	001392
160	105	0.7	200	190	73.5	167	L	521-160-10M	001391
180	110	0.8	216	210	78.5	182.9	L	521-180-10V	001394
180	110	0.8	216	210	78.5	182.9	L	521-180-10M	001393
200	110	0.87	242	235	78.5	207.3	L	521-200-10V	001396
200	110	0.87	242	235	78.5	207.3	L	521-200-10M	001395
250	120	1.4	295	283	88.5	260.4	L	521-250-10V	001398
250	120	1.4	295	283	88.5	260.4	L	521-250-10M	001397
50	68	0.1	78	75	43.5	54.5	H	522-050-10V	001400
50	68	0.1	78	75	43.5	54.5	H	522-050-10M	001399
65	78	0.15	91	90	48.5	70.3	H	522-065-10V	001402
65	78	0.15	91	90	48.5	70.3	H	522-065-10M	001401
80	83	0.18	104	105	53.5	82.5	H	522-080-10V	001404
80	83	0.18	104	105	53.5	82.5	H	522-080-10M	001403
100	88	0.35	129	131	58.5	107.1	H	522-100-10V	001406
100	88	0.35	129	131	58.5	107.1	H	522-100-10M	001405
125	95	0.42	161	156	63.5	131.7	H	522-125-10V	001408
125	95	0.42	161	156	63.5	131.7	H	522-125-10M	001407
150	105	0.63	190	184	73.5	159.3	H	522-150-10V	001410
150	105	0.63	190	184	73.5	159.3	H	522-150-10M	001409
160	105	0.7	200	190	73.5	167	H	522-160-10V	001412
160	105	0.7	200	190	73.5	167	H	522-160-10M	001411
180	110	0.8	216	210	78.5	182.9	H	522-180-10V	001414
180	110	0.8	216	210	78.5	182.9	H	522-180-10M	001413
200	110	0.87	242	235	78.5	207.3	H	522-200-10V	001416
200	110	0.87	242	235	78.5	207.3	H	522-200-10M	001415
250	120	1.4	295	283	88.5	260.4	H	522-250-10V	001418
250	120	1.4	295	283	88.5	260.4	H	522-250-10M	001417
50	68	0.1	78	75	43.5	54.5	HX	523-050-10V	001420
50	68	0.1	78	75	43.5	54.5	HX	523-050-10M	001419
65	78	0.15	91	90	48.5	70.3	HX	523-065-10V	001424
65	78	0.15	91	90	48.5	70.3	HX	523-065-10M	001423
80	83	0.18	104	105	53.5	82.5	HX	523-080-10V	001428
80	83	0.18	104	105	53.5	82.5	HX	523-080-10M	001427
100	88	0.35	129	131	58.5	107.1	HX	523-100-10V	001432
100	88	0.35	129	131	58.5	107.1	HX	523-100-10M	001431
125	95	0.42	161	156	63.5	131.7	HX	523-125-10V	001436
125	95	0.42	161	156	63.5	131.7	HX	523-125-10M	001435
150	105	0.63	190	184	73.5	159.3	HX	523-150-10V	001441
150	105	0.63	190	184	73.5	159.3	HX	523-150-10M	001440
160	105	0.7	200	190	73.5	167	HX	523-160-10V	001447
160	105	0.7	200	190	73.5	167	HX	523-160-10M	001446
180	110	0.8	216	210	78.5	182.9	HX	523-180-10V	001449
180	110	0.8	216	210	78.5	182.9	HX	523-180-10M	001448
200	110	0.87	242	235	78.5	207.3	HX	523-200-10V	001451
200	110	0.87	242	235	78.5	207.3	HX	523-200-10M	001450
250	120	1.4	295	283	88.5	260.4	HX	523-250-10V	001453
250	120	1.4	295	283	88.5	260.4	HX	523-250-10M	001452
51	68	0.1	78	75	43.5	54.5	Performance	523-051-IPV	001422
51	68	0.1	78	75	43.5	54.5	Performance	523-051-IPM	001421
65	78	0.15	91	90	48.5	70.3	Performance	523-065-IPV	001426
65	78	0.15	91	90	48.5	70.3	Performance	523-065-IPM	001425
80	83	0.18	104	105	53.5	82.5	Performance	523-080-IPV	001430
80	83	0.18	104	105	53.5	82.5	Performance	523-080-IPM	001429
102	88	0.35	129	131	58.5	107.1	Performance	523-102-IPV	001434
102	88	0.35	129	131	58.5	107.1	Performance	523-102-IPM	001433
127	95	0.42	161	156	63.5	131.7	Performance	523-127-IPV	001439
127	95	0.42	161	156	63.5	131.7	Performance	523-127-IPM	001438
152	105	0.63	190	184	73.5	159.3	Performance	523-152-IPV	001445
152	105	0.63	190	184	73.5	159.3	Performance	523-152-IPM	001444

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



## Combiflex PU Cone Flange Food

in acc. with DIN 3016 Food grade Polyurethane acc. to EU 10/2011

### Material

- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX

### Applications

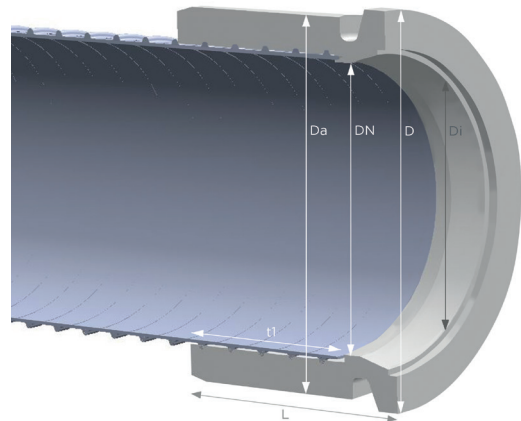
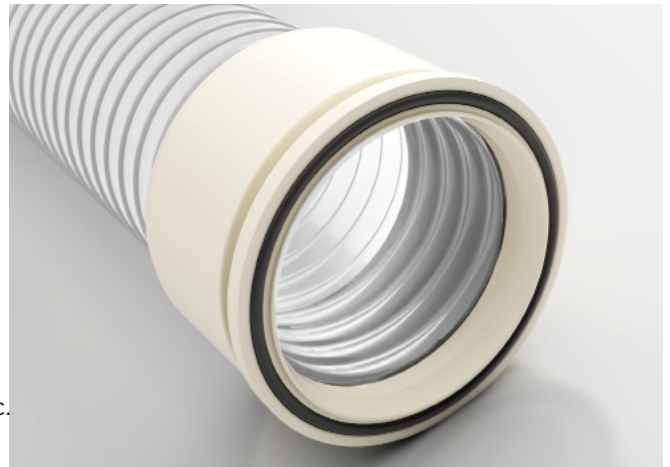
- cast-on quick connectors for all Master-PUR Food hose types

### Properties

- lightweight
- connection option without adjustable constriction of the cross-section
- PU-sprue: approved for direct contact with foodstuffs acc. to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits)
- high tension-proof
- easy to install when using quick-fit clamp connectors
- shock-proof
- abrasion, microbe and hydrolysis resistant
- dissipation of electrostatic charge via integrated earthing plate available for prefixed version

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN hose	total length	weight piece	D: outer Ø flange	Da: outer Ø cast part	di: inner Ø pipe	old article no.	new article no.
	mm	Kg	mm	mm	mm		
50	68	0.1	78	75	54.5	520-050-50V	006919
50	68	0.1	78	75	54.5	520-050-50M	005507
65	78	0.15	91	90	70.3	520-065-50V	005409
65	78	0.15	91	90	70.3	520-065-50M	005410
80	83	0.18	104	105	82.5	520-080-50V	005581
80	83	0.18	104	105	82.5	520-080-50M	005429
100	88	0.35	129	131	107.1	520-100-50V	005445
100	88	0.35	129	131	107.1	520-100-50M	005532
125	95	0.42	161	156	131.7	520-125-50V	005455
125	95	0.42	161	156	131.7	520-125-50M	005457
150	105	0.63	190	184	159.3	520-150-50V	005550
150	105	0.63	190	184	159.3	520-150-50M	005465
160	105	0.7	200	190	167	520-160-50V	005472
160	105	0.7	200	190	167	520-160-50M	005471
180	110	0.8	216	210	182.9	520-180-50V	/
180	110	0.8	216	210	182.9	520-180-50M	/
200	110	0.87	242	235	207.3	520-200-50V	005478

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## Combiflex PU Fixed Flange

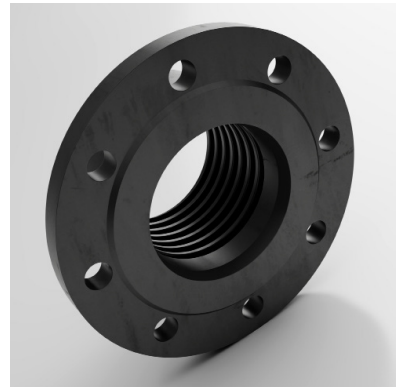
for counterflanges acc. to DIN 2632/DIN 2633

### Material

- 1 highly abrasion resistant polyurethane
- 2 colour: black

### Applications

- screwable plastic flange for for the hose types Master-PUR L / H / HX



### Properties

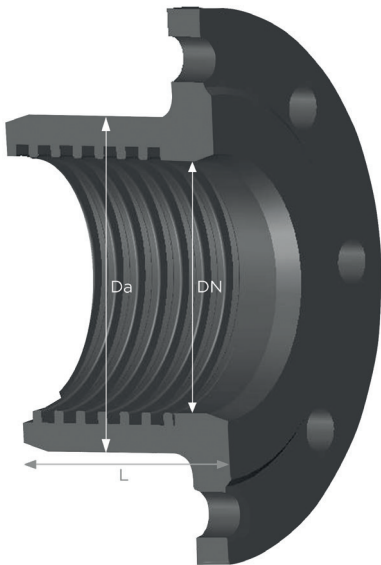
- abrasion and microbe-resistant
- lightweight
- connection option without adjustable constriction of the cross-section
- high tension-proof
- reusable and exchangeable
- simple mounting
- shock-proof
- pressure level PN 6 at DN 200 or PN 10/16 at all other DN
- dissipation of electrostatic charge via integrated earthing plate available for prefixed version

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN flange	pipe external dimension	DN hose	hole circle	weight/ piece	Da: Outer Ø Screw Fixing Area	total length	For Master PUR type	old article no.	new article no.
	mm		mm	kg	mm	mm			
50	57	50	125	0.4	75	66	L	560-050-057	001857
50	60.3	50	125	0.4	75	66	L	560-050-060	001858
65	76.1	65	145	0.5	90	76	L	560-065-076	001859
65	76.1	70	145	0.55	90	76	L	560-070-076	001860
80	88.9	75	160	0.6	105	76	L	560-075-088	001861
80	88.9	80	160	0.65	105	76	L	560-080-088	001862
100	108	100	180	0.8	131	86	L	560-100-108	001863
100	114.3	100	180	0.8	131	86	L	560-100-114	001864
125	133	120	210	0.95	156	92	L	560-120-133	001865
125	139.7	120	210	0.95	156	92	L	560-120-139	001866
125	133	125	210	1	156	92	L	560-125-133	001867
125	139.7	125	210	1	156	92	L	560-125-139	001868
150	159	140	240	1.2	184	98	L	560-140-159	001869
150	159	150	240	1.4	184	98	L	560-150-159	001870
150	168.3	150	240	1.4	184	98	L	560-150-168	001871
150	177.8	160	240	1.5	184	103	L	560-160-168	001872
175	193.7	180	270	1.8	210	103	L	560-180-193	001873
200	219.1	200	295	2	210	103	L	560-200-219	001874
250	267	250	350	3	292	118	L	560-250-267	001876
250	273	250	350	3	292	118	L	560-250-273	001877
300	323.9	300	400	4	344	123	L	560-300-323	001879
50	57	50	125	0.4	75	66	H	561-050-057	001881
50	60.3	50	125	0.4	75	66	H	561-050-060	001882
65	76.1	65	145	0.5	90	76	H	561-065-076	001883
65	76.1	70	145	0.55	90	76	H	561-070-076	006476
80	88.9	75	160	0.6	105	76	H	561-075-088	001884
80	88.9	80	160	0.65	105	76	H	561-080-088	001885
100	108	100	180	0.8	131	86	H	561-100-108	001886
100	114.3	100	180	0.8	131	86	H	561-100-114	001887
125	133	120	210	0.95	156	92	H	561-120-133	006132
125	139.7	120	210	0.95	156	92	H	561-120-139	001888
125	133	125	210	1	156	92	H	561-125-133	001889
125	139.7	125	210	1	156	92	H	561-125-139	001890
150	159	140	240	1.2	184	98	H	561-140-159	001891
150	159	150	240	1.4	184	98	H	561-150-159	001892
150	168.3	150	240	1.4	184	98	H	561-150-168	006780
150	177.8	160	240	1.5	184	103	H	561-160-168	001893
175	193.7	180	270	1.8	210	103	H	561-180-193	001893
200	219.1	200	295	2	210	103	H	561-200-219	001894
250	267	250	350	3	292	118	H	561-250-267	001896
250	273	250	350	3	292	118	H	561-250-273	001897
300	323.9	300	400	4	344	123	H	561-300-323	001899
50	57	50	125	0.4	75	66	HX	563-050-057	001912
50	60.3	50	125	0.4	75	66	HX	563-050-060	001913
65	76.1	65	145	0.5	90	76	HX	563-065-076	001914
65	76.1	70	145	0.55	90	76	HX	563-070-076	001915
80	88.9	75	160	0.6	105	76	HX	563-075-088	001916
80	88.9	80	160	0.65	105	76	HX	563-080-088	001917
100	108	100	180	0.8	131	86	HX	563-100-108	001918
100	114.3	100	180	0.8	131	86	HX	563-100-114	001919
125	133	120	210	0.95	156	92	HX	563-120-133	001921
125	139.7	120	210	0.95	156	92	HX	563-120-139	/
125	133	125	210	1	156	92	HX	563-125-133	001922
125	139.7	125	210	1	156	92	HX	563-125-139	001923
150	159	140	240	1.2	184	98	HX	563-140-159	001924
150	159	150	240	1.4	184	98	HX	563-150-159	001925
150	168.3	150	240	1.4	184	98	HX	563-150-168	001926
150	177.8	160	240	1.5	184	103	HX	563-160-168	001927
175	193.7	180	270	1.8	210	103	HX	563-180-193	001928
200	219.1	200	295	2	210	103	HX	563-200-219	001929
250	267	250	350	3	292	118	HX	563-250-267	001930
250	273	250	350	3	292	118	HX	563-250-273	001931
300	323.9	300	400	4	344	123	HX	563-300-323	001932
50	57	50	125	0.4	75	66	Performance	565-051-057	001941
50	60.3	50	125	0.4	75	66	Performance	565-051-060	006839
65	76.1	65	145	0.5	90	76	Performance	565-065-076	005976
65	76.1	70	145	0.55	90	76	Performance	565-070-076	006186
80	88.9	75	160	0.6	105	76	Performance	565-076-088	005957
80	88.9	80	160	0.65	105	76	Performance	565-080-088	001942
100	108	100	180	0.8	131	86	Performance	565-102-108	001943
100	114.3	100	180	0.8	131	86	Performance	565-102-114	001944
125	133	120	210	0.95	156	92	Performance	565-120-133	/
125	139.7	120	210	0.95	156	92	Performance	565-120-139	/
125	133	125	210	1	156	92	Performance	565-127-133	006115
125	139.7	125	210	1	156	92	Performance	565-127-139	005778
150	159	140	240	1.2	184	98	Performance	565-140-159	/
150	159	150	240	1.4	184	98	Performance	565-150-159	/
150	168.3	150	240	1.4	184	98	Performance	565-152-168	001945
150	177.8	160	240	1.5	184	103	Performance	565-160-168	/

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request.  
 Subject to technical changes and colour deviations.

## Combiflex Cast-on PU Fixed Flange

for counterflanges acc. to DIN 2632 / DIN 2633 / DIN 2673

### Material

- 1 highly abrasion resistant polyurethane
- 2 colour: black

### Applications

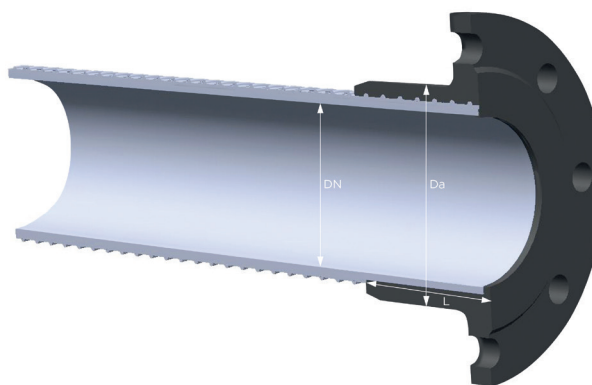
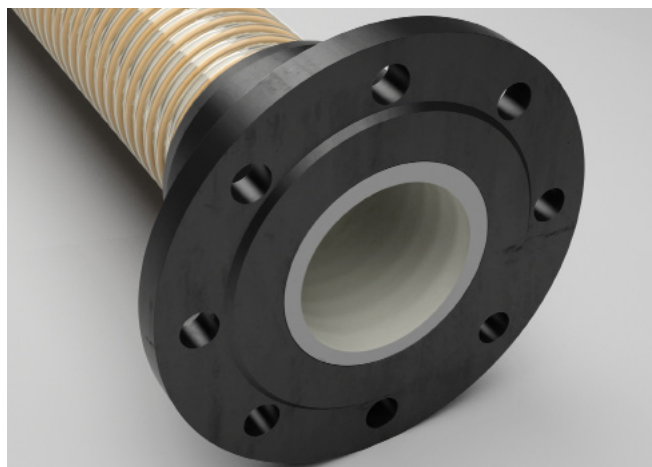
- cast-on PU flange for all Master-PUR Inline hose types

### Properties

- lightweight
- high tension-proof connection
- microbe-resistant
- front-flush hose integration
- abrasion-resistant
- shock-proof
- pressure level PN 6 at DN 200 or PN 10/16 at all other DN
- dissipation of electrostatic charge via integrated earthing plate available for prefixed version
- gas-tight / watertight

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN flange	pipe external dimension	DN hose	hole circle	weight/ piece	Da: Outer Ø Screw Fixing Area	total length	For Master PUR type	old article no.	new article no.
	mm		mm	kg	mm	mm			
50	57	51	125	0.4	78	66	L/H/HX/Performance	562-050-057	005400
50	60.3	51	125	0.4	78	66	L/H/HX/Performance	562-050-060	005388
65	76.1	65	145	0.5	90	76	L/H/HX/Performance	562-065-076	005522
65	76.1	70	145	0.55	90	76	L/H/HX/Performance	562-070-076	/
80	88.9	76	160	0.6	105	76	L/H/HX/Performance	562-075-088	005525
80	88.9	80	160	0.65	105	76	L/H/HX/Performance	562-080-088	005424
100	108	102	180	0.8	131	86	L/H/HX/Performance	562-100-108	005438
100	114.3	102	180	0.8	131	86	L/H/HX/Performance	562-100-114	005439
125	133	120	210	0.95	156	92	L/H/HX/Performance	562-120-133	/
125	139.7	120	210	0.95	156	92	L/H/HX/Performance	562-120-139	/
125	133	127	210	1	156	92	L/H/HX/Performance	562-125-133	005592
125	139.7	127	210	1	156	92	L/H/HX/Performance	562-125-139	005543
150	159	140	240	1.2	184	98	L/H/HX/Performance	562-140-159	/
150	159	152	240	1.4	184	98	L/H/HX/Performance	562-150-159	005552
150	168.3	152	240	1.4	184	98	L/H/HX/Performance	562-150-168	005553
150	177.8	160	240	1.5	184	98	L/H/HX/Performance	562-160-168	005559
175	193.7	180	270	1.8	210	103	L/H/HX/Performance	562-180-193	005950
200	219.1	203	295	2	210	103	L/H/HX/Performance	562-200-219	005475
250	267	250	350	3	292	118	L/H/HX/Performance	562-250-267	005571
250	273	250	350	3	292	118	L/H/HX/Performance	562-250-273	005570
300	323.9	300	400	4	344	123	L/H/HX/Performance	562-300-323	005574
50	57	51	125	0.4	78	66	Inline	564-051-107	005619
50	60.3	51	125	0.4	78	66	Inline	564-051-107	005619
65	76.1	65	145	0.5	90	76	Inline	564-065-107	005621
80	88.9	76	160	0.6	105	76	Inline	564-076-107	005623
80	88.9	80	160	0.65	105	76	Inline	564-080-107	001936
100	108	102	180	0.8	131	86	Inline	564-102-107	005627
100	114.3	102	180	0.8	131	86	Inline	564-102-107	005627
125	133	127	210	1	156	92	Inline	564-127-107	005628
125	139.7	127	210	1	156	92	Inline	564-127-107	005628
150	159	152	240	1.4	184	98	Inline	564-152-107	005632
150	168.3	152	240	1.4	184	98	Inline	564-152-107	005632
200	219.1	203	295	2	210	103	Inline	564-203-107	005635

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## Combiflex PU Fixed Flange Food

for counterflanges acc. to DIN 2633

### Material

1 food-grade polyurethane acc.to EU 10/2011 and BfR XXXIX

### Applications

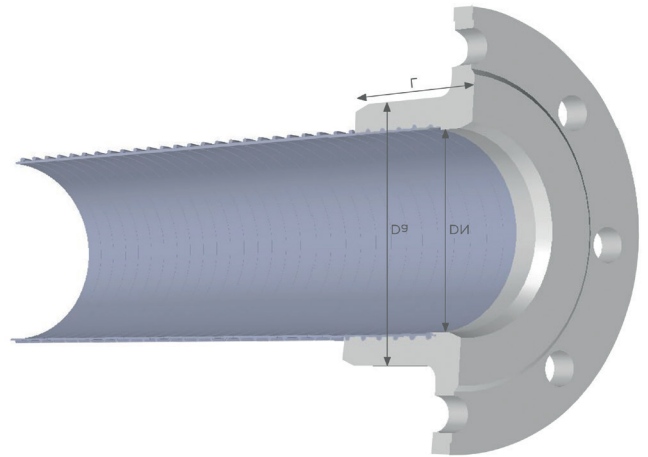
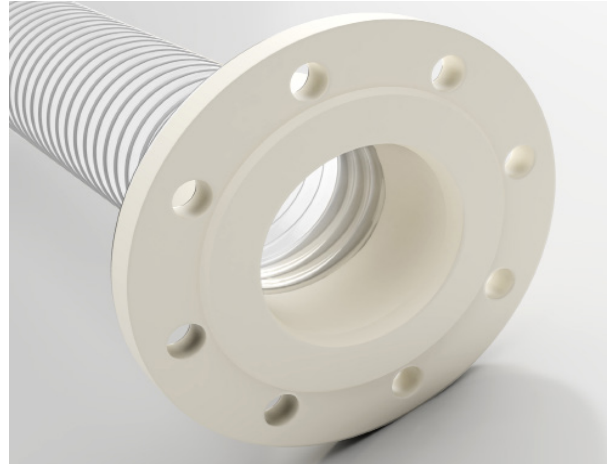
- cast-on plastic flange for all Master-PUR Food hose types

### Properties

- lightweight
- connection option without adjustable constriction of the cross-section
- PU-sprue: approved for direct contact with foodstuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits)
- high tension-proof
- simple mounting
- shock-proof
- abrasion, microbe and hydrolysis resistant
- Pressure range PN 10/16
- dissipation of electrostatic charge via integrated earthing plate available for prefixed version

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN flange	pipe external dimension	DN hose	hole circle	weight/ piece	Da: Outer Ø Cast part	total length	old article no.	new article no.
	mm		mm	kg	mm	mm		
50	57	50	125	0.55	75	66	562-050-501	005502
50	60.3	50	125	0.55	75	66	562-050-502	001903
65	76.1	65	145	0.69	90	76	562-065-501	005515
65	76.1	70	145	0.69	105	76	562-070-501	/
80	88.9	75	160	0.85	105	76	562-075-501	/
80	88.9	80	160	0.85	105	76	562-080-501	005433
100	108	100	180	1.13	131	86	562-100-501	005617
100	114.3	100	180	1.13	131	86	562-100-502	005591

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



## Combiflex PU Swivel Flange

for counterflanges acc. to DIN 2632

### Material

- 1 loose flange: aluminium
- 2 collar: abrasion-resistant polyurethane

### Applications

- screwable plastic collar with loose flange for for the hose types Master-PUR L / H / HX/Performance

### Properties

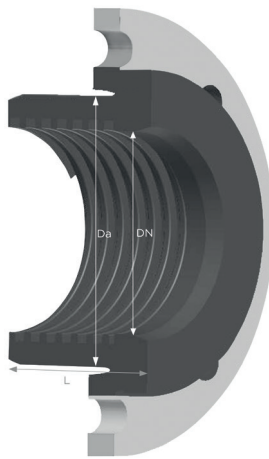
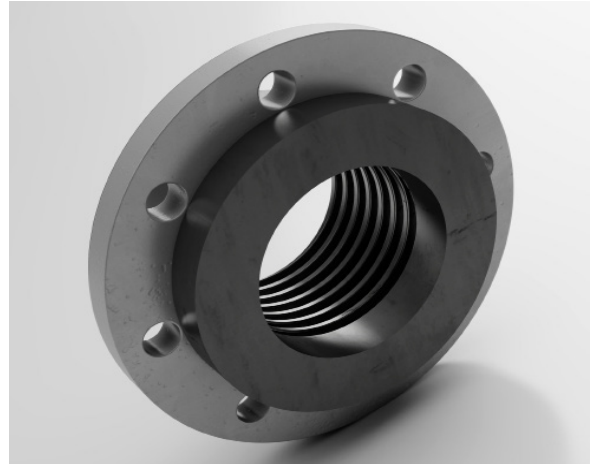
- abrasion and microbe-resistant
- connection option without adjustable constriction of the cross-section
- high tension-proof
- reusable and exchangeable
- simple mounting
- shock-proof
- pressure level PN 6 at DN 200 or PN 10/16 at all other DN

### Temperature Range

- 40°C to +90°C
- peaks to +125°C

### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN flange	pipe external dimension	DN hose	hole circle	weight/ piece	Da: Outer Ø Screw in socket	total length	For Master PUR type	old article no.	new article no.
	mm		mm	kg	mm	mm			
50	57	50	125	0.92	75	66	L	570-050-057-AL	1946
50	60.3	50	125	0.92	75	66	L	570-050-060-AL	1947
65	76.1	65	145	1.19	90	76	L	570-065-076-AL	/
65	76.1	70	145	1.14	90	76	L	570-070-076-AL	/
80	88.9	75	160	1.48	105	76	L	570-075-088-AL	1948
80	88.9	80	160	1.43	105	76	L	570-080-088-AL	1949
100	108	100	180	1.74	131	86	L	570-100-108-AL	1951
100	114.3	100	180	1.74	131	86	L	570-100-114-AL	1952
125	133	120	210	2.37	156	92	L	570-120-133-AL	1953
125	139.7	120	210	2.37	156	92	L	570-120-139-AL	/
125	133	125	210	2.26	156	92	L	570-125-133-AL	1954
125	139.7	125	210	2.26	156	92	L	570-125-139-AL	1955
150	159	140	240	3.09	184	98	L	570-140-159-AL	1956
150	159	150	240	2.82	184	98	L	570-150-159-AL	1957
150	168.3	150	240	2.82	184	98	L	570-150-168-AL	1958
150	177.8	160	240	2.53	184	98	L	570-160-168-AL	/
200	219.1	200	295	4.18	235	108	L	570-200-219-AL	1959
250	267	250	350	5.88	292	118	L	570-250-267-AL	1960
250	273	250	350	5.88	292	118	L	570-250-273-AL	/
300	323.9	300	400	7.12	344	123	L	570-300-323-AL	1961
50	57	50	125	0.92	75	66	H	571-050-057-AL	1962
50	60.3	50	125	0.92	75	66	H	571-050-060-AL	1963
65	76.1	65	145	1.19	90	76	H	571-065-076-AL	/
65	76.1	70	145	1.14	90	76	H	571-070-076-AL	1964
80	88.9	75	160	1.48	105	76	H	571-075-088-AL	/
80	88.9	80	160	1.43	105	76	H	571-080-088-AL	1965
100	108	100	180	1.74	131	86	H	571-100-108-AL	1966
100	114.3	100	180	1.74	131	86	H	571-100-114-AL	1967
125	133	120	210	2.37	156	92	H	571-120-133-AL	/
125	139.7	120	210	2.37	156	92	H	571-120-139-AL	/
125	133	125	210	2.26	156	92	H	571-125-133-AL	1969
125	139.7	125	210	2.26	156	92	H	571-125-139-AL	1970
150	159	140	240	3.09	184	98	H	571-140-159-AL	/
150	159	150	240	2.82	184	98	H	571-150-159-AL	1971
150	168.3	150	240	2.82	184	98	H	571-150-168-AL	1972
150	177.8	160	240	2.53	184	98	H	571-160-168-AL	/
200	219.1	200	295	4.18	235	108	H	571-200-219-AL	1973
250	267	250	350	5.88	292	118	H	571-250-267-AL	1974
250	273	250	350	5.88	292	118	H	571-250-273-AL	1975
300	323.9	300	400	7.12	344	123	H	571-300-323-AL	1976
50	57	50	125	0.92	75	66	HX	573-050-057-AL	1990
50	60.3	50	125	0.92	75	66	HX	573-050-060-AL	1991
65	76.1	65	145	1.19	90	76	HX	573-065-076-AL	1992
65	76.1	70	145	1.14	90	76	HX	573-070-076-AL	1993
80	88.9	75	160	1.48	105	76	HX	573-075-088-AL	/
80	88.9	80	160	1.43	105	76	HX	573-080-088-AL	1994
100	108	100	180	1.74	131	86	HX	573-100-108-AL	1995
100	114.3	100	180	1.74	131	86	HX	573-100-114-AL	1996
125	133	120	210	2.37	156	92	HX	573-120-133-AL	/
125	139.7	120	210	2.37	156	92	HX	573-120-139-AL	/
125	133	125	210	2.26	156	92	HX	573-125-133-AL	1998
125	139.7	125	210	2.26	156	92	HX	573-125-139-AL	1999
150	159	140	240	3.09	184	98	HX	573-140-159-AL	2000
150	159	150	240	2.82	184	98	HX	573-150-159-AL	2001
150	168.3	150	240	2.82	184	98	HX	573-150-168-AL	2002
150	177.8	160	240	2.53	184	98	HX	573-160-168-AL	2003
200	219.1	200	295	4.18	235	108	HX	573-200-219-AL	2004
250	267	250	350	5.88	292	118	HX	573-250-267-AL	2005
250	273	250	350	5.88	292	118	HX	573-250-273-AL	2006
300	323.9	300	400	7.12	344	123	HX	573-300-323-AL	2007
50	57	50	125	0.92	75	66	Performance	575-051-057	7174
50	60.3	50	125	0.92	75	66	Performance	575-051-060	/
65	76.1	65	145	1.19	90	76	Performance	575-065-076	6216
80	88.9	75	160	1.48	105	76	Performance	575-076-088	2017
80	88.9	80	160	1.43	105	76	Performance	575-080-088	2018
100	108	100	180	1.74	131	86	Performance	575-102-108	/
100	114.3	100	180	1.74	131	86	Performance	575-102-114	2019
125	133	125	210	2.26	156	92	Performance	575-127-133	7103
125	139.7	125	210	2.26	156	92	Performance	575-127-139	/
150	159	140	240	3.09	184	98	Performance	575-140-159	/
150	159	150	240	2.82	184	98	Performance	575-152-159	/
150	168.3	150	240	2.82	184	98	Performance	575-152-168	6096

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request.  
 Subject to technical changes and colour deviations.



## Combiflex Cast-on PU Swivel Flange

for counterflanges acc. to DIN 2632 / DIN 2633 / DIN 2673

### Material

- 1 loose flange: aluminium
- 2 collar: abrasion-resistant polyurethane

### Applications

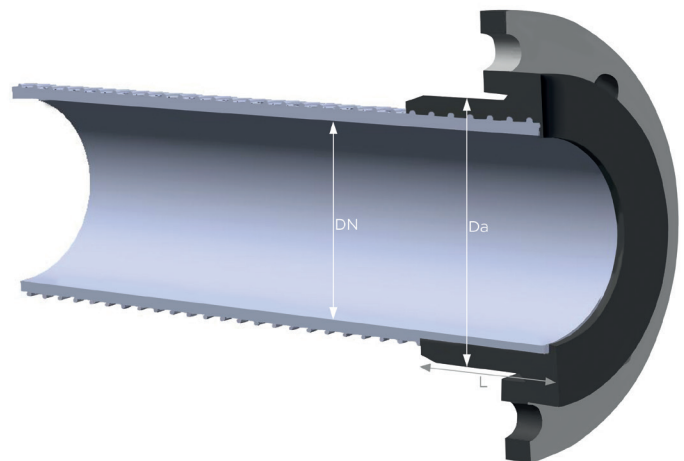
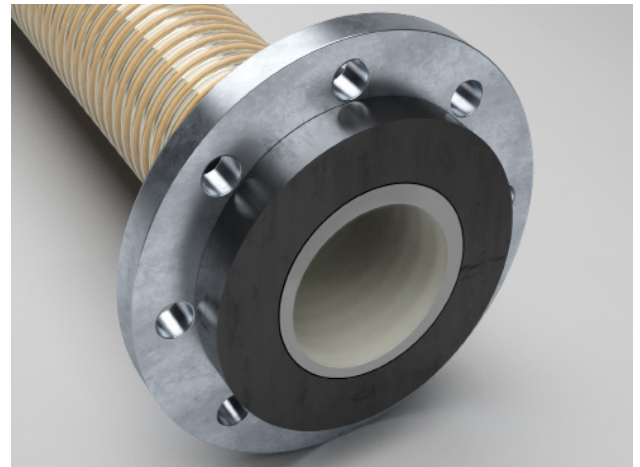
- cast-on PU swivel flange for Master-PUR series and

### Properties

- lightweight
- high tension-proof connection
- microbe-resistant
- front-flush hose integration
- abrasion-resistant
- shock-proof
- pressure level PN 6 at DN 200 or PN 10/16 at all other DN
- gas-tight / watertight

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN flange	pipe external dimension	DN hose	hole circle	weight/ piece	Da: Outer Ø Cast part	total length	For Master PUR type	old article no.	new article no.
	mm		mm	kg	mm	mm			
50	57	51	125	0.92	75	66	L/H/HX/Performance	572-050-057-AL	005506
50	60.3	51	125	0.92	75	66	L/H/HX/Performance	572-050-060-AL	005577
65	76.1	65	145	1.19	90	76	L/H/HX/Performance	572-065-076-AL	005519
65	76.1	70	145	1.14	90	76	L/H/HX/Performance	572-070-076-AL	
80	88.9	76	160	1.48	105	76	L/H/HX/Performance	572-075-088-AL	005579
80	88.9	80	160	1.43	105	76	L/H/HX/Performance	572-080-088-AL	005425
100	108	102	180	1.74	131	86	L/H/HX/Performance	572-100-108-AL	005442
100	114.3	102	180	1.74	131	86	L/H/HX/Performance	572-100-114-AL	005534
125	133	127	210	2.26	156	92	L/H/HX/Performance	572-125-133-AL	005540
125	139.7	127	210	2.26	156	92	L/H/HX/Performance	572-125-139-AL	005594
150	159	152	240	2.82	184	98	L/H/HX/Performance	572-150-159-AL	005549
150	168.3	152	240	2.82	184	98	L/H/HX/Performance	572-150-168-AL	005599
150	177.8	160	240	2.53	184	98	L/H/HX/Performance	572-160-168-AL	005560
200	219.1	203	295	4.18	235	108	L/H/HX/Performance	572-200-219-AL	005482
250	267	250	350	5.88	292	118	L/H/HX/Performance	572-250-267-AL	005569
250	273	250	350	5.88	292	118	L/H/HX/Performance	572-250-273-AL	005610
300	323.9	300	400	7.12	344	123	L/H/HX/Performance	572-300-323-AL	005614
50	57	51	125	0.92	75	66	Inline	574-051-107-AL	002008
50	60.3	51	125	0.92	75	66	Inline	574-051-107-AL	005620
65	76.1	65	145	1.19	90	76	Inline	574-054-107-AL	005622
80	88.9	76	160	1.48	105	76	Inline	574-076-107-AL	005624
80	88.9	80	160	1.43	105	76	Inline	574-080-107-AL	005625
100	108	102	180	1.74	131	86	Inline	574-102-107-AL	002012
100	114.3	102	180	1.74	131	86	Inline	574-102-107-AL	005626
125	133	127	210	2.26	156	92	Inline	574-127-107-AL	005631
125	139.7	127	210	2.26	156	92	Inline	574-127-107-AL	005631
150	159	152	240	2.82	184	98	Inline	574-152-107-AL	002014
150	168.3	152	240	2.82	184	98	Inline	574-152-107-AL	005633
200	219.1	203	295	4.18	235	108	Inline	574-204-107-AL	002015

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.

## Combiflex PU Swivel Flange Food

for counterflanges acc. to DIN 2633

### Material

- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX
- 3 loose flange: stainless steel

### Applications

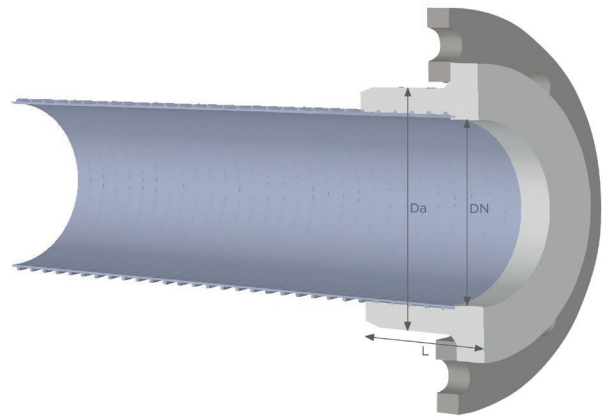
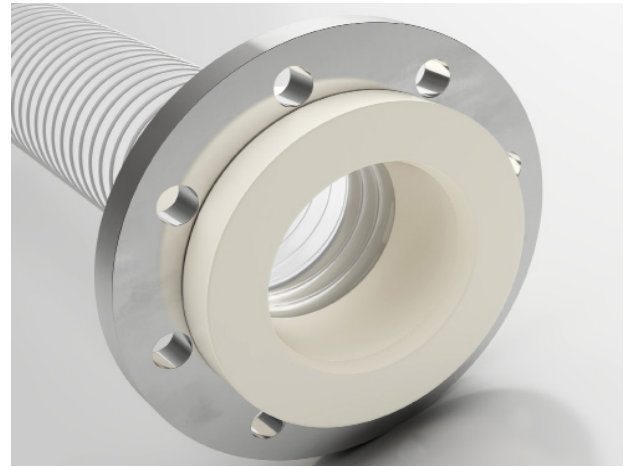
- cast-on plastic flange for all Master-PUR Food hose types

### Properties

- lightweight
- connection option without adjustable constriction of the cross-section
- PU-sprue: approved for direct contact with food-stuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits)
- high tension-proof
- simple mounting
- shock-proof
- abrasion, microbe and hydrolysis resistant
- Pressure range PN 10/16

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN flange	pipe external dimension	DN hose	hole circle	weight/piece	Da: Outer Ø Cast part	total length	old article no.	new article no.
	mm		mm	kg	mm	mm		
50	57	50	125	2.24	75	66	572-050-501	005503
50	60.3	50	125	2.24	75	66	572-050-502	005504
65	76.1	65	145	2.8	90	76	572-065-501	005516
65	76.1	70	145	2.75	90	76	572-070-501	/
80	88.9	75	160	3.39	105	76	572-075-501	001982
80	88.9	80	160	3.34	105	76	572-080-501	005430
100	108	100	180	3.79	131	86	572-100-501	005618
100	114.3	100	180	3.79	131	86	572-100-502	001986
125	133	120	210	4.97	156	92	572-120-501	/
125	139.7	120	210	4.97	156	92	572-120-502	/
125	133	125	210	4.86	156	92	572-125-501	001987
125	139.7	125	210	4.86	156	92	572-125-502	/
150	159	140	240	6.17	184	98	572-140-501	/
150	159	150	240	5.9	184	98	572-150-501	005464
150	168.3	150	240	5.9	184	98	572-150-502	/
150	177.8	160	240	5.61	184	98	572-160-501	001989

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.

## Combiflex PU Threaded Sockets

in acc. with DIN ISO 228

### Material

1 abrasion resistant polyurethane

### Applications

- screwable threaded connectors for Master-PUR L / H / HX

### Properties

- lightweight
- high tension-proof and primarily water-tight connection
- reusable and exchangeable
- simple mounting
- abrasion-resistant
- microbe and hydrolysis-resistant
- shock-proof

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN Hose	thread size	length	weight/ piece	for Master Pur type	old article no.	new article no.
	inches	mm	kg			
50	2	83	0.16	L	524-050-107	001457
65	2.5	94	0.23	L	524-065-107	001458
75	3	102	0.26	L	524-075-107	001459
100	4	124	0.53	L	524-100-107	001460
125	5	100	0.65	L	524-125-107	/
150	6	109	0.95	L	524-150-107	001461
50	2	83	0.16	H	525-050-107	001462
65	2.5	94	0.23	H	525-065-107	001463
75	3	102	0.26	H	525-075-107	001464
100	4	124	0.53	H	525-100-107	001465
125	5	100	0.65	H	525-125-107	001466
150	6	109	0.95	H	525-150-107	001467
50	2	83	0.16	HX	526-050-107	001468
65	2	83	0.16	HX	526-065-107	001470
75	2.5	94	0.23	HX	526-075-107	001471
100	2.5	94	0.23	HX	526-100-107	001472
125	3	102	0.26	HX	526-125-107	001474
150	3	102	0.26	HX	526-150-107	001475
50	4	124	0.53	Performance	526-050-P07	006943
65	4	124	0.53	Performance	526-065-P07	/
75	5	100	0.65	Performance	526-075-P07	/
100	5	100	0.65	Performance	526-100-P07	001473
125	6	109	0.95	Performance	526-125-P07	/
150	6	109	0.95	Performance	526-150-P07	/

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## Combiflex PU Threaded Sockets Food

in acc. with DIN ISO 228

### Material

- 1 food-grade polyurethane acc.to EU 10/2011 and BfR XXXIX
- 2 colour: white

### Applications

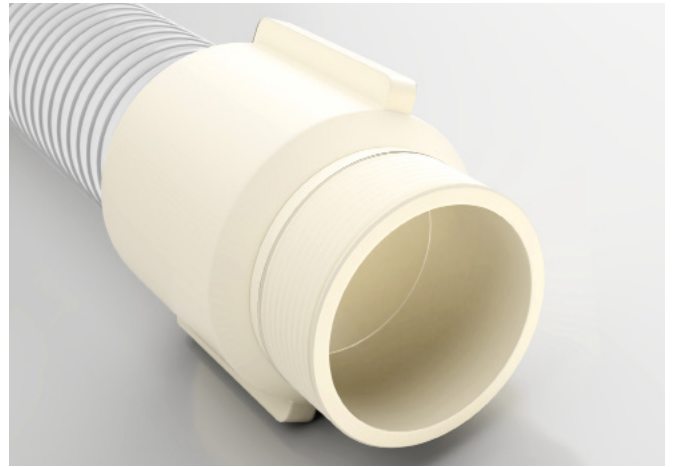
- cast-on threaded connectors for all Master-PUR Food hose types

### Properties

- lightweight
- PU-sprue: approved for direct contact with food-stuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits)
- simple mounting
- abrasion-resistant
- microbe and hydrolysis-resistant
- shock-proof

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN Hose	thread size		length	weight/ piece	old article no.	new article no.
	inches	mm				
50	2	83	0.15	527-050-510	005397	
65	2,5	94	0.22	527-065-510	005408	
75	3	102	0.25	527-075-510	/	
100	4	124	0.51	527-100-510	005588	
125	5	100	0.6	527-125-510	001480	
150	6	109	0.9	527-150-510	005462	

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.

## Combiflex PU Cuff EL

PU End Cuff for Master-PUR Hoses, electroconductive

### Material

1 polyurethane, electroconductive  $R_o < 10^4$  Ohm

### Applications

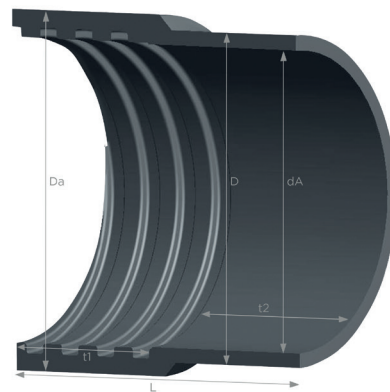
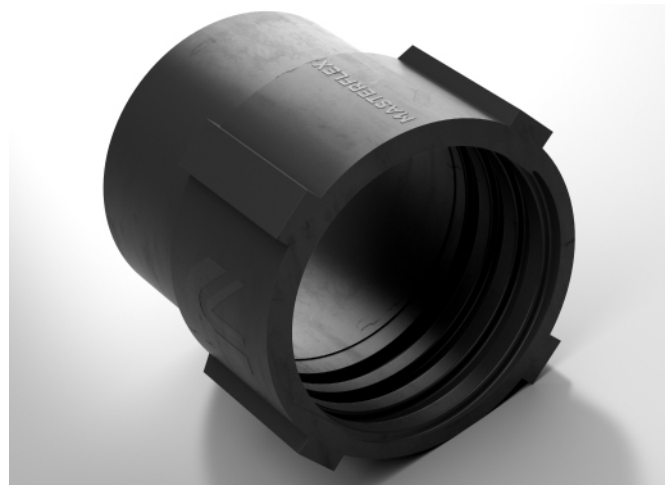
- Suction and blower units
- Conveyance units
- Industrial vacuum cleaners
- Special screw cuff for Master-PUR L/H and Master-PVC L/H hoses

### Properties

- dimensionally stable
- easy to install
- flexible at cold temperatures
- surface resistance  $< 10^4$  Ohm
- abrasion-resistant
- shock-proof

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN hose	dA Connection Size	D: Outer-Ø Clamp Range	t1: Hose Screwing Depth	t2: Fitting Insertion Depth	for Master PUR / PVC Hose Types	total length	Weight/Piece	new article no.
	mm	mm	mm	mm	mm	mm	kg	
32	32.7	39	32.9	38.4	L / H	71.3	0.05	007730
38	38.8	45	37.9	43.6	L / H	81.5	0.07	007731
40	40.9	48	42	43.1	L / H	85.1	0.07	007732
50	51.2	59	43	48.5	L / H	91.5	0.11	007733
60	60.8	68.9	47.5	42.5	L / H	90	0.14	007734
65	66.4	74	50.8	51	L / H	101.8	0.18	007735
70	70.9	78	48.2	53.6	L / H	101.8	0.18	007736
75	77	85	48.2	53.6	L / H	101.8	0.18	007737
80	81.7	88	53.2	58.7	L / H	111.9	0.19	007738
100	102.2	112	58.3	63.8	L / H	122.1	0.36	007739

All data refers to a medium and ambient temperature of +20 °C.  
 \* Available on request  
 Subject to technical changes and colour deviations.



## Combiflex PU Cuff

### PU End Cuff for Master-PUR Hoses

#### Material

1 highly abrasion resistant polyurethane

#### Applications

- screwable special coupling for all Master-PUR L and Master-PUR H hose types

#### Properties

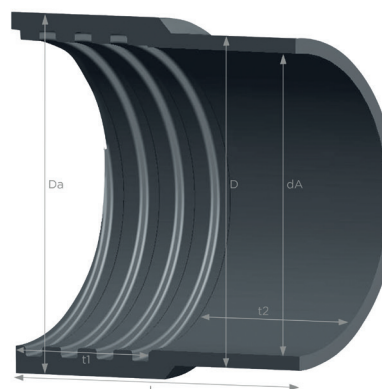
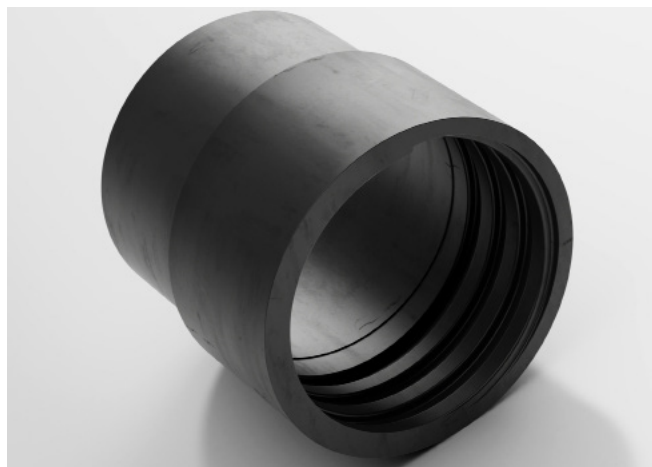
- abrasion and microbe-resistant
- flexible at cold temperatures
- lightweight
- high tension-proof
- reusable and exchangeable
- simple mounting
- shock-proof
- permanently anti-static, surface resistance  $R_o < 10^9$ , acc. to DIN IEC 60 167

#### Temperature Range

- -40°C to +90°C
- peaks to +125°C

#### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN hose	dA Connection Size	total length	weight/ piece	D: outer-Ø clamp range"	t1: hose screwing depth	t2: fitting insertion depth	for Master Pur hose type	old article no.	new article no.
	mm	mm	kg	mm	mm				
120	121	130	0.49	132	62.5	62.5	L	540-120-107	001748
125	128	130	0.53	139	62.5	62.5	L	540-125-107	001749
140	141	145	0.6	153	70	70	L	540-140-107	001750
150	153.4	145	0.81	165	70	70	L	540-150-107	001751
160	161	145	0.8	173	70	70	L	540-160-107	001752
180	181	160	1.1	194	77.5	77.5	L	540-180-107	001753
200	204.7	160	1.2	218	77.5	77.5	L	540-200-107	001754
250	251.4	175	1.73	266	85	85	L	540-250-107	001755
300	301.5	205	2.5	318	100	100	L	540-300-107	001756
120	121	130	0.49	132	62.5	62.5	H	541-120-107	001766
125	128	130	0.53	139	62.5	62.5	H	541-125-107	001767
140	141	145	0.6	153	70	70	H	541-140-107	001768
150	153.4	145	0.81	165	70	70	H	541-150-107	001769
160	161	145	0.8	173	70	70	H	541-160-107	001770
180	181	160	1.1	194	77.5	77.5	H	541-180-107	001771
200	204.7	160	1.2	218	77.5	77.5	H	541-200-107	001772
250	251.4	175	1.73	266	85	85	H	541-250-107	001773
300	301.5	205	2.5	318	100	100	H	541-300-107	001774
300	301.5	205	2.5	318	100	100	H	541-300-107	1774

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex PU Cuff V

PU End Cuff for Master-PUR Hoses on pipe connection acc.to DIN 2448/DIN 2458

### Material

1 highly abrasion resistant polyurethane

### Applications

- screwable special coupling for all Master-PUR L and Master-PUR H hose types

### Properties

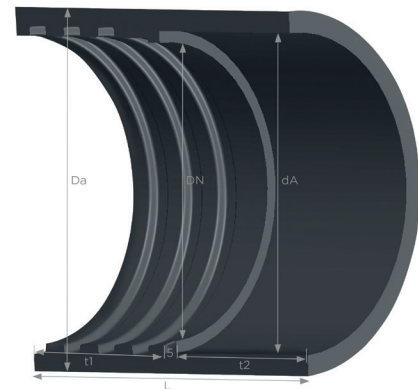
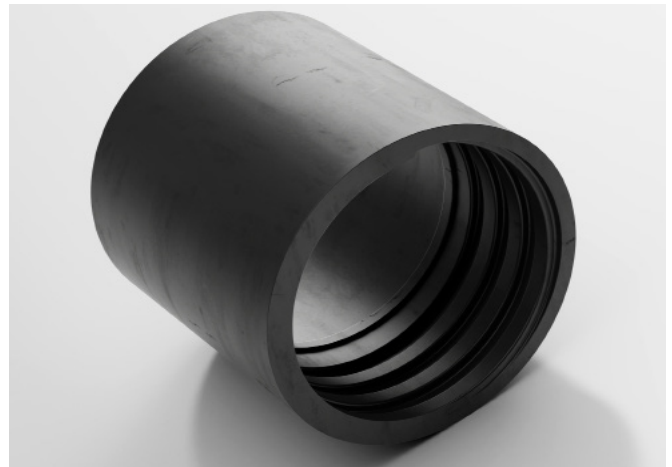
- abrasion and microbe-resistant
- flexible at cold temperatures
- lightweight
- connection option without adjustable constriction of the cross-section
- high tension-proof
- reusable and exchangeable
- simple mounting
- shock-proof
- permanently anti-static, surface resistance  $R_o < 10^9$ , acc. to DIN IEC 60 167

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- available on request in permanently mounted version for watertight, tensile strengthened connections, other DN sizes, coloured.



DN	dA pipe size	total length	weight/piece	type	old article no.	new article no.
	mm	mm	mm	mm	mm	mm
32	33,0-42,4	70	ca. 0,05	L	550-032-xxx	001779 - 001783
38	39,0-48,3	80	ca. 0,08	L	550-038-xxx	001784 - 001787
50	52,0-61,0	90	ca. 0,12	L	550-050-xxx	001788 - 001794
65	66,0-76,3	100	ca. 0,15-0,16	L	550-065-xxx	001795 - 001796
70	71,0-81,5	100	ca. 0,18-0,19	L	550-070-xxx	001797
75	78,0-87,5	100	ca. 0,20-0,21	L	550-075-xxx	001798
80	82,0-91,6	110	ca. 0,22-0,24	L	550-080-xxx	001799 - 001803
100	103,0-114,3	120	ca. 0,33-0,36	L	550-100-xxx	001804 - 001808
120	122,0-133,0	130	ca. 0,48-0,52	L	550-120-xxx	/
125	129,0-139,7	130	ca. 0,51-0,55	L	550-125-xxx	001809 - 001812
140	142,0-152,6	145	ca. 0,58-0,62	L	550-140-xxx	/
150	155,0-164,8	145	ca. 0,67-0,71	L	550-150-xxx	/
160	162,0-173,0	145	ca. 0,82-0,86	L	550-160-xxx	001813
180	182,0-193,7	160	ca. 0,98-1,02	L	550-180-xxx	/
200	206,0-219,1	160	ca. 1,15-1,20	L	550-200-xxx	001814
250	253,0-273,0	175	ca. 1,94-2,00	L	550-250-xxx	001815
300	303,0-324,0	205	ca. 3,40-3,50	L	550-300-xxx	/
32	33,0-42,4	70	ca. 0,05	H	551-032-xxx	001817 - 001820
38	39,0-48,3	80	ca. 0,08	H	551-038-xxx	001821 - 001824
50	52,0-61,0	90	ca. 0,12	H	551-050-xxx	001826 - 001830
65	66,0-76,3	100	ca. 0,15-0,16	H	551-065-xxx	001831 - 001832
70	71,0-81,5	100	ca. 0,18-0,19	H	551-070-xxx	001833 - 001835
75	78,0-87,5	100	ca. 0,20-0,21	H	551-075-xxx	/
80	82,0-91,6	110	ca. 0,22-0,24	H	551-080-xxx	001836 - 001839
100	103,0-114,3	120	ca. 0,33-0,36	H	551-100-xxx	001840 - 001844
120	122,0-133,0	130	ca. 0,48-0,52	H	551-120-xxx	/
125	129,0-139,7	130	ca. 0,51-0,55	H	551-125-xxx	001845
140	142,0-152,6	145	ca. 0,58-0,62	H	551-140-xxx	/
150	155,0-164,8	145	ca. 0,67-0,71	H	551-150-xxx	001846 - 001848
160	162,0-173,0	145	ca. 0,82-0,86	H	551-160-xxx	001849 - 001852
180	182,0-193,7	160	ca. 0,98-1,02	H	551-180-xxx	001853
200	206,0-219,1	160	ca. 1,15-1,20	H	551-200-xxx	001854
250	253,0-273,0	175	ca. 1,94-2,00	H	551-250-xxx	/
300	303,0-324,0	205	ca. 3,40-3,50	H	551-300-xxx	/

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## PU Hose Sleeve

Special sleeve for use with clamp collars

### Material

1 abrasion resistant polyurethane

### Applications

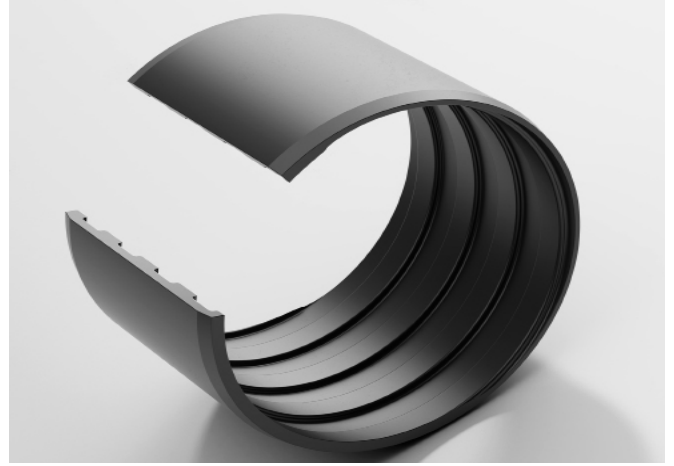
- reusable special sleeve for connecting spiral hoses from Masterflex SE hose range

### Properties

- lightweight
- microbe-resistant
- shock-proof

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN hose	Da: outer Ø screw range	total length	for Master Pur hose type	old article no.	new article no.
	mm	mm			
38	59	25	L	500-038-107-L	001331
51	67	37	L	500-050-107-L	/
65	87	43	L	500-065-107-L	001342
75	101	43	L	500-075-107-L	/
80	102	43	L	500-080-107-L	001351
102	118	80	L	500-100-107-L	001355
127	147	115	L	500-125-107-L	001360
152	173	133	L	500-150-107-L	001364
204	239	180	L	500-200-107-L	/
38	59	25	H	500-038-107-H	001329
51	67	37	H	500-050-107-H	001335
65	87	43	H	500-065-107-H	001340
75	101	43	H	500-075-107-H	001344
80	101	43	H	500-080-107-H	001348
102	118	80	H	500-100-107-H	001352
127	147	115	H	500-125-107-H	/
152	173	133	H	500-150-107-H	/
204	239	180	H	500-200-107-H	/
51	71	37	HX	500-050-107-HX	001336
65	87	43	HX	500-065-107-HX	/
75	101	43	HX	500-075-107-HX	001345
80	102	43	HX	500-080-107-HX	001349
102	130	80	HX	500-100-107-HX	001353
127	154	115	HX	500-127-107-HX	/
152	180	133	HX	500-150-107-HX	/
204	239	180	HX	500-200-107-HX	001367
38	60	25	Inline	500-038-107-I04	001330
40	61	25	Inline	500-040-107-I04	001333
51	70	37	Inline	500-050-107-I04	001337
65	86	43	Inline	500-065-107-I04	001341
76	101	43	Inline	500-076-107-I04	/
80	101	43	Inline	500-080-107-I04	001350
102	128	80	Inline	500-102-107-I04	/
127	154	115	Inline	500-127-107-I04	/
152	180	133	Inline	500-150-107-I04	001363
#204	239	180	Inline	500-200-107-I04	001368
38	60	25	Performance	500-038-107-P	001332
40	61	25	Performance	500-040-107-P	001334
51	70	37	Performance	500-051-107-P	001339
65	86	43	Performance	500-065-107-P	001343
76	101	43	Performance	500-076-107-P	001347
102	128	80	Performance	500-102-107-P	001356
127	154	115	Performance	500-127-107-P	001361
152	180	133	Performance	500-152-107-P	001365

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex PU Hose Connector

Screwable PU hose connector for Master-PUR L and H hoses

### Material

1 abrasion resistant polyurethane

### Applications

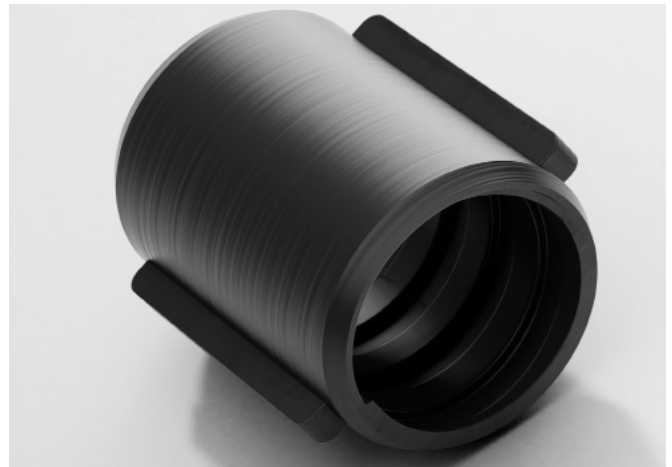
- screwable hose connector for the hose types Master-PUR L / H / HX

### Properties

- lightweight
- high tension-proof and primarily water-tight connection
- reusable and exchangeable
- simple mounting
- abrasion-resistant
- microbe and hydrolysis-resistant
- shock-proof

### Temperature Range

- -40°C to +90°C
- peaks to +125°C



DN Hose	total length	weight/ piece	old article no.	new article no.
	mm	kg		
25	65	0.09	580-025-107	002020
32	70	0.1	580-032-107	002021
38	75	0.13	580-038-107	002022
50	90	0.2	580-050-107	002023
65	100	0.23	580-065-107	002025
80	115	0.39	580-080-107	002028
100	125	0.58	580-100-107	002029

All data refers to a medium and ambient temperature of +20 °C.

\* Available on request

Subject to technical changes and colour deviations.

## Cuff for Master-PVC-Flex

Special cuff for Master-PVC Flex hoses

### Material

- 1 colour: black
- 2 wall: soft PVC

### Applications

- industrial vacuum cleaners
- suction and blower units
- conveyance units
- special screw cuff for Master-PVC Flex hoses

### Properties

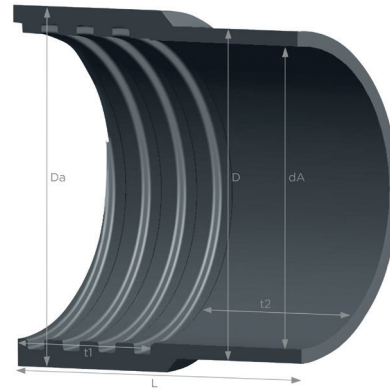
- dimensionally stable
- easy to install
- light

### Temperature Range

- 0°C to +70°C

### Available on request

- available on request in other sizes



DN hose	dA: outer Ø pipe	D: outer Ø clamp range	Da: outer Ø screw range	t1: hose screw depth	t2: fitting insertion depth	total length	weight/ piece	old article no.	new article no.
	mm	mm	mm	mm	mm	mm	kg		
25	25	32	38	44	54	98	0.05	652-025-107	002536
32	32	40	43	44	54	98	0.06	652-032-107	002537
38	38	47	49	48	50	98	0.08	652-038-107	002538
44	44	53	59	48	50	98	0.09	652-044-107	002540
51	51	59	63	48	50	98	0.1	652-051-107	002541
63	63	70	73	48	50	98	0.12	652-063-107	002543
70	70	78	86	54	44	98	0.16	652-070-107	002544
76	76	84	93	54	44	98	0.18	652-076-107	002545
102	100	108	118	65	48	113	0.2	652-102-107	002547

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



## Cuff for Master-VAC

Special Cuff for connecting Master-VAC hoses, electroconductive

### Material

1 colour: black

2 wall: electroconductive polyethylene

### Applications

- industrial vacuum cleaners
- suction and blower units
- conveyance units

### Properties

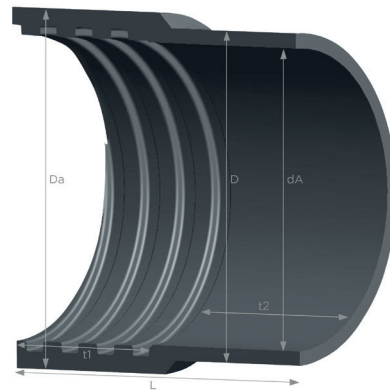
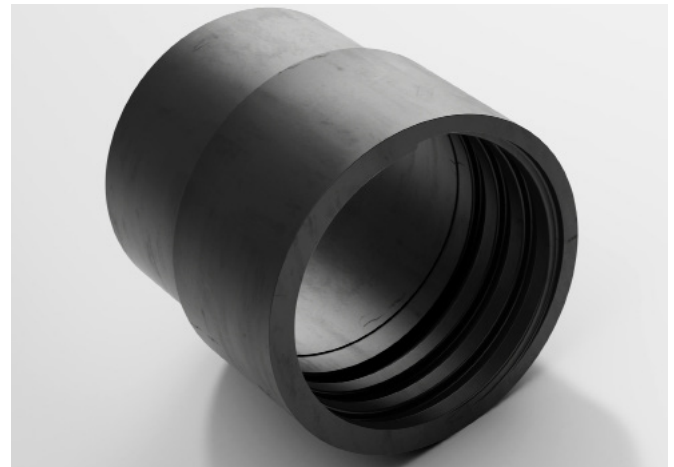
- dimensionally stable
- easy to install
- surface resistance <  $10^6$  Ohm
- light

### Temperature Range

- 0°C to +70°C

### Available on request

- available on request in other sizes



DN hose	dA: outer Ø pipe	D: outer Ø clamp range	Da: outer Ø screw range	t1: hose screw depth	t2: fitting insertion depth	total length	weight/ piece	old article no.	new article no.
	mm	mm	mm	mm	mm	mm	kg		
32	32	37.5 - 38.5	44.5	38	55.5	93.5	0.035	651-032-308	002531
38	38	44.5 - 45.75	52	38	55.5	93.5	0.046	651-038-308	002532
45	45	50 - 51	58.5	38	55.5	93.5	0.049	651-045-308	002533
50	50	57 - 58.5	66	38	55.5	93.5	0.59	651-050-308	002534

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.





# 12

Installation & Connections  
Metal Connectors

Connection solutions for almost any application, from standard connectors through to customised customer-specific connections



## Cone Flange with Metal Sockets

in acc. with DIN 3016

### Material

1 steel (St 37)

### Applications

- for quick connectors from hoses to
- reductions with cone flanges
- combiflex PU cone flanges
- Steel piping with cone flanges

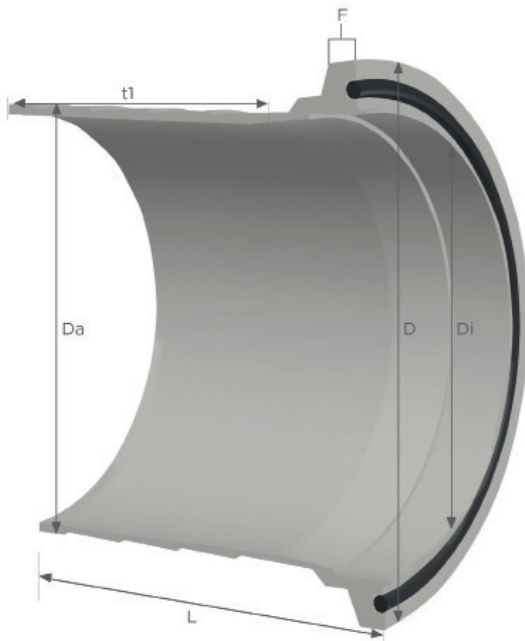
### Properties

- watertight
- good flow characteristics
- easy to install when using quick-fit clamp connectors
- cone flange in accordance with DIN 3016
- connection options to pipes and piping acc. to DIN 2448 and DIN 2458



### Available on request

- in stainless steel.



DN	total length	weight/ piece	old article no.	new article no.
	mm	kg		
50	104	0.54	641-050-10V	002411
50	104	0.54	641-050-10M	002410
65	108	0.68	641-065-10V	002414
65	108	0.68	641-065-10M	006094
80	108	0.9	641-080-10V	002418
80	108	0.9	641-080-10M	002417
100	128	1.41	641-100-10V	002422
100	128	1.41	641-100-10M	002421
125	133	2.02	641-125-10V	002426
125	133	2.02	641-125-10M	002425
150	133	3.07	641-150-10V	002430
150	133	3.07	641-150-10M	002429
160	133	3.47	641-160-10V	002434
160	133	3.47	641-160-10M	002433
180	133	4.09	641-180-10V	002436
180	133	4.09	641-180-10M	002435
200	133	5.09	641-200-10V	002438
200	133	5.09	641-200-10M	002437
250	133	6.08	641-250-10V	002441
250	133	6.08	641-250-10M	002440

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

DN hose	D: outer-Ø flange	Da: outer Ø clamp range	Di: inner Ø	L: total length	t1: socket length	F: flange height
	mm	mm	mm	mm	mm	mm
50	78	50	54.5	104	84	2.5
65	91	65	70.3	108	84	5.1
80	104	80	82.5	108	84	5.1
100	129	100	107.1	128	104	5.1
125	161	125	131.7	133	104	8.6
150	190	150	159.3	133	104	8.6
160	200	160	167.8	133	104	8.6
180	216	180	182.9	133	104	8.6
200	242	200	207.3	133	104	8.6
250	295	250	260.4	133	104	8.6

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



## Metal Cone Flange

in acc. with DIN 3016

### Material

1 steel (St 37)

### Applications

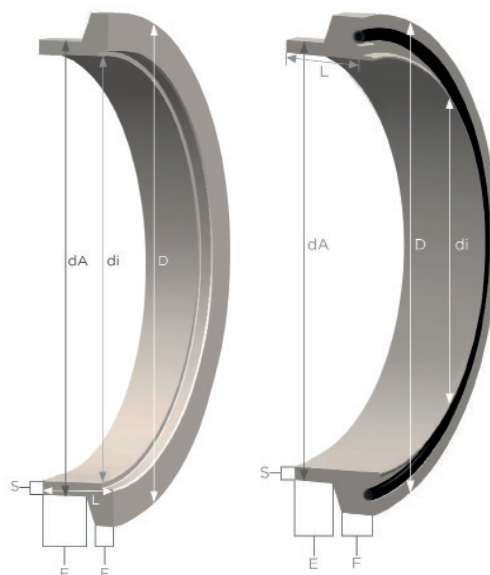
- machines
- for quick connectors from Combiflex PU cone flange to

### Properties

- watertight
- good flow characteristics
- easy to install when using quick-fit clamp connectors
- versatile applications in connection with steel parts, e.g. pipe bends, reducers and branch connections
- cone flange in accordance with DIN 3016
- connection options to pipes and piping acc. to DIN 2448 and DIN 2458

### Available on request

- in stainless steel and as screw element with internal or external thread.



DN Hose	pipe external dimension	wall thickness welding end	D: outer Ø flange	dA: pipe outer Ø	S: wall thickness	di: Inner Ø flange.	E: socket length	old article no.	new article no.
	mm	mm	mm	mm	mm	mm	mm		
50	15	0.12	78	60.3	2.9	54.5	9.5	640-050-10V	002360
50	15	0.12	78	60.3	2.9	54.5	9.5	640-050-10M	002359
65	20	0.19	91	76.1	2.9	70.3	11.9	640-065-10V	002364
65	20	0.19	91	76.1	2.9	70.3	11.9	640-065-10M	002363
80	20	0.23	104	88.9	3.2	82.5	11.9	640-080-10V	002371
80	20	0.23	104	88.9	3.2	82.5	11.9	640-080-10M	002370
100	20	0.31	129	114.3	3.6	107.1	11.9	640-100-10V	002376
100	20	0.31	129	114.3	3.6	107.1	11.9	640-100-10M	002375
125	25	0.71	161	139.7	4	131.7	13.4	640-125-10V	002381
125	25	0.71	161	139.7	4	131.7	13.4	640-125-10M	002380
150	25	0.9	190	168.3	4.5	159.3	13.4	640-150-10V	002388
150	25	0.9	190	168.3	4.5	159.3	13.4	640-150-10M	002387
160	25	1.04	200	177.8	5	167.8	13.4	640-160-10V	002393
160	25	1.04	200	177.8	5	167.8	13.4	640-160-10M	002392
180	25	1.17	216	193.7	5.4	182.9	13.4	640-180-10V	002399
180	25	1.17	216	193.7	5.4	182.9	13.4	640-180-10M	002398
200	25	1.4	242	219.1	5.9	207.3	13.4	640-200-10V	002403
200	25	1.4	242	219.1	5.9	207.3	13.4	640-200-10M	002402
250	25	1.75	295	273	6.3	260.4	13.4	640-250-10V	002407
250	25	1.75	295	273	6.3	260.4	13.4	640-250-10M	002406

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Metal Threaded Sockets

with outer thread acc.to DIN ISO 228 - cast-on

### Material

- 1 colour: black
- 2 metal threaded sockets: aluminium
- 3 PU-sprue: abrasion resistant polyurethane

### Applications

- for application for connectors to machines and piping
- for mounting of valves for solid, liquid and gaseous media
- Cast-on metal screw connectors with external thread acc. to DIN ISO 228 for all Master-PUR hoses

### Properties

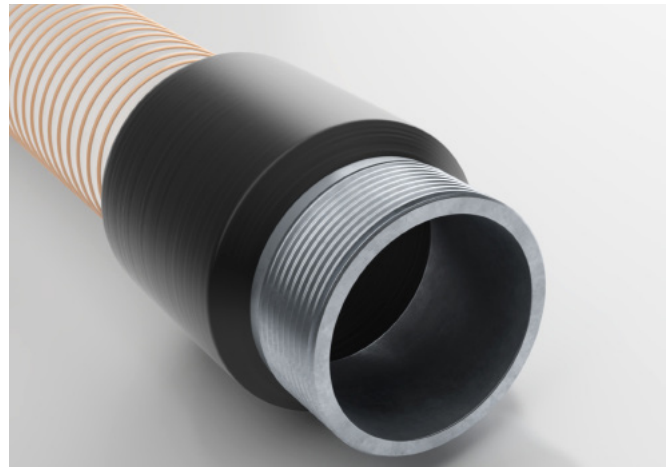
- watertight
- rust-free
- good flow characteristics
- odourless/tasteless
- good chemical resistance
- dissipation of electrostatic charges via grounding connection between hose and valve/fitting
- high tensile strength

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- in other sizes and materials.



DN	connector thread size	outer Ø gate	weight/ piece incl. gate	old article no. threaded socket	new article no. threaded socket	old article no. gate	new article no. gate
	inches	mm	kg	mm	mm		
25	1	42	0.09	648-025-701	/	528-025-107	/
32	1 1/4	52	0.16	648-032-701	/	528-032-107	/
38	1 1/2	60	0.21	648-038-701	/	528-038-107	/
40	1 1/2	60	0.21	648-040-701	/	528-040-107	/
50	2	71	0.29	648-050-701	005394	528-050-107	/
65	2 1/2	90	0.46	648-065-701	/	528-065-107	/
75	3	106	0.78	648-075-701	/	528-075-107	/
80	3 1/2	106	0.6	648-080-701	/	528-080-107	/
100	4	130	1.12	648-100-701	005589	528-100-107	005443
125	5	155	1.39	648-125-701	/	528-125-107	/
150	6	184	1.74	648-150-701	/	528-150-107	/

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Clamp Connection Clamps

pre-fixed acc.to DIN 32676

### Material

- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX
- 3 clamp collars: stainless steel
- 4 ring seal: NBR, colour: white

### Applications

- Fitting for solid, liquid and gaseous media in food, pharmaceuticals and chemicals industries
- Cast-on clamp connector acc. to DIN 32676 series A for all Master-PUR Food hoses

### Properties

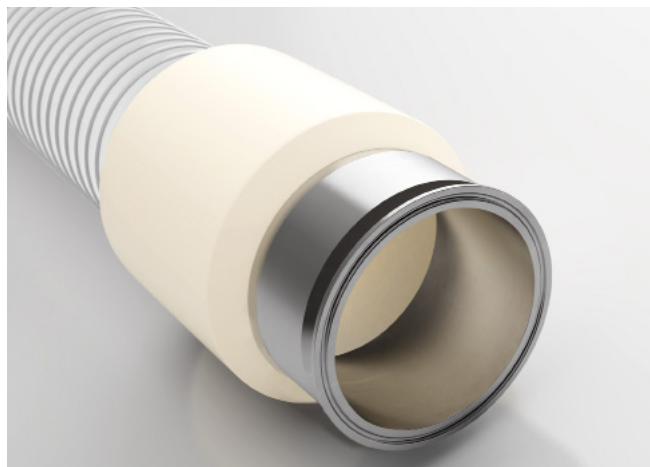
- watertight
- rust-free
- PU-sprue: approved for direct contact with foodstuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits), acc. to certificate
- good flow characteristics
- clamp flange end: materials adhere to food-grade regulations DIN 32676
- odourless/tasteless
- good chemical resistance
- dissipation of electrostatic charges via grounding connection between hose and valve/fitting
- high tensile strength

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- aseptic version acc. to DIN 11863-3, as weld-on or pressed version, made from other materials



DN	DS	outer Ø gate	weight/ piece incl. gate	old article no. threaded socket	new article no. threaded socket	old article no. gate	new article no. gate
	inches	mm	kg	mm	mm		
25	1	42	0.09	648-025-803	/	528-025-510	/
32	1 1/4	52	0.16	648-032-803	005496	528-032-510	005376
38	1 1/2	60	0.21	648-038-803	005379	528-038-510	005380
40	1 1/2	60	0.21	648-040-803	005385	528-040-510	005384
50	2	71	0.29	648-050-803	004611	528-050-510	005389
65	2 1/2	90	0.46	648-065-803	005412	528-065-510	005405
75	3	106	0.78	648-075-803	004613	528-075-510	005421
80	3 1/2	106	0.6	648-080-803	005428	528-080-510	005427
100	4	130	1.12	648-100-803	005444	528-100-510	005435
125	5	155	1.39	648-125-803	005542	528-125-510	005450
150	6	184	1.74	648-150-803	004617	528-150-510	005466

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Clamp Connection Hinged Clamp

for clamp Connections acc.to DIN 32676

### Material

1 stainless steel

### Applications

- Fitting for solid, liquid and gaseous media in food, pharmaceuticals and chemicals industries
- for application for connectors to machines and piping

### Properties

- materials adhere to the food-grade regulations DIN 32676 series A
- provides watertight connections
- odourless/tasteless
- good chemical resistance
- can be steam-sterilized
- high tensile strength



### Available on request

- in other sizes and materials.

DN	weight/piece	old article no.	new article no.
	kg		
32	0.23	647-032-804	/
40	0.23	647-040-804	002463
50	0.31	647-050-804	002466
65	0.31	647-065-804	002470
80	0.41	647-080-804	002474
100	0.41	647-100-804	002478
125	1.17	647-125-804	002481
150	1.34	647-150-804	/

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Clamp Ring Seal

for clamp connections acc.to DIN 32676

### Material

1 NBR, Colour. white

### Applications

- for application for connectors to machines and piping
- Sealing rings for solid, liquid and gaseous media in food, pharmaceutical and chemicals industries
- Sealing rings for hose brackets with clamp connector acc. to DIN 32676 series A

### Properties

- materials adhere to the food-grade regulations DIN 32676 series A
- provides watertight connections
- odourless/tasteless
- good chemical resistance
- high tensile strength

### Temperature Range

- -25°C to +120°C
- peaks to +150°C

### Available on request

- in other sizes and materials.



DN	inner Ø D	outer Ø Da	old article no. gate	new article no. gate
	mm	mm		
32	32.2	52.7	647-032-806	002462
40	38.2	52.7	647-040-806	002465
50	50.2	66.2	647-050-806	002468
65	66.2	93.2	647-065-806	002472
80	81.2	108.2	647-080-806	002476
100	100.2	121.2	647-100-806	002480
125	125.2	155	647-125-806	002483
150	150.2	183	647-150-806	002485

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



## Combiflex VA Threaded Sockets Food

with outer thread, acc.to DIN ISO 228 - cast-on

### Material

- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX
- 3 VA threaded sockets

### Applications

- for application for connectors to machines and piping
- for mounting of valves for solid, liquid and gaseous media
- Cast-on VA (stainless steel) screw connectors with external thread acc. to DIN ISO 228 for all Master-PUR-

### Properties

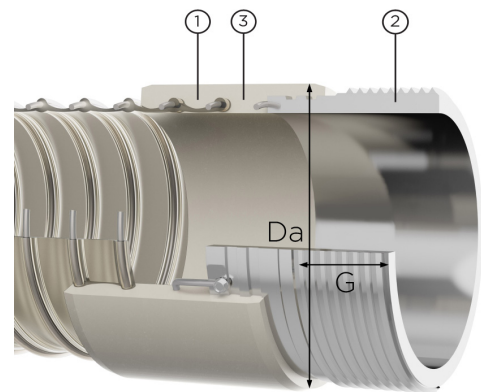
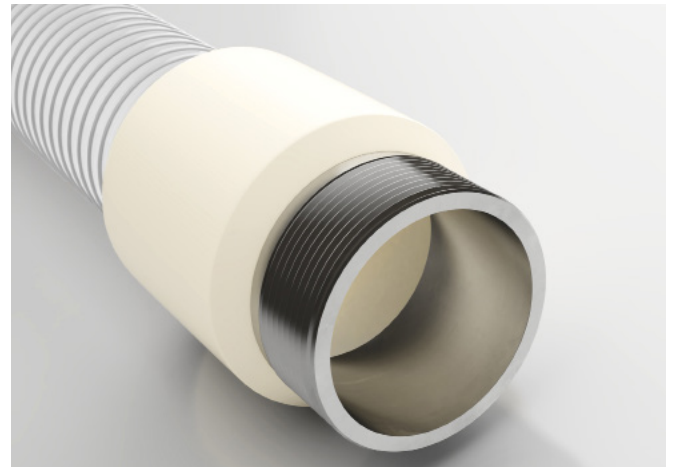
- watertight
- rust-free
- PU-sprue: approved for direct contact with foodstuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits), acc. to certificate
- good flow characteristics
- odourless/tasteless
- good chemical resistance
- dissipation of electrostatic charges via grounding connection between hose and valve/fitting
- high tensile strength

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- aseptic version acc. to DIN 11864-1, as weld-on version, pressed, other materials



DN	connector thread size	outer Ø gate	weight/ piece incl. gate	old article no. gate	new article no. gate	old article no. threaded socket	new article no. threaded socket
	inches	mm	kg	mm			
25	1	42	0.19	528-025-510	005493	648-025-804	005494
32	1 1/4	52	0.34	528-032-510	005376	648-032-804	/
38	1 1/2	60	0.42	528-038-510	005380	648-038-804	005382
40	1 1/2	60	0.42	528-040-510	005384	648-040-804	/
50	2	71	0.55	528-050-510	005389	648-050-804	005401
65	2 1/2	90	0.82	528-065-510	005405	648-065-804	005518
75	3	106	1.34	528-075-510	005421	648-075-804	005526
80	3 1/2	106	0.96	528-080-510	005427	648-080-804	/
100	4	130	1.94	528-100-510	005435	648-100-804	005440
125	5	155	2.43	528-125-510	005450	648-125-804	/
150	6	184	2.98	528-150-510	005466	648-150-804	005556

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Dairy Fitting Threaded Hose Sockets

acc.to 11851 - cast-on/pre-fixed

### Material

- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX
- 3 threaded hose sockets acc.to DIN 11851: stainless steel
- 4 ring seal: NBR, colour: blue

### Applications

- Cast-on pipe screw connection acc. to DIN 11851 for Master-PUR Food hoses
- Fitting for solid, liquid and gaseous media in food, pharmaceuticals and chemicals industries

### Properties

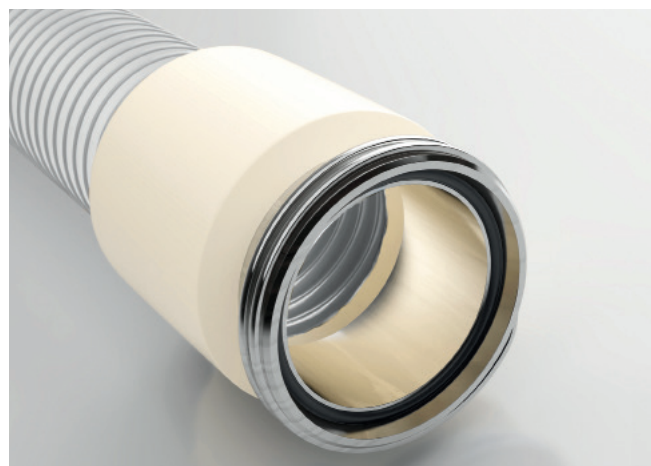
- watertight
- rust-free
- PU-sprue: approved for direct contact with foodstuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits), acc. to certificate
- good flow characteristics
- threaded supports: materials acc.to food industry regulations DIN 11851
- odourless/tasteless
- good chemical resistance
- dissipation of electrostatic charges via grounding connection between hose and valve/fitting
- high tensile strength

### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- in aseptic version acc. to DIN 11864-1, as weld-on version, pressed, other material



DN	access DS	thread (DG) acc. to DIN 405-1	weight/ piece incl. cast-on section	old article no. cast-on section	new article no. cast- on section	old article no. hose thread connection	new article no. hose thread connection	old article no. cone socket	new article no. cone socket
			kg						
32	32	RD 58x1/6	0.46	528-032-510	005376	648-032-801	005378	648-032-802	005377
38	40	RD 65x1/6	0.5	528-038-510	005380	648-038-801	/	648-038-802	005381
40	40	RD 65x1/6	0.58	528-040-510	005384	648-040-801	/	648-040-802	005498
50	50	RD 78x1/6	0.72	528-050-510	005389	648-050-801	005391	648-050-802	005392
65	65	RD 95x1/6	0.97	528-065-510	005405	648-065-801	005520	648-065-802	005404
75	80	RD 110x1/4	1.2	528-075-510	005421	648-075-801	/	648-075-802	005420
80	80	RD 110x1/4	1.3	528-080-510	005427	648-080-801	005528	648-080-802	005426
100	100	RD 130x1/4	2.1	528-100-510	005435	648-100-801	005446	648-100-802	005434
125	125	RD 160x1/4	2.63	528-125-510	005450	648-125-801	/	648-125-802	005449
150	150	RD 190x1/4	3.4	528-150-510	005466	648-150-801	/	648-150-802	005470

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Dairy Fitting Cone Sockets

with locknut acc.to DIN 11851 - cast-on/pre-fixed

### Material

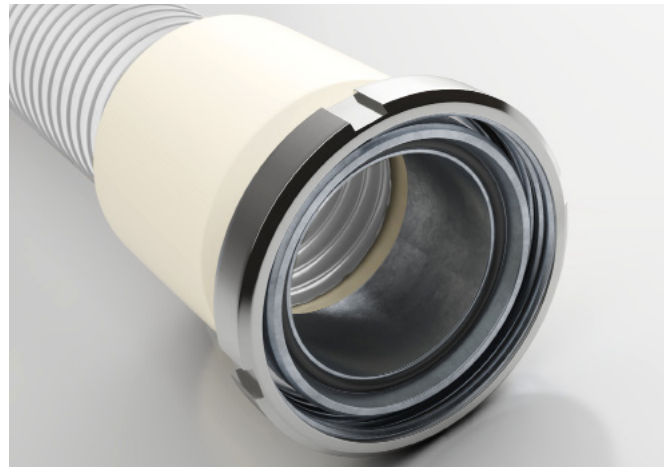
- 1 colour: white
- 2 collar: food-grade polyurethane acc. to EU directive 10/2011 and BfR XXXIX
- 3 locknut: stainless steel
- 3 conical hose sockets, stainless steel

### Applications

- Cast-on pipe screw connection acc. to DIN 11851 for Master-PUR Food hoses
- Fitting for solid, liquid and gaseous media in food, pharmaceuticals and chemicals industries

### Properties

- watertight
- rust-free
- PU-sprue: approved for direct contact with foodstuffs acc.to EU directives 10/2011, 1935/2004 (German Consumer Goods Board) and their latest amendments 1282/2011, 1183/2012, 202/2014 and 2015/174 suitable for dry, watery, acidic, fatty as well as alcoholic foodstuffs (excluding spirits), acc. to certificate
- good flow characteristics
- threaded supports: materials acc.to food industry regulations DIN 11851
- odourless/tasteless
- good chemical resistance
- dissipation of electrostatic charges via grounding connection between hose and valve/fitting
- high tensile strength



### Temperature Range

- -40°C to +90°C
- peaks to +125°C

### Available on request

- in aseptic version acc. to DIN 11864-1, as weld-on version, pressed, other materials

### Order-specific production

- in listed sizes for Master PUR Food hoses from DN 32 - DN 150

DN	access DS	thread (DG) acc. to DIN 405-1	weight/ piece incl. cast-on section	old article no. cast-on section	new article no. cast- on section	old article no. cone socket	new article no. cone socket	old article no. hose thread connection	new article no. hose thread connection
			kg						
32	32	RD 58x1/6"	0,64	528-032-510	005376	648-032-802	005377	648-032-801	005378
38	40	RD 65x1/6"	0,76	528-038-510	005380	648-038-802	005381	648-038-801	/
40	40	RD 65x1/6"	0,81	528-040-510	005384	648-040-802	005498	648-040-801	/
50	50	RD 78x1/6"	1,01	528-050-510	005389	648-050-802	005392	648-050-801	005391
65	65	RD 95x1/6"	1,49	528-065-510	005405	648-065-802	005404	648-065-801	005520
75	80	RD 110x1/4"	1,73	528-075-510	005421	648-075-802	005420	648-075-801	/
80	80	RD 110x1/4"	1,85	528-080-510	005427	648-080-802	005426	648-080-801	005528
100	100	RD 130x1/4"	2,9	528-100-510	005435	648-100-802	005434	648-100-801	005446
125	125	RD 160x1/4"	3,15	528-125-510	005450	648-125-802	005449	648-125-801	/
150	150	RD 190x1/4"	3,4	528-150-510	005466	648-150-802	005470	648-150-801	/

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Combiflex Dairy Fitting Ring Seal

for threaded sockets acc.to DIN 11851

### Material

1 NBR, colour: white

### Applications

- Chemicals industry
- for application for connectors to machines and piping
- Sealing rings for screw connectors acc. to DIN 11851
- Sealing rings for solid, liquid and gaseous media in food, pharmaceutical and chemicals industries
- Pharmaceutical industry
- Food industry

### Properties

- materials adhere to the food-grade regulations DIN 11851
- odourless/tasteless
- good chemical resistance
- can be steam-sterilized
- high tensile strength

### Temperature Range

- -25°C to +120°C
- peaks to +150°C



DS	inner Ø D	thickness S	old article no. gate	new article no. gate
	mm	mm		
32	36	5	647-032-805	002461
40	42	5	647-040-805	002464
50	54	5	647-050-805	002467
65	71	5	647-065-805	002471
80	85	5	647-080-805	002475
100	104	6	647-100-805	002479
125	130	7	647-125-805	002482
150	155	7	647-150-805	002484

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.

## Hose Connector

Sheet steel connectors for lightweight and medium-weight hoses

### Material

1 sheet steel, galvanised

### Applications

- Extension, coupling and connection of light to medium weight hoses

### Properties

easy to install  
light  
rust-protected

### Available on request

- in other sizes and materials.



DN	material thickness S	L1	L2	weight/piece	old article no.	new article no.
	mm	mm	mm	kg		
50	0.6	40	90	0.06	630-050-100	002222
55	0.6	40	90	0.06	630-055-100	002226
60	0.6	40	90	0.06	630-060-100	002227
65	0.6	40	90	0.07	630-065-100	002229
70	0.6	40	90	0.07	630-070-100	002230
75	0.6	40	90	0.08	630-075-100	002231
80	0.6	40	90	0.08	630-080-100	002232
90	0.6	40	90	0.09	630-090-100	002233
100	0.6	40	90	0.12	630-100-100	002234
110	0.6	40	90	0.13	630-110-100	002235
120	0.6	40	90	0.14	630-120-100	002237
125	0.6	40	90	0.15	630-125-100	002238
130	0.6	40	90	0.16	630-130-100	002239
140	0.6	40	90	0.17	630-140-100	002240
150	0.6	40	90	0.18	630-150-100	002241
160	0.6	40	90	0.2	630-160-100	002246
170	0.6	40	90	0.22	630-170-100	002248
175	0.6	40	90	0.23	630-175-100	002249
180	0.6	40	90	0.24	630-180-100	002250
200	0.6	40	90	0.26	630-200-100	002252
215	0.6	40	90	0.3	630-215-100	002254
225	0.6	40	90	0.35	630-225-100	002255
250	0.6	60	130	0.42	630-250-100	002257
275	0.6	60	130	0.49	630-275-100	002258
300	0.6	60	130	0.57	630-300-100	002260
315	0.7	60	130	0.66	630-315-100	002261
350	0.7	60	130	0.86	630-350-100	002262
400	0.7	80	170	1.15	630-400-100	002263
450	0.7	80	170	1.24	630-450-100	002264
500	0.7	80	170	1.33	630-500-100	002265
550	0.7	80	170	1.62	630-550-100	002266
600	0.7	80	170	1.91	630-600-100	002267
700	0.9	100	210	2.2	630-700-100	002268
800	0.9	100	210	2.55	630-800-100	002269
900	1	100	210	2.82	630-900-100	002270

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



## Hose Reducer, symmetrical

Reducer for lightweight and medium-weight hoses

### Material

1 sheet steel, galvanised

### Applications

- Extension, coupling and connection of light to medium weight hoses

### Properties

easy to install  
light

rust-protected

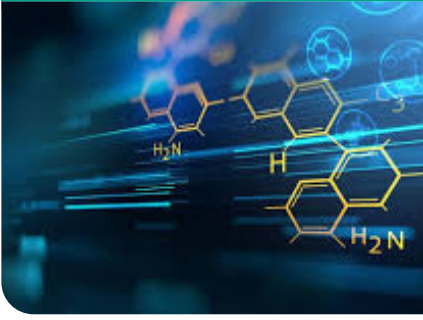
### Available on request

- in other sizes and materials.



DN1	DN2	material thickness S	L1	L2	weight/piece	old article no. gate	new article no. gate
		mm	mm	mm	kg		
80	50	0.63	50	55	0.2	632-080-050	002274
80	70	0.63	50	45	0.2	632-080-070	002277
100	70	0.63	50	70	0.2	632-100-070	002283
100	80	0.63	50	60	0.2	632-100-080	002284
125	80	0.63	50	95	0.3	632-125-080	002293
125	100	0.63	50	65	0.3	632-125-100	002294
150	80	0.63	50	125	0.4	632-150-080	002301
150	100	0.63	50	95	0.3	632-150-100	002302
150	125	0.63	50	65	0.3	632-150-125	002303
200	100	0.63	50	165	0.6	632-200-100	002306
200	125	0.63	50	135	0.6	632-200-125	002307
200	150	0.63	50	95	0.5	632-200-150	002308
250	125	0.63	50	200	1	632-250-125	002309
250	150	0.63	50	170	0.9	632-250-150	002310
250	200	0.63	50	100	0.8	632-250-200	002311
300	150	0.63	50	235	1.3	632-300-150	002312
300	200	0.63	50	165	1.2	632-300-200	002313
300	250	0.63	50	95	1	632-300-250	002314

All data refers to a medium and ambient temperature of +20 °C  
Subject to technical changes and colour deviations.



# 13

Chemical Resistance

Chemical resistance information  
guide for our entire product range



# Chemical Resistance

1 = excellent resistance    3 = medium resistance

2 = good resistance    x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
accumulator acid (sulphuric acid 30%)	x		x	1	1	1	1	1	2	1	1	
acetaldehyde	3	2	2	3	2	x	2 to 3	1	3	1	1	1
acetamide	x	x	2	2	1 to 2	x	1	1	1		1	1
acetic acid 10%	3	2	2	1	2	3	1	1	1	1	1	1
acetic acid 100% (conc.)	x	x	2 to 3	3	x	x	x	1	x	1	1	1
acetic acid 25%	x	3	2 to 3	1 to 2	2	x	1	1	1 to 2	1	1	1
acetic acid 3%	2	1	1	1	2	1	1	1	1	1	1	1
acetic acid 50%	x	x	2 to 3	2	2	x	3	1	2 to 3	1	1	1
acetic acid anhydride 50%	x	x	1	1	x	x	3	1	2	1	1	
acetic acid ethyl ester (ethyl acetate)	x	x	2	x	x	x	2	1	3	1	1	1
acetone	3	x	2	2 to 3	x	3	1 to 2	1	3	1	1	1
acetyl salicylic acid (aspirin)					1	1	1					1
acetylacetone	3	x	x		x	x	x	1		1	1	x
acetylene gas	2-3	2-3	2	2	1	1	3	1	2	1	1	1
acids see spec. designation, applicable in general	x	3	2	2-3	1-2	1-2	2	1	3	1	1-2	
acrylic acid ethyl ester (ethyl acrylate)	x	x	2	1	x	x	x	1	x	1	1	x
acrylonitrile	x	x	2	3	2	x	1	1	3	1	1	1
adipic acid (hexane diacid)	3	1 to 3	x	1	1	1	1	1	2	1		
adipic acid diethyl ester				1	x	x		1		1	1	
adipose (animal grease)	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	1
air, atmospheric, oil-free, to +°C	85	80	175	120	200	70	90	200		200	125	1
air, oil-saturated, to +°C	85	80	175	120	200	70	90	200		200	125	1
alcohols see specific designations, applicable in general	2-3	2-3	1-2	1-2	1-2	1-2	1-2	1	2	1	2	1
aliphatics see gasoline low aromatic												
applicable in general	1-2	2	3-x	3	1	2-3	3-x	1	3	1	2-x	1
aldehyde see specific designations, applicable in general	3	3	2-3	2-3	2-x	3	1-2	1	3	1	2	
allyl alcohol (propenol)	3	3	x	1 to 3	3	3	1	1			1	1
allyl chloride (3-chloropropene)	x	x	1		x	x	x	1		1		x
alum (potassium aluminium sulphate)	2	1	1 to 2	1	1	1	1	1	2	3	1	1
aluminium acetate, aq. (basic aluminium acetate)	x	3	x	1	x	1	1	1	1	1	1	1
aluminium chloride, aq.	3	1 to 2	2	1 to 2	1	1	1 to 2	1	1	1	1	1
aluminium fluoride	3	3	2	1	1	1	1	1	1	1	1	1
aluminium hydroxide	3	2	1	1	1	1	1	1	1	1	1	1
aluminium nitrate, aq.	3	2	2	1	1	2	1	1	1	1	1	1
aluminium phosphate, aq.	2	1	1	1	1	1	1	1	1	1	1	1
aluminium sulphate, aq.	3	2	1	1	1	1	1	1	1	1	1	1
amines see specific designations, applicable in general	x	x	3	3	2-3	x	2-3	1	2-x	1	2	
amino acetic acid (glycine)	x	x	2 to 3	2 to 3	1	1		1			1	
ammonia nitrate, aq.	3	2	1	3	3	2	1	1	2	1	1	1
ammonia, aq. 25% (ammonia water)	x	x	1	3	1	1	1	1	2	x	1	1
ammonia, gaseous 20°C	x	3	1	2	1	1	1	1	1	1	1	1
ammonia, liquid 100%	x	x	3	2	x	3	2	1	1	1	1	1
ammonium acetate, aq.	x	x	3-x	1	x	1	2	1			1	1
ammonium carbonate, aq.	x	x	2 to 3	1	1	1	1	1	1	1	1	1
ammonium chloride, aq. 3%	3	1	1	2	1	1	1	1	1	1	1	1
ammonium diphosphate, aq.	3	1	1 to 2	1	1	1	1	1	1	1	1	1
ammonium fluoride, aq.	x	x		1	1 to 2	1 to 3	1	1			1	1
ammonium hydroxide, aq. (ammonia, aq.)	x	x	1	3	1	1	1	1	2	x	1	
ammonium metaphosphate	2	1	1	1	1	1	1	1	1	1	1	2
ammonium nitrate	1	1	2	1	1	2		1	1	1	1	1
ammonium persulphate, aq.	3	2	2 to 3	2	1	1	1	1	2	1	1	
ammonium phosphate, aq.	3	1	1	2	1	2	1	1	1	1	1	2
ammonium sulphate	2	1	1	1	1	1	1	1	1	1	1	1
ammonium thiocyanate	3	2	1		1	1	1	1		1	1	1

\*) at +20 °C ambient temperature

\*)<sup>1)</sup> as foodstuff, please order food-grade quality versions

\*)<sup>2)</sup> please ask for our detailed consultation

1 = excellent resistance    3 = medium resistance

2 = good resistance        x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neo-preene*	Kapton*	TPV	PE-EL
amyl acetate*1 (acetic acid pentyl ester, banana oil)	x	x	3	x	x	x	2	1	3	1	1	1
amyl alcohols (pentanols)	3	3	3	1	2	1	1 to 2	1	1	1	1	1
amyl borate	x	x	x	1	1			1	1	1	1	
amyl chloride	x	x	3	x	2	x	x	1	x	1	2	x
aniline (aminobenzene)	x	x	2	3	1 to 2	2 to 3	2 to 3	1	x	1	1	2
aniline dyes	x	x	2 to 3	2 to 3	1	1	3	1	2	1	1	
aniline hydrochloride	x	x	x	x	x	x	2 to 3	1	x			1
animal fats (oils and greases, adipose)	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	1
anise seed oil						x	3-x	1	x			1
anol (cyclohexanol)	3	x	2 to 3	1 to 2	1	x	1	1	2	1	2	1
anone (cyclohexanone)	3	x	x	x	x	x	2 to 3	1	x	1	2 to 3	1
anthraquinone sulfonic acid, aqu.	x	x	x	1	1	1	1	1			1	1
antichlorine (sodium thiosulphate)	3	2	1	1	1	1	1	1	1	1	1	
antifreeze see precise chem. designation												
antimony chloride 50%	3	2	x	1	1	1	1	1	1	1	1	1
antimony chloride, anhydrous	x	x	3	1	1 to 2	1	1	1			1	1
apple acid, aqu. *1 (apple juice)	x	3	1	1	1	1	1	1	1	1	1	1
aqua fortis (nitric acid 50%)	x	x	x	3	1 to 2	2 to 3	2 to 3	1	x	1	1 to 2	
aqua regia (nitrohydrochloric acid)	x	x	3	3	2	2 bis 3	2	1	3	1	3	
arctones = ICI freontypes	ask for our detailed advice											
argon gas	1	1	1	1	1	1	1	1	1	1	1	1
aromatics see benzene, toluene, xylene												1
homologues, applicable in general	3-x	3-x	x	3-x	1-2	x	x	1	3	1	3-x	
arsenic acid	3-x	3-x	1	1	1	1	1	1	1	1	1	1
ascorbic acid (vitamin C)	2-3	1			1	1	1					
asphalt (pitch)	2	2	2	2	1	2	1	1	2	1	2 to 3	1
ASTM fuel A (isooctane, free of aromatics)	1	1	x	1	1	3-x		1	1		x	
ASTM fuel B	x	x	x	x	1	3-x		1	x		x	
ASTM fuel C	x	x	x	x	1	3-x		1	x		x	
ATS-brake fluid	x	x	3	1	1	1	1	1			2 to 3	1
avgas, aviation gasoline (kerosene)	1	1-2	x	2	1	3	2	1	2	1	x	1
bacon fat *1	1	1	2	3	1		1	1	x	1	1	
baking soda (sodium bicarbonate, aqu.)	x	2	1	1	1	1	1	1	1	2	1	
barium chloride, aqu.	2	1	1	1	1	1	1	1	1	1	1	1
barium hydroxide	3-x	2	1	1	1	1	1	1	1	1	1	1
barium sulphate (barite)	1	1	1	1	1	1 to 2	1	1	1	1	1	1
barium sulphide	2	2	1	1	1	1	1 to 2	1	1	1	1	1
barm (yeast), aqu.	x	1	1	1	1	1	1	1			1	1
bases (lyes) see exact designation, applicable in general	x	2	2	1	2	1	1 to 2	1	1 to 2	1	1 to 2	
beer *1	2	1	1	1	1	1	1	1	1	1	1	1
benzaldehyde (oil of bitter almonds, benzoic aldehyde)	3	3	2 to 3	x	2 to 3	3	2	1	x	1	2	1
benzene see also gasoline	x	x	x	3-x	2-3	3-x	3-x	1	x	1	x	1
benzoic acid, aqu.	x	x	3-x	x	1	1	1	1	x	1	1	1
benzyl alcohol	x	x	1	2 to 3	1	3	3	1	3	1	2	1
benzyl benzoate	x	x	1	1	1			1	x	1	2	
benzyl chloride	x	x	2	x	1	x	2 to 3	1	x	1	x	2
bicarb, bicarbonate of soda (sodium bicarbonate)	x	2	1	1	1	1	1	1	1	2	1	
bio-gas clean	2	3	3-x	2-3	1	2	1	1	2-3	1		
bio-gas (marsh-gas)	ask for detailed advice and give exact chem. designation											
biphenyl (diphenyl)	x	x	x	3	1	x	2	1	x	1	3	2
biphenyls, polychlorinated (pyranols, transformer oils)	2	2	x	x	1	3	3	1	2-3	1	x	3
bis (2-hydroxyethyl) ether	3	3	2	2	1	3	1-2	1	1	1	1	
bismuth carbonate	1	1	1		1	1	1	1	1	1	1	1
bisulphite lye containing SO2					1	1	1	1	1	1	1	1

\*) at +20 °C ambient temperature

\*1) as foodstuff, please order food-grade quality versions

\*2) please ask for our detailed consultation



# Chemical Resistance

1 = excellent resistance    3 = medium resistance

2 = good resistance        x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neo-preene*	Kapton*	TPV	PE-EL
bitter-salt (magnesium sulphate)	1	1	1	1	1	1	1	1	1	1	1	1
bitumen 20°C (see also hot bitumen)	2	2	3	3	1	x	1	1	x	1	2 to 3	1
black lye (cellulose extraction)	x	x	x	1	1			1				
blanc-fixe (barium sulphate)	1	1	1	1	1	1	1	1	1	1	1	1
bleaching lye (javelle-lye, potassium hypochlorite)	3	2	2	2 to 3	1	1	3	1	2 to 3	3	1 to 2	3
blood						1	1	1				1
bone oil	1	1	2 to 3	x	1	2		1	x		x	
borax (sodium borate)	1	1	2	2	1	1	1	1	1	2	1	1
boric acid, aqu.	3	1	1	1	1	1	1	1	x	1	1	1
brake fluid, ATS-	x	x	3	1	1	1	1	1			2 to 3	1
brake fluid, glycol-ether-based	x	x								1	1	
brandy, all kinds* <sup>1</sup>	2	1	1	1	1	1	1	1	1	1	1	1
brine (table or common salt solution)* <sup>1</sup>	3	1	1	1	1	1	1	1	1	1	1	1
bromine	x	x	x	x	1	3	x	1	x	1	3	x
bromine water	x	x	x	2 to 3	1	x	x	1	x	1	3	x
bromobenzene	x	x	x	x	1	x	x	1	x	1	x	1
butadiene	2	1 to 2	x	2	2	3	2 to 3	1	2	1	2	2
butan diols (butylene glycols)	1	1		1	2	3	1	1			1 to 2	1
butane diacid	x	3	3	1	1	1	1	1			1	
butane gas	1	1	3-x	2	1	2	3-x	1	2	1	2	3
butane, liquid	1	1	3	1	1	2	1	1	1	1	2	1
butanol (butyl alcohol)	3	3	2	1	2 to 3	1	1 to 2	1	1	1	1	1
butanone (methyl ethyl ketone MEK)	x	x	x	x	x	x	2	1	3	1	1	1
butine diol	1	1		2	3			1				
butter milk* <sup>1</sup>	1	1	1	1	1	1	1	1	2 to 3	1	1	1
butter* <sup>1</sup>	1	2	2	2	1	2	1	1	2	1	2	1
butyl acetate (acetic acid butyl ester)	x	x	3	3	x	x	3-x	1	x	1	2	1
butyl benzoate	1	1	x	x	1			1	x	1	2	
butyl carbitol	x	x	2 to 3	2	1			1	3	1	2	
butyl ether	x	3	3		x	1	1	1	2 to 3	1	2	
butyl glycol	3	3	2		1	x	1	1	x	1	2	1
butyl oleate	x	x	1	x	1			1	x	1	2	
butyl phenols	x	x		x	3	x	1 to 2	1				1
butyl stearate	1	1	1	2 to 3	1	1	x	1	x	1	2	x
butylamine	2 to 3	2 to 3	2 to 3	x	x	x	3	1	3	1	1	3
butylene, liquid (butene)	2 to 3	2 to 3	2 to 3	3	1	1	x	1	x	1	1	2
butyraldehyde	x	x	3	3	x		1	1	3	1	1	1
butyric acid, aqu.* <sup>1</sup>	x	x	3	2 to 3	2	2	x	1	x	1	1	1
calcinated soda (sodium carbonate anhydrous)	2	2	1	1	1	1	1	1	1	2	1	
calcium acetate	2	2	2	2	x		1	1	2	1	1	1
calcium bisulphate, aqu.	3	1	3	1	1	1	1	1	1	1	1	1
calcium bisulphite, aqu.	3	2	1	1	1	2	1	1	1	1	1	1
calcium carbonate	1	1	1	1	1	1	1	1	1	1	1	1
calcium chloride, aqu.	3	1	1	1	1	1	1	1	1	1	1	1
calcium hydroxide, aqu. (slaked lime)	3	2	1	1	1	2	1	1	1	1	1	1
calcium hypochlorite, aqu.	x	x	2 to 3	1 to 2	1	1	1	1	3	1	1 to 2	1
calcium nitrate	1	1	2	1	1	1	1	1	1	1	1	1
calcium oxide = calcinated lime	1	1	1	1	1	1	1	1	1	1	1	1
calcium phosphate, aqu.	2	2	1	1	1		1	1			1	1
calcium sulphate (gypsum), aqu.	3	1	1	1	1	1 to 2	1 bis 2	1	2	1	1	1
calcium sulphide	2	1	2	1	1			1	1	1	1	
camphor (camphor oil)	x	x		3-x	3-x		3	1				1
cane sugar (sugar), aqu.	3	1	1	1	1	1	1	1	1	1	1	
carbamide, urea, aqu.	x	x	x	1	1	2	1	1			1	
carbitol (diethylene glycol monoethyl ether)	x	x	2	2	2	3	1	1	3	1	1	
carbolic acid (phenol)	3-x	3-x	3	2 to 3	1	x	x	1	3	1	2 to 3	1
carbolineum, aqu.	x	x	x	1	1	3	1	1	1	1		
carbon bisulphide	3	2	x	x	1	2 to 3	x	1	x	1	2	

\*) at +20 °C ambient temperature

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
carbon dioxide solid (dried ice -80°C) resistant, but elastomers and plastomers become stiff to brittle												1
carbon dioxide, gaseous, wet and dry	1	1	1	1	1	1	1	1	1	1	1	1
carbon monoxide	1	1	1	2 to 3	1	1	1	1	2	1	1	
carbon tetrachloride (tetrachloromethane)	x	3	x	x	1	x	x	1	x	1	x	
carbonic acid see carbon dioxide												
Caro`s acid (peroxymonosulphuric acid)				2-3		1	x		x	1		x
castor oil, ricinus oil*1	1	1	1	1	1		2 to 3	1	2	1		1
caustic lime (calcium oxide)	1	1	1	1	1	1	1	1	1	1	1	
caustic potash see potassium hydroxide												
caustic soda see sodium hydroxide												
cellulose acetate (acetyl cellulose)	2	1	1				1	1	1	1	1	1
cellulube (hydraulic oil, phosphate ester based)	x	x	2 to 3	x	1	x	x	1	x	1	1	
ceolithe	x	x	1	x	1			1	1		1	
chile salpêtre (sodium nitrate)	2	1	3	1	1	1	1	1	2	1	1	1
china wood oil (wood oil)	3	2	3	3	1	3	2	1	x	1	2	2
chloral hydrate (trichloroacetaldehyde hydrate)	x	x		2	3	x	1	1	2	2		
chloramine	2	2		1	1						1	
chloric acid, aqu.				1	x	1	1	1	1	1	1	1
chlorinated hydrocarbons see specific desig.												x
applicable in general	x	x	x	x	2	x	x	1	x	1	x	
chlorinated lime (calcium hypochlorite)	x	x	2 to 3	1 to 2	1	1	1	1	3	1	1 to 2	1
chlorinated water 3%	x	3	2 to 3	3	1	1	2	1	x	1	1 to 2	2
chlorine dioxide	x	x	3	1	1	2 to 3	x	1	1	1		x
chlorine, dry	x	x	x	2-3	1	3-x	x	1	3-x	1	2-3	x
chlorine, wet	x	x	x	2-3	1	x	x	1	x	1	2-3	x
chloroacetic acid (monochloroacetic acid)	x	x	x	2	x	2	x	1	3	1	2	1
chlorobenzene (monochlor benzene)	x	x	x	x	1	x	3	1	x	1	x	1
chlorobiphenyl (clophen)	x	x	2	x	1	x	1	1	x	1	3	
chlorobromomethan	x	3	x	x	1	x	2	1	x	1	3	2
chlorocalcium (calcium chloride)	3	1	1	1	1	1	1	1	1	1	1	1
chloroethanol (ethylene chlorhydrine)	x	x	x	2	x	x	3	1	x	x	2	
chloroethyl (ethyl chloride)	x	x	x	x	1-2	3-x	3-x	1	3	1	2-3	1
chloroform (trichloromethane)	x	x	x	x	1	x	x	1	x	1	x	3
chloromethane (methyl chloride)	x	x	x	x	2	x	3	1	x	1	2	3
chloroprene (chlorinated butadiene)	x	x	x	2	1	x	3	1	x	1	3	3
chlorosulfonic acid	x	x	x	x	x	x	x	1	x	1	1 to 2	
chlorothene (trichloroethane)	x	x	x	x	1	3	x	1	x	1	2	
chromic acid 10%	x	3	3	2 to 3	2	1	3	1	3	1	1	3
chromic acid 25%	x	x	x	2 to 3	1	2	x	1	x	1	1	x
chromic acid 50%	x	x	x	2 to 3	1	x	x	1	x	1	2	x
chromium trioxid see chromic acid												
citric acid aqu.*1	3	1	1	1	1	1	1	1	1	1	1	
clophen (chlorobiphenyl)	x	x	2	x	1	x	1	1	x	1	3	
coal tar (see also hot tar, creosote)	3	3	x	x	1	2 to 3	2 to 3	1	3	1	2	
coconut grease and oil*1	2	2	1	3	1	1	1	1	2	1	2	1
cod-liver oil*1	1	1	2	2	1	1	1	1	2	1	2	1
common salt (sodium chloride)	3	2	1	1	1	1	1	1	1	3	1	1
compressed air, oil-saturated, to +°C	85	80	175	120	200	70	90	200		200	125	
copper acetate	x	x	x	2	x		1	1	2	1		1
copper chloride, aqu.	3	1	1	2	1	1	1	1	2	1	1*	1
copper cyanide	3	1	1	1	1	1	1	1	1	1	1*	1
copper fluoride	x	x	3	1	1		1	1			1	1
copper hydroxide	1	1	1				1	1		1	1*	1
copper nitrate, aqu.	x	3	1	1	1	2	2	1	1	1	1*	1
copper sulphate, aqu. (blue vitriol)	2	1	1	2	1	1	1	1	1	1	1*	1
corn oil*1	1	1	1	2	2	2	1	1	2	1	2 to 3	

\*) at +20 °C ambient temperature

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# Chemical Resistance

1 = excellent resistance    3 = medium resistance

2 = good resistance        x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
corn sugar (glucose, dextrose, grape sugar)*1	2	1	1	1	1	1	1	1	1	1	1	
cottonseed oil*1	1	1	1 to 2	1 to 2	1	1 to 2	1	1	2 to 3	1	2	1
cow suet	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	
creosote	3	3	x	x	1	2-3	2-3	1	3	1	2	2
cresols, cresylic acids	x	x	x	x	1	x	2 to 3	1	3	1	2	2
crotonaldehyde (2-butenal)	3-x	2 to 3		1	1	x	1	1	1		1	1
crude oil, high aromatic	2	2	x	2	1	3	3	1	3	1		
cumene (isopropylbenzene)	3	3-x	x	x	1	x	x	1	x	1	x	x
cupric hydroxide (mountain blue)	1	1	1				1	1		1	1*	1
cyankali (potassium cyanide)	3	2	1	1	2	1	1	1	1 to 2	3	1	1
cyclohexane (hexahydrobenzene)	2	2	x	x	1	x	2	1	x	1	3-x	1
cyclohexanol (hexaline)	3	x	2 to 3	1 to 2	1	x	1	1	2	1	2	1
cyclohexanone	3	x	x	x	x	x	2 to 3	1	x	1	2 to 3	1
cyclohexylamine	x	x	x	3-x	x	1		1			x	
decalin (decahydronaphthalene)	1	1	x	x	1	1	2	1	x	1	x	
detergents, synth. 20°C	3	2	1	1	1	1	1	1	2	1	1	
dextrose (glucose, corn sugar, grape sugar)*1	2	1	1	1	1	1	1	1	1	1	1	1
diacetone alcohol	3	2	2	2	x	x	1	1	3	1	1	1
dibenzyl ether	2 to 3	2 to 3	2	x	1	x		1	x	1	3	
dibutyl amine	x	x	3	x	x		x	1	x	1	2	x
dibutyl phthalate	x	3	2	3-x	2	3	2	1	x	1	2	
dibutyl sebacate	x	x	2	x	2	3	1	1	x	1	2	1
dichlorobenzene	x	x	x	x	2 to 3	x	3	1	x	1	3	1
dichloroethane	x	x	x	x	2-3	x	2-3	1	x		3	1
dichloroethylene (dichloroethene)	x	x	x	x	2	x	x	1	x	1	3	x
dichloro-isopropyl ether	2	2	x	x	3		3	1	x	1	2	x
dichloromethane (methylene chloride)	x	x	x	x	2	x	x	1	x	1	3	3
diesel oil	1	2	3	3	1	3	2	1	x	1	3	1
diethanolamine			2 to 3				1	1		1	2	1
diethyl ether (ether)	2	2	x	3-x	3-x	3	x	1	3	1	2	1
diethyl sebacate			2	x	2			1	x	1	2	1
diethylamine	x	3	2	3	2	x	3-x	1	2	1	1	1
diethylbenzene	x	x	x	x	1	1	x	1	x	1	x	1
diethylene glycol monoethyl ether (carbitol)	x	x	2	2	2	3	1	1	3	1	1	1
diethylene glycol (diglycol)	3	3	2	2	1	3	1 to 2	1	1	1	1	1
diglycolic acid, aq.	x	x	3	2	1	2	1	1			1	1
dilutions for paints and lacquers determine composition												
dimethyl ether (methyl ether)	2	2		3	3	x	2	1	x	1	1	2
dimethyl formamide (DMF)	x	3	2 to 3	3	3	x	1	1	x	1	1	1
dimethyl heptanone (diisobutyl keton)	x	x			x			1				
dimethyl phthalate	3	3	3	x	2	3		1	x	1	2	
dimethyl sulphoxide (DMSO)	x	x	x	x	x	x	2	1	2-3		1	
dimethylamine			2	x	x	x	3	1	x	1	1	3
dimethylaniline (xylydine)	x	x	2 to 3	3	1	x		1	x	1	2	x
dioctyl phthalate (DOP)	2 to 3	2 to 3	3	x	1 to 2	3	2	1	x	1	2	1
dioctyl sebacate	2	2	3	x	2			1	x	1	2	1
dioxane (diethylene dioxide)	x	x	x	x	x	x	1	1	x	1	2	1
dipentene (limonene)	x	x	x	3	1			1	2		x	
diphenyl	x	x	x	3	1	x	2	1	x	1	3	2
diphenyl oxid (diphenyl ether)	x	x	2	x	2 to 3	x	2 to 3	1	x	1	2	1
dipropylene glycol			2	1	1		1	1	1	1	1	1
dodecyl alcohol (lauryl alcohol)			2 to 3		1		2	1	1	1	3	1
DOWTHERM A (glycole)	x	3-x	x	2 bis 3				1	2 to 3		x	
drilling oil: determine chem. composition												
Eau de Javelle (potassium hypochlorite)	3	2	2	2 to 3	1	1	3	1	2 bis 3	3	1 bis 2	
epichlorohydrin, liquid	x	x	x	x	x	x	1	1	x	1	1	1
epsom salt (magnesium sulphate)	1	1	1	1	1	1	1	1	1	1	1	1

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
esters see specific designations, applicable in general	2	2	x	3-x	3-x	2-3	2-3	1	2	1	2	
ethane (gas)	2	2	3	2 to 3	1	1	1	1	2	1	2	
ethanol (ethyl alcohol)	2	2	2	1	1	2-3	1-2	1	1	1	1	1
ethanolamine (2-aminoethanol)	x	x	2 to 3	2 to 3	3	3	1	1	2 to 3	1		
ethene (ethylene)	1	1	2	x	1	1	1	1	2 to 3	1	2	1
ethers see specific designations, applicable in general	2	2	x	3-x	3-x	2-3	2-3	1	2	1	2	
ether (ethyl ether, diethyl ether)	2	2	x	3-x	3-x	3	x	1	3	1	2	1
etheric oils *1	2	2	x	3	1	x	x	1	x	1	2	1
ethyl acetate	x	x	2	x	x	x	2	1	3	1	1	1
ethyl acrylate (acryl acid ethyl ester)	x	x	2	1	x	x	x	1	x	1	1	1
ethyl alcohol (denatured = spirits)*1	2	2	2	1	2 to 3	1 to 3	1	1	1	1	1	1
ethyl benzene	x	x	x	x	2	x	x	1	x	1	x	1
ethyl bromide (bromomethane)	2	2	x	x	1	x	2	1	x	1	2 to 3	2
ethyl chloride (chloroethane)	x	x	x	x	1 to 2	3-x	x	1	3	1	2 to 3	1
ethyl dichloride (dichloroethylene)	x	x	x	x	2	x	x	1	x	1	3	x
ethyl ether (ether)	2	2	x	3-x	3-x	3	x	1	3	1	2	1
ethyl glycol acetate	x	x			x		1	1		1	2	
ethyl mercaptan	x	x	3	2	x			1	x	1	2	
ethylene chloride (dichloroethylene)	x	x	x	x	2	x	x	1	x	1	3	1
ethylene chlorhydrine (chloroethanol)	x	x	x	2	x	x	3	1	x	x	2	1
ethylene diamine	x	x	2	2	2	x	1	1	2	1	1	1
ethylene (gas) (ethene)	1	1	2	x	1	1	1	1	2 to 3	1	2	1
ethylene glycol (glycol, ethane-1,2-diol)	2 to 3	2 to 3	1	1	1	1	1	1	1	1	1	1
ethylene oxid (1,2-epoxy methane), liquid	x	x	3-x	x	x	x	2 to 3	1	x	1	1	2
fats in general see oils and greases	x	x	x	x	x	x	1-2	1	x	1		
fatty acids, with >7 C-atoms, in general	2	1	3	2 to 3	1	1	3	1	3	1	2	2
fatty acids, with 1-7 C-atoms, in general	3-x	2 to 3	3	2 to 3	1	1	3	1	3	1	2	2
fatty alcohols (longchain, aliphatic alcohols)	3	2	2	2	2	2	1	1			3	1
fermented fruit juice*1	3	1	1	1	1	1	1	1	1	1	1	1
ferric chloride (ferri), aqu.	2 to 3	2	2	2	1	1	1	1	1	1	1	1
ferric sulphate, ferric vitriol, aqu.	2 to 3	2	2	1	1	1	1	1	1	1	2	1
fertilizing salt, aqu.	x	3		1	1	1	1	1			1	1
fish-liver oil*1	2	2	1	3	1	2	1	1	1		2	1
fluorhydric acid see hydroflouric acid												
fluorine, liquid	x	x	x		2	2 to 3	x	1	x	1	x	1
fluorobenzene	x	x	x	x	1			1	x	1	x	
fluoroboric acid 65%		x	x	1 to 2	2	1	1	1	2	1	x	1
fluorosilicic acid, aqu.	x	x	2 to 3	1 to 2	1	2 to 3	2	1	2	1	1	
formaldehyd (methanal)	2 to 3	2 to 3	1 to 2	1 to 2	2 to 3	2	1	1	2	1	1	1
formaline (30-40% aqu. formaldehyd solution with 8 -12 % methyl alcohol additive)	3	2	2	2	1	1	1	1	2	1	1	
formamide	x	x		1	2 to 3	x	1	1			1	1
formic acid:												
0,03	2	1	1	1	2	1	1	1	1		1	1
0,1	3	2	2	1 to 2	3	1 to 2	1	1	1		2	1
1	x	x	x	x	x	2 to 3	1	1	1	2-x		1
freons and frigenes ask for detailed advisory												
frost protection agents s. exact chem. designation												
fruit juices*1	3	1	1	1	1	1	1	1	1	1	1	1
fruit pulp*1	3	1	1	1	1	1	1	1	1	1	1	1
fuel see gasoline												
fuming sulphuric acid: (oleum)	x	x	x	x	1	x	x	1	x	1	x	x
fungi (microbes)	x	1	3	1	1	1	2 to 3	1			2 to 3	2
furan	x	x	x	x	x	1	x	1	x	x		x
furfural alcohol (furfural)	x	x	2	3	3	1	x	1	3	x	2	1
gallic acid	3	3	2 to 3	2	1	1 to 2	1	1 to 2	2 to 3	1	2	
gasoline in general (see specific designations)	1-2	1-2	3-x	2-x	1	3-x		1	1-2		x	1

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
gasoline, lead-free	1	1	x	2-3	1	2-3	1	1	2-3		2-3	
gasoline, super	2-3	2-3	x	2-3	1	1	1	1	2-3		2-3	
gasoline, ASTM fuel A (isooctan, free of aromatics)	1	1	x	1	1	3-x		1	1		x	
gasoline, ASTM fuel B	x	x	x	x	1	3-x		1	x		x	
gasoline, ASTM fuel C	x	x	x	x	1	3-x		1	x		x	
gasoline, diesel, heating oil	1	1	3	2	1	3-x	2	1	x	1	x	1
gasoline, aviation (kerosene)	1	1 to 2	x	2	1	3	2	1	2	1	x	1
gasoline, high aromatic	3	2 to 3	x	2 to 3	1	2 to 3	2 bis 3	2	1	1	x	
gasoline, low aromatic	2	2	x	x	1	3	x	1	1	1	x	
gasoline, test- (heavy g., white spirit, mineral turpentine)	1-2	1-2	x	x	1	3	1-2	1			x	
gasoline/benzene (50/50)	3	3	x	x	2	3		1			x	
gasoline/benzene (60/40)	2	2	x	x	2	3		1			x	
gasoline/benzene (70/30)	2	2	3	x	1	3		1			x	
gasoline/benzene (80/20)	2	3	3	x	1	3	3	1			x	3
gasoline/benzene/ethanol (50/30/20)	3	3	x	3-x	x	3		1			3-x	
gelatins, aqu.*1	3	1	1	1	1	1	1	1	1	1	1	1
glacial acetic acid (acetic acid pure)	x	x	2 to 3	3	x	x	x	1	x	1	1	1
Glauber's salt (sodium sulphate)	3	1	1	1	1	1	1	1	1	1	1	1
glucose (dextrose, corn sugar, grape sugar)*1	2	1	1	1	1	1	1	1	1	1	1	1
glue, animal	2	2	1	1	1	1	1	1	1	1	1	1
glycerine (glycerine, propane-1,2,3-triol)	1	1	1	1	1	1	1	1	1	1	1	1
glycine (amino acetic acid), aqu. 10%	x	x	2 to 3	2 to 3	1	1		1			1	
glycols determine exact designation, applicable in general	2	2	1-2	1	1	2	1	1	2	1	1	
glycolic acid (hydroxy acetic acid), 30%	x	3-x	1	1	1	1	1	1			1	1
grape juice unfermented*1	3	1	1	1	1	1	1	1	1	1	1	1
grape sugar (glucose, corn sugar, dextrose)*1	2	1	1	1	1	1	1	1	1	1	1	1
greases in general, see oils and greases	x	x	x	x	x	x	1-2	1	x	1		
gypsum (calcium sulphate)	3	1	1	1	1	1 to 2	1 bis 2	1	2	1	1	
halogenes (look at: fluorine, chlorine, bromine, iodine)												
halogenated hydrocarbons see spec. design. applicable in general	x	x	x	x	1-2	x	x	1	x	1	3	
heavy gasoline (white spirit or mineral turpentine)	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	
helium	1	1	1	1	1	1	1	1	1	1	1	1
heptane	2	2	x	2	1	2 to 3	2 to 3	1	2 to 3	1	x	1
hexahydrobenzene (cyclohexane)	2	2	x	x	1	x	2	1	x	1	3-x	
hexaldehyde	2	3	3	2	x		1	1	2	1	2	1
hexaline (cyclohexanol)	3	x	2 to 3	1 to 2	1	x	1	1	2	1	2	
hexane (n-hexane)	2	2	x	1 to 2	1	1 to 2	3	1	1 to 2	1	x	1
hexanol (hexyl alcohol)	3	x	2 to 3	2	2	2	1	1	1	1	2	1
hexane-triol	x	x	1	1	1	1	1	1			1	
hexene	1	1	x	3	1		1	1	2			1
hot air see air												
hot bitumen to °C	x	x	x	x	180	x	x	200	x	200	x	
hydraulic oils and -liquids:												
-glycol based	1	1 to 2	2					1		1	1	1
-mineral oil based	1	1	3	2	1	3	3	1	2	1	3	3
-phosphate ester based (pydraul)	x	x	2 to 3	x	1	x	x	1	x	1	1	1
hydrazines (diamides)	x	x	3	2	2 to 3	1	1	1	2 to 3	1	1	1
hydrazine hydratee, aqu.	x	x	3	1	1	1	1	1	2	1	1	1
hydrobromic acid	x	3	3	1	1	2 to 3	1 bis 2	1	1	1	1	1
hydrocarbons aliphatic general (see spec. designation.)	1-2	2	3-x	3	1	2-3	3-x	1	3	1	2-x	
hydrocarbons aromatic general (see spec. designation.)	3-x	3-x	x	3-x	1-2	x	x	1	3	1	3-x	

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
hydrocarbons halogenated general (see spec. designation.)	x	x	x	x	1-2	x	x	1	x	1	3	
hydrochloric acid 15%	3	2	3	1 to 2	1	1	1	1	3	1	1	
hydrochloric acid 38% (conc.)	x	x	3	1 to 2	1	2	1 to 2	1	3	1	1	
hydrochloric acid, (hydrochlorous) gaseous	3	2	1	1 to 2	1	1	1	1	2	1	1	
hydrocyanic acid see prussic acid												1
hydrofluoric acid 10%	x	2	2 to 3	1	1 to 2	1 to 2	1 to 2	1	2	1	1	1
hydrofluoric acid 30%	x	2	3	1 to 2	1 to 2	2	1 to 2	1	3	1	2	1
hydrofluoric acid 75%	x	3	x	2	2	3	3	1	x	1	3	x
hydrofluoricsilicic acid, aqu.	x	x	2 to 3	1 to 2	2 to 3	2 to 3	2	1	2	1	1	
hydrogen (gaseous)	1	1	3	1	1	1	1	1	1	1	1	1
hydrogen cyanide see prussic acid												1
hydrogen peroxide 10%	x	2	1	2	1 to 2	1	2	1	x	1	1 to 2	1
hydrogen peroxide 30%	x	2	1 to 2	2	1	2	2 to 3	1	x	1	2 to 3	1
hydrogen sulphide, dry	x	3	2 to 3	1 to 2	1	x	1	1	2 to 3	1	1	1
hydrogen sulphide, wet	x	3-x	1	1 to 2	1	x	1	1	2 to 3	1	1	1
hydroquinone, aqu.	x	x	3	2 to 3	2	2	1	1	3		3	1
hydroxylamine sulphate, aqu.	x	x	1	1	1	1		1			1	
ink	1	1	1	1	1	3	1	1			1	1
iodine tincture (5-10% alcohol iodine solution)	x	x	x	2	1	2 to 3	2 bis 3	1	3	1	1	2
isobutanol (isobutyl alcohol)	3	x	1	1	1	1	1	1	1	1	2	1
isooctane	2	2	3	2	1	1	3	1	3	1	x	1
isooctanol (isooctyl alcohol)	3	3	2	2	1	1	1	1	3	1	2	1
isophoron	3-x	3-x	3-x	x	x			1	x	1	3	
isopropanol (isopropyl alcohol)	2	3	1	1	1	2	1	1	2	1	1	1
isopropyl acetate	3	3	3	x	x	3	2 to 3	1	x	1	1	1
isopropyl benzene (cumen)	3	3-x	x	x	1	x	x	1	x	1	x	x
isopropyl chloride	3	3	x	x	1			1	x	1	2	
isopropyl ether	2	2	x	3	3	2 to 3	2 bis 3	1	x	1	2	1
Javelle lye (potassium hypochlorite)	3	2	2	2 to 3	1	1	3	1	2 to 3	3	1 to 2	n.a.
jet fuel DPI-IPS			x	x	1	2 to 3	x	1	2 to 3	1		
kerosene	2	1	3	2 to 3	1	1	3	1	2	1	x	1
ketones see specific designations, applicable in general	3-x	x	2-x	x	x	x	2-3	1	3-x	1	2-3	1
lacquers, composition must always be determined												
lactic acid*1	x	2	2	2	1	3	2	1	3	1		1
lanolin (wool grease)	1	1	3	3	1	2	1 to 2	1	3	1	2	1
lard (oils, animal)	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	1
laughing-gas (nitrous oxide)	1	1	1	1	1	1	1	1	1	1	1	1
lauryl alcohol (dodecyl alcohol)			2 to 3		1		2	1	1	1	3	
lavender oil*1	x	x	x	2 to 3	1			1	2 to 3			
lead acetate, aqu.	3	1	1	1	1	1	1	1	2	1	1	1
lead arsenate, aqu.	3	1	1			1	1	1	1	1	1	1
lead nitrate	2	1	2	1	1	1	1	1	1	1	1	1
lead sulphate	1	1	1	1	1	1	1	1	1	1	1	1
lignite tar oil (see coal tar)	3	3	x	x	1	2 to 3	2 to 3	1	3	1	2	2
lime, quick (calcium oxide)	1	1	1	1	1	1	1	1	1	1	1	
lime, slaked (calcium hydroxide)	3	2	1	1	1	2	1	1	1	1	1	
limestone (calcium carbonate)	1	1	1	1	1	1	1	1	1	1	1	
limonene 90% (citric oil)	2	2	x			x	2-3	1			2	
linseed oil*1	1	2	1	2	1	2	2	1	2	1	2 to 3	1
liquefied petroleum gases (LPG) see chem. identification of the gases												
lithium chloride, aqu.	x	x	1	1	1	x	1	1	1		1	1
lubricants and greases see mineral oils, attend additives												
lyes see exact designation, applicable in general	2-x	2	1-2	1-2	2	1-2	1-2	1	2	2	1	1

\*) at +20 °C ambient temperature

\*1) as foodstuff, please order food-grade quality versions

\*2) please ask for our detailed consultation

# Chemical Resistance

1 = excellent resistance      3 = medium resistance

2 = good resistance          x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
machine oil, see oils, mineral												
magnesium chloride, aqu.	3	1	1	1 to 2	1	1 to 2	1	1	1 to 2	1	1	1
magnesium hydroxide	3	1	1	1	1	1	1	1	1	1	1	1
magnesium silicate (talca)	1	1	1	1	1	1	1	1	1	1	1	1
magnesium sulphates	1	1	1	1	1	1	1	1	1	1	1	1
magnesium sulphite, aqu.	3	1	1	1	1	1	1	1	1	1	1	1
maize oil*1	2	2	2	1	1	2	2	1	1			1
maleic acid, aqu.	x	x		x	1	1	2	1	3-x	1	1	1
maleic anhydride				x	3				x		2	
manure	x	1	1	1	1	1	1	1	1	1	1	
margarine-greases and oils*1	1	1	3	1 to 2	1	2	37714	1	2	1	2	1
marsh gas (mine damp, methane)	2	3	3-x	2-3	1	1-2	1	1	2-3	1	2	1
mash*1	3	1	1	1	1	1	1	1	1	1	1	1
MEK (methyl ethyl ketone)	x	x	x	x	x	x	2	1	3	1	1	1
melamine			3		1	x		1	x			
menthol	3	3	x	1	1		1	1			1 to 2	1
mercury	1	1	1	1	1	2	1	1	1 to 2	1	1	1
mercuric chloride (sublimata)	1	1	1	1 to 2	1	2	1	1	1 bis 2	1	1	1
mercurious nitrate	2	1	1		1	1	1	1		1	1	1
mesityl oxide	x	x	x	x	x	x	3	1	x	1	3	3
methane (gas)	2	3	3-x	2 to 3	1	1 to 2	1	1	2 to 3	1	2	1
methanol (methyl alcohol)	2	3	1	1	2	1	1	1	1	1	1	1
methyl acetate (acetic acid methyl ester)	x	x	x	x	x	x	2	1	2	1	1	1
methyl acrylate	x	x	x	x	x	x		1	2			
methyl alcohol	2	3	1	1	2	1	1	1	1	1	1	1
methyl bromid (bromomethane)	x	x	x	3	2	x	3	1	x		x	3
methyl chloride (chloromethane)	x	x	x	x	2	x	3	1	x	1	2	3
methyl chloroform (trichloroethane)	x	x	x	x	1	3	x	1	x	1	2	1
methyl ethyl ketone (MEK)	x	x	x	x	x	x	2	1	3	1	1	1
methyl glycol (methylcellosolve)	x	x	x	3	x	x	2	1	2 to 3	1	1	
methyl glycol acetate	x	x	x		x			1	x	1	1	
methyl isobutyl keton	x	x	3	x	x	x	2 to 3	1	x	1	2	2
methyl oxiran (propylene oxide)	x	x	x	x	x		2	1	x	1	1	
methyl phthalate (dimethyl phthalate)				x	2			1	x	1	2	
methylamine, aqu.	x	x	x	1	2 to 3	3	1	1	2	1	1	1
methylated spirits (ethanol denaturated)	2	2	2	1	1	2-3	1-2	1	1	1	1	
methylene chloride (dichloromethane)	x	x	x	x	2	x	x	1	x	1	3	3
microbes	x	1	3	1	1	1	2 to 3	1			2 to 3	2
milk of lime (lime water) see calcium hydroxide												1
aqu. milk*1	3	2	1	1	1	1	1	1	1	1	1	1
mineral oil see oils, mineral												
mixed acid II (sulphuric acid/phosphoric acid/water)	x	x		1	1	1	3	1	2	1	2	1
mixed acid I (sulphuric acid/nitric acid/water)	x	x	x	x	x	x	x	1	1 to 2	1	3	1
molasses*1	1	1	1	1	1	1	1	1	1	1	1	1
monochloroacetic acid	x	x	x	2	x	2	x	1	3	1	2	1
monochlorobenzene	x	x	x	x	1	x	3	1	x	1	x	
monochloromethane (methyl chloride)	x	x	x	x	2	x	3	1	x	1	2	
mono ethylene glycol	1											
monostyrol (styrol, styrene, monomeric)	x	3	x	x	2	x	x	1	x	1	x	
morpholine	x	x	x	2	2	x	1	1	3		1	1
motor oil see oil and greases, clarify mineral additives												
mountain blue (cupric hydroxide)	1	1	1					1	1		1*	1
must fermented (fermented fruit juice)	3	1	1	1	1	1	1	1	1	1	1	
must, unfermented*1	3	1	1	1	1	1	1	1	1	1	1	1
mustard	1	1		1	x	1 to 2	1	1	1			1
myristyl alcohol, myristic alcohol (tetradecanol)	1	1	2	1	1	1		1	1	1	2	

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	PUR-Ester	PUR-Ether	Silicone	Hypalon®	Viton®	PVC	PE	PTFE	Neoprene®	Kapton®	TPV	PE-EL
naphtha	2	2	3	x	1	2 to 3	2 to 3	1	3	1	3-x	1
naphthalene (stone oil)	2	2	3	2-3	1	x	x	1	x	1		1
natron (sodium bicarbonate)	x	2	1	1	1	1	1	1	1	2	1	
natural gas, wet	2	1-2	2-3	1	1	1	2	1	1	1	2	1
natural gas, dry	1	1	2-3	1	1	1	1	1	1	1	2	1
n-hexane	2	2	x	1 to 2	1	1 to 2	3	1	1 to 2	1	x	
nickel acetate	3	2	2	x	x		1	1	2		2	1
nickel chloride, aqu.	3	2	1 to 2	1 to 2	1	1	1	1	2	1	2	1
nickel sulphate, aqu.	2 to 3	2	1	1	1	1	1	1	1	1	1	1
nitrate (nitrate of sodium)	2	1	3	1	1	1	1	1	2	1	1	1
nitric acid (mixed acid I)	x	x	x	x	x	x	x	1	x	1	3	
nitric acid 10%	3	3	3	1 to 2	1	1	2	1	2	1	1	1
nitric acid 25%	x	x	x	2	1 to 2	1	2 to 3	1	3	1	1	1
nitric acid 50% (aqua fortis)	x	x	x	3	1 to 2	2 to 3	2 to 3	1	x	1	1 to 2	2
nitric acid 60%	x	x	x	3-x	2	2 to 3	x	1	x	1	3-x	
nitric dilution	2	2	x	1		x	2 to 3	1	1		2 to 3	
nitro-benzene	x	x	x	x	2	x	3	1	x	1	1	1
nitrogen	1	1	1	1	1	1	1	1	1	1	1	1
nitrogen oxides (nitrouse gases)	x	x	x	3	3	x	1	1	x		x	1
nitro-glycerin	x	x	x	1	1	2	2	1			x	1
nitrohydrochloric acid (aqua regia)	x	x	3	3	2	2 to 3	2	1	3	1	3	
nitro-methane	x	x	x	2 to 3	x	2 to 3	1	1	3			1
nitro-propane	x	x	x	x	x			1	x	1	1	
nitro-toluole	x	x		x	3	x	1	1	x	1	x	
nitrous fumes (nitrogen oxides)	x	x	x	3	3	x	1	1	x		x	1
nitrous oxide (laughing gas)	1	1	1	1	1	1	1	1	1	1	1	
N-methylpyrrolidone (NMP)	3	3			3	3		1				
nonyl alcohol (nonanol)	x	x	2	2	1		2	1	3	1	2	1
octane	1	1	x	x	1		1	1	x	1	x	1
octanol = octyl alcohol	x	x	2	1	1	x	1	1	1	1	2	1
oils and greases:												
-animal <sup>*)</sup>	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	1
-ASTM-oil Nr. 1 20°C	1	1	2	1	1	2	2	1	1	1	3	
-ASTM-oil Nr. 2 20°C	1	2	3	2	2	2	3	1	1	1	x	
-ASTM-oil Nr. 3 20°C	1	2	3	2	2	2	3	1	x	1	x	
-crude oil, high aromatic	2	2	x	2	1	3	3	1	3	1		
-diesel oil	2	2	3	3	1	3	2	1	x	1	3	
-heating oil	2	2	3	3	1	3	2	1	x	1	3	
-hydraulic oils and -liquids:												
-glycol based	1	1 to 2	2					1		1	1	
-mineral oil based	1	1	3	2	1	3	3	1	2	1	3	
-phosphate ester based (pydraul)	x	x	2 to 3	x	1	x	x	1	x	1	1	
-mineral, without additives, at 20°C	1	1	2 to 3	2 to 3	1	2	2	1	x	1	2 to 3	
-mineral, without additives, to °C	60	60	x	150	200	x	30	200		200	100	
-silicon based	1	1	2 bis 3	1	1	1	1	1	2 to 3	1	1	
-transformer oils (pyranols)	2	2	x	x	1	3	3	1	2 to 3	1	x	
-vegetable <sup>*)</sup>	1-2	1-2	2-3	2	1	2	2-3	1	2-3	1	2	
oil of bitter almonds (benzaldehyde)	3	3	2 to 3	x	2 to 3	3	2	1	x	1	2	1
oleic acid, olein	1	1	x	3-x	2	2	2 to 3	1	x	1	2	
oleum (fuming sulphuric acid)	x	x	x	x	1	x	x	1	x	1	x	x
oleum vapours	x	x	x	3	3	3	x	1	x	1	x	x
olive oil <sup>*)</sup>	1	1	2	1 to 2	1	1	1	1	2	1	2	1
oxalic acid, aqu.	x	x	2	2	1	2	1	1	3	1	1	1
oxidant see specific designations, applicable in general	2-3	2-3	2-3	2	1	2	2-3	1	3	1	1	
oxirane (ethylene oxide)	x	x	3-x	x	x	x	2 to 3	1	x	1	1	2
oxygen pure to +°C	80	80	175	120	200	70	70	200		200	100	

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
ozone (atmospherical concentrations)	1-2	2-3	1	1	1	2	3	1	2-3	1	1	x
ozone 100%	3	3-x	1	2-3	1	3	x	1	x	1	2	x
palm oil, palm pip oil*1	1	2	1	3	1	1 to 2	1 to 2	1	x	1	2	1
palmitic acid	1	1	3	3	2	2	1	1	3	1	1	1
paraffin, paraffin oils	1	2	2	3	1 to 2	1 to 2	2 to 3	1	2 to 3	1	2	1
paraformaldehyde	2	1	1		2		1	1	2	1	1	1
pectine	1	1		1	1	1		1			1	
pentachlorophenol	x	x	3				1 to 2	1		1	2	
pentane	3	x	x	2	1	1	x	1	2	1	3	x
pentanols (amyl alcohols)	3	3	3	1	2	1	1 to 2	1	1	1	1	1
peracetic acid (mixture, cold disinfection)						3-x	2	1			2-3	
perborate (sodium borate)	1	1	2	2	1	1	1	1	1	2	1	
perchloric acid, aqu.	x	x	x	1 to 2	1	2 to 3	2	1	2	1	1	2
perchloroethylene (tetrachloroethylene)	x	x	x	x	1	3	x	1	x	1	x	
perhydrol see hydrogen peroxide												
permanganate (potassium permanganate) 10 %	3	1	1	1	1	1	1	1	2	2	1	1
peroxomonosulphuric acid				2 to 3		1	x		x	1		
petrol see gasoline												
petroleum, without additives, at 20°C	1	1	2 to 3	2 to 3	1	2	2	1	3	1	2 to 3	
petroleum, without additives, to °C	65	60	x	150	200	x	30	200		200	100	
petroleum spirit (white spirit, solvent naphta)	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	
phenol (carbolic acid), aqu.	3-x	3-x	3	2 to 3	1	x	x	1	3	1	2 to 3	1
phenyl ether (diphenyl oxide)	x	x	2	x	2 to 3	x	2 to 3	1	x	1	2	1
phenylbenzene (biphenyl)	x	x	x	x	1	x		1	x		1	
phorone (diisopropylidene acetone)	x	x	x	x	x			1	x		1	
phosphoric acid 3%	2 to 3	2	2	2	1	1	1	1	1	1	1	1
phosphoric acid 50%	3	2	3	2	1	1	2	1	2	1	1	1
phosphoric acid 85%	x	x	3	2	1	1	2	1	3	1	1	
phosphoric alumina (aluminium phosphates, aqu.)	2	1	1	1	1	1	1	1	1	1	1	
phosphorus oxychloride	x	x	x	3	1	x	2 to 3	1	3	1	1	x
photo-emulsions, in general (see exact chem. designation)	x	x	2	1	2	1 to 2	1	1	1 to 2	1	1	
phthalic acid			2	1	x	2	1	1	1		1	
phthalic acid anhydride, aqu.				1	x	3	1	1	1	1	1	
phthalic acid ester (phthalates)	x	3	x	1	1	1	1	1			2 to 3	1
picric acid	2 to 3	2 to 3	3	2	1 to 2	2 to 3	1	1	2	1	1	1
pigs fat (oils, animal)	1	1	3	1 to 2	1	2	2 to 3	1	3	1	2	1
pine oil*1	1	1	x	x	1	3	3	1	x	1		
polychlorinated biphenyls (pyranols, transformer oils)	2	2	x	x	1	3	3	1	2 to 3	1	x	
potash (potassium carbonate)	3	2	1	1	1	1	1	1	1	3	1	
potassium acetate, aqu.	x	x	x	x	2 to 3	1	1	1	2 to 3	1	1	
potassium aluminium sulphate (alum)	2	1	1 to 2	1	1	1	1	1	2	3	1	1
potassium bicarbonate (potassium hydrogen carbonate)	2	2	1	1	1	1	1	1	1	3	1	1
potassium bichromate (potassium dichromate)	3	2	2	1 to 2	1	1	1	1	1	3	1	
potassium bisulphate, aqu.	x	3-x	2	1	1		1	1			1	1
potassium borate, aqu.	3	1	1	1	1	1	1	1	1	3	1	1
potassium bromate, aqu., 10%	x	x	2 to 3	1	1	1	1	1			1	1
potassium bromide, aqu.	2 to 3	1	1	1	1	1	1	1	1	3	1	1
potassium carbonate (potash)	3	2	1	1	1	1	1	1	1	3	1	1
potassium chlorate, aqu.	3	2	2	1	1	1	1	1	1	3	1	1
potassium chloride, aqu.	2	1	1	1	1	1	1	1	1	3	1	1
potassium chromate, aqu., 40%	x	x	2 to 3	1	1	1 to 2	1	1	1		1	1
potassium cyanide (cyankali), aqu.	3	2	1	1	2	1	1	1	1 to 2	3	1	1
potassium dichromate, aqu.	3	2	2	1 to 2	1	1	1	1	1	3	1	1
potassium hydroxide (caustic potash, -lye) 10%	2 to 3	2	3	1 to 2	1	2	1	1	1	3	1	

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
potassium hydroxide (caustic potash, lye) 50%	x	3	x	1 to 2	2 to 3	2 bis 3	1	1	1	x	1	
potassium hypochlorite (Javelle)	3	2	2	2 to 3	1	1	3	1	2 to 3	3	1 to 2	3
potassium iodide, aqu.	3	2	2	1	1	1 to 2	1 to 2	1	1	2	1	1
potassium nitrate, aqu.	2 to 3	1	1	1	1	1	1	1	1	3	1	1
potassium perchlorate, aqu.	x	x	2	1	1	1		1			1	
potassium permanganate 10%, aqu.	3	1	1	1	1	1	1	1	2	2	1	1
potassium peroxy disulphate (potassium persulphate)	x	3-x	3-x	1	1	2	1	1			1	1
potassium phosphate (mono and dibasic)	1	1	x	1	1		1	1	1	3	1	1
potassium sulphate	1	1	1	1	1	1	1	1	1	3	1	1
potassium sulphite	1	1	1	1	1	1	1	1	1	3	1	1
propane gas	1	1	x	2 to 3	1	1	2	1	1	1	1	
propane, liquid	1	1	3	3	1	1	x	1	2 to 3	1	1	x
propanol (propyl alcohol)	2	3	1 to 2	1 to 2	1	1 to 2	1	1	1 to 2	1	1	
propargyl alcohol, aqu. 7%	x	x	2	2	1		1	1	1		2	1
propionic acid (propane acid)	x	x	x	3	1	1	1	1	x	1	1	1
propyl acetates (acetic acid propyl esters)	x	x	x	x	x		2	1	x	1	1	2
propyl alcohol (propanol)	2	3	1 to 2	1 to 2	1	1 to 2	1	1	1 to 2	1	1	
propylamine	x	x	x	x	x			1	x	1	1	
propylene (propene)	x	x	x	x	1	2		1	x	1	1	
propylene dichloride			x				x	1		1	2	x
propylene glycols (propandiols)	x	x	1	1	1	3	1 to 2	1	2 to 3	1	1	1
propylene oxide (methyloxiran)	x	x	x	x	x		2 to 3	1	x	1	1	2
prussic acid 20%	3	2	2 to 3	1 to 2	1 to 2	1 to 2	1	1	2 to 3	1	1	1
prussic acid 98% (conc.)	3	2	2 to 3	1 to 2	1 to 2	1 to 2	1	1	2 to 3	1	1 to 2	1
pydraul (hydraulic liquids phosphate ester based)	x	x	2 to 3	x	1	x	x	1	x	1	1	
pyranols (oils, transformer oils)	2	2	x	x	1	3	3	1	2 to 3	1	x	
pyrantone (diacetone alcohol)	3	2	2	2	x	x	1	1	3	1	1	
pyridine	x	x	x	3	3	x	1	1	x	1	2 to 3	1
pyrrol	x	x	2	3	3			1	3		1	
quick lime (calcium oxide)	1	1	1	1	1	1	1	1	1	1	1	1
radiation, radioactive	2	2	x	1		3	x	x	1		2	x
radiation, UV	2	2	2	1	1	2	3	1			x	3
radioactive radiation: applicable in general	2	3	x	x	x	x	3	x	x	x	1 to 2	x
rapeseed oil <sup>*)</sup>	2	2	x	2 to 3	1		x	1	2 to 3	1	2	x
raw sugar sap	x	3	1	1	1	1	1	1	2	1	1	1
redoil (aniline)	x	x	2	3	1 to 2	2 to 3	2 to 3	1	x	1	1	
ricinus oil, castor oil <sup>*)</sup>	1	1	1	1	1		2 to 3	1	2	1	1	1
rock salt	3	2	1	1	1	1	1	1	1	3	1	2
saccharose (sugar) aqu.	3	1	1	1	1	1	1	1	1	1	1	
sal ammoniac (ammonium chloride) aqu. 3%	3	1	1	2	1	1	1	1	1	1	1	1
salicylic acid (spiric acid), aqu.	2	1	1	1	1	2	1	1	2	1	1	1
salmiac (ammonium chloride)	3	1	1	2	1	1	1	1	1	1	1	1
salpetre (pottasium nitrate)	2 to 3	1	1	1	1	1	1	1	1	3	1	1
salt (table or common salt, sodium chloride)	3	2	1	1	1	1	1	1	1	3	1	1
salted water (brine, sea water)	3	2	1	1	1	1	1	1	1-2	1	1	1
sangajol = turpentine oil substitute, mineral	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	
seawater	3	2	1	1	1	1	1	1	1-2	1	1	1
sebacic acid ester	x	x		x	3-x	x		1			2	1
sewage	x	ask for advice	2	1	1	1	1	1	1	1	2	1
silicon dioxide (silicic acid, chert, silica)	1	1	1	1	1	1	1	1	1	1	1	
silicon oils and -greases	1	1	3	1	1	1	1	1	2-3	1	1	1
silver nitrate, aqu.	1	1	1	1	1	2	1	1	1 to 2		1	1
skydrol (hydraulic liquids, phosphate ester based)	x	x	2 to 3	x	1	x	x	1	x	1	1	
slaked lime (calcium hydroxide, aqu.)	3	2	1	1	1	2	1	1	1	1	1	1
soapsuds, -solution, detergents)	x	2	1	1	1	1	1	1	1	1	1	

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2 = good resistance          x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
soda ash (sodium carbonate anhydrous)	2	2	1	1	1	2	1	1	1	2	1	1
soda lye see sodium hydroxide												
soda salpêtre (sodium nitrate)	2	1	3	1	1	1	1	1	2	1	1	1
soda, calcinated (sodium carbonate anhydrous)	2	2	1	1	1	1	1	1	1	2	1	1
soda, crystallised (sodium carbonate aqu.)	x	2-3	1	1	1	2	1	1	1	2	1	1
sodium bicarbonate (sodium-hydrogencarbonate), aqu.	x	2	1	1	1	1	1	1	1	2	1	
sodium bisulphate (sodium-hydrogensulphate)	x	x	1	1	1	1	1	1	1	2	1	
sodium bisulphite (sodium-hydrogensulphite), aqu.	x	x	1	1	1	1	1	1	1	2	1	
sodium borate (borax)	1	1	1 to 2	1 to 2	1	1	1	1	1	2	1	
sodium bromide				1 to 2	1	1 to 2	1	1	1		1	1
sodium carbonate (soda) aqu.	x	2-3	1	1	1	2	1	1	1	2	1	1
sodium chlorate, aqu.	3	2	1	1	1	1	1	1	1	3	1	
sodium chloride (muriate of soda, common or table salt)*1	3	2	1	1	1	1	1	1	1	3	1	1
sodium chlorite				1	1	3	2 to 3	1			2	2
sodium cyanide	3	3	1	1	1	1	1	1	1	3	1	1
sodium dichromate	3	3	2	1	1		1	1	1	3	1	1
sodium fluoride	3	2	2	1	1	1	1	1	1	3	1	1
sodium fluoroaluminate 10%	3	2 to 3	2		1	1	1	1	1	3	1	
sodium hydroxide (sod lye) 25%, 100°C	x	x	x	3	x	x	x	1	x	3	1	
sodium hydroxide (sod lye) 25%, 20°C	x	2	2	1	3	1	x	1	2	2	1	
sodium hypochlorite 10%	3	2	2	1	1	1	2	1	2 to 3	1	2 to 3	1
sodium hypochlorite 30%	x	3	3	1	2 to 3	1	2	1	1	1	x	
sodium metaphosphate	1	1	1	2	1	1	1	1	2	1	1	1
sodium nitrate, aqu.	2	1	3	1	1	1	1	1	2	1	1	1
sodium nitrite	2	1	1	1	1	1	1	1	1	1	1	1
sodium perborate	x	x	2	2	1	2	1	1	2	1	1	1
sodium percarbonate (bleaching agent)			2-3		1		1	1			1	
sodium peroxide	3	2	3	2	1 to 2	2	1	1	2 to 3	1	1	
sodium phosphate (see also trisodium phosphate)	2	2	x	2	1	1	1	1	2	1	1	1
sodium silicate, aqu.	x	3	1	1	1	1	1	1	1	1	1	1
sodium sulphide, aqu.	2	2		1	x	1	1	1	1	1	1	1
sodium sulphate (Glauber's salt), aqu.	3	1	1	1	1	1	1	1	1	1	1	1
sodium sulphite, aqu.	2	1	1	1	1	1	1	1	1	1	1	1
sodium thiosulphate (antichlorine)	3	2	1	1	1	1	1	1	1	1	1	1
solvent naphta (petroleum spirit, white spirit)	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	
solvents see specific designations												
soyabean oil*1	2	2	1	2 to 3	1	1	1 to 2	1	2 to 3	1	2	1
spindle oil (oils, mineral)												
spirits (ethanol, denaturated)	2	2	2	1	1	2-3	1-2	1	1	1	1	
spirits of ammonia (ammonia 25% in water)	x	x	1	3	1	1	1	1	2	x	1	
spruce needle oil	2	2	2	x	1 to 2	x	2	1				1
staining solution (20% nitric acid 4% hydrofluoric acid)	x	x		1				1	x		x	
starch syrup*1	2	2	1	1	1	1	1	1	1	1	1	1
starch, aqu.*1	1	1	1	1	1	1	1	1	2	1	1	1
steam of water to °C	x	x	120	100	150	x	x	200		200	135	90
stearin (stearic acid)	3	2	1 to 2	2 to 3	2	1 to 2	1 to 2	1	2	1	1	1
stone oil (naphthalene, liquid paraffine)	2	2	3	3	1	x	2 to 3	1	x	1		
styrene, monomer	x	3	x	x	2	x	x	1	x	1	x	
sublimate (mercury chloride)	1	1	1	1 to 2	1	2	1	1	1 to 2	1	1	
sugar aqu. *1 (see also raw sugar juice)	3	1	1	1	1	1	1	1	1	1	1	1
sulfonic acids, in general	x	x	1	1	2	1		1			2 to 3	1
sulfur dioxide see sulphuric acid												
sulfur trioxide (sulphuric acid anhydride)	3	2	2 to 3	3	1	1	1	1	x	1	1	3
sulfur, molten, 90°C	3	2	1	1	1	x	x	1	2	1	2 to 3	
sulphuric acid 10%	3	2	3	1	1	1	1	1	2	1	1	1
sulphuric acid 30%	x	2	x	1	1	1	1	1	2	1	1	1

\*) at +20 °C ambient temperature

\*1) as foodstuff, please order food-grade quality versions

\*2) please ask for our detailed consultation

1 = excellent resistance      3 = medium resistance

2 = good resistance          x = non-resistant

\*) at +20 °C ambient temperature

\*1) as foodstuff, please order food-grade quality versions

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	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
sulphuric acid 50%	x	2	x	1	1	1	1	1	2	1	1	1
sulphuric acid 75%	x	x	x	1 to 2	1	2	2	1	2 to 3	1	1	2
sulphuric acid 90%	x	x	x	2	1	x	3	1	3	1	1	2
sulphuric acid conc. (oleum, fuming sulphuric acid)	x	x	x	3-x	1	x	3	1	x	1	x	2
sulphuric ether see ether												
sulphuric acid 10%, moist	3	2	2	1 to 2	2	2	1	1	3	1	1	1
sulphuric acid 75%, moist	x	x	3	2 to 3	2	2 to 3	2	1	3	1	1	2
table salt (sodium chloride)	3	2	1	1	1	1	1	1	1	3	1	1
talc (magnesium silicate)	1	1	1	1	1	1	1	1	1	1	1	1
tallow	1	1	1	1	1	1	1	1	1	1	2	1
tannic acid (tannin)	2 to 3	2	2	1 to 2	1 to 2	1	1	1	1 to 2	1	1	1
tar (see also hot tar)	x	x	2	x	1	2	2	1	3	1	x	1
tartaric acid, aqu.*1	3	1	1	1	1	1	1	1	1 to 2	1		1
tensides (washing or cleaning agents, synth.)	3	2	1	1	1	1	1	1	2	1	1	
test gasoline = white spirit	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	1
tetrachlorocarbon (tetrachloromethane, tetra, carbon tetra chloride)	3	3	x	x	1	x	x	1	x	1	x	
tetrachloroethans	x	x	x	x	2	3	x	1	x		x	1
tetrachloroethylene (perchloroethylene)	3	3	x	x	1	x	2 to 3	1	x	1	x	1
tetrahydrofurane (THF)	3	3	x	x	x	x	3	1	x	1	2	1
thaline = tetrahydronaphthalene	x	x	x	x	1	1	3	1	x	1	x	1
thionyl chloride	x	x	x	x	3	x	x	1	x		x	x
thiophene	x	x	x	x	x	x	1	1			x	1
tin-II-chloride, aqu.	3	1	1	2	1	1	1	1	1	1	1	1
toluol	x	x	x	x	1	x	3-x	1	x	1	x	1
tooth pasts						1	1	1				
town gas, coal gas, illuminated gas (natural gas see later)		3	3	3	1	1	1	1	x	1	2	1
train-oil	1	1	2	2	1	1	1	1	2	1	2	
transformer oils	2	2	x	x	1	3	3	1	2 to 3	1	x	1
tributyl phosphate (TBP)	x	x	x	x	x	x	1	1	x	1	1	1
trichloro acetic acid (TCA)	x	x	x	x	3	2	1 to 2	1	x		3	1
trichloroethane (methylchloroform)	x	x	x	x	1	3	x	1	x	1	2	1
trichloroethylene (ethylene trichloride)	x	x	x	x	1 to 2	x	x	1	x	1	2	1
trichloromethane (chloroform)	x	x	x	x	1	x	x	1	x	1	x	3
tricresyl phosphate	x	x	3	x	1 to 2	x	3	1	3	1	1	3
triethanolamine	x	x	1	2 to 3	1	x	1	1	2	1	1	1
triethylamine	2	2	x		x	2	1	1	2	1	1	1
triethylene glycol (triglycol)	2	2	2	1	1			1			1	
trioctyl phosphate	x	x	3	x	x	x	1	1	x	1	1	1
trisodium phosphate	3	3	1	1	1	1	1	1	1	1	1	1
tung oil	3	2	3	3	1	3	2	1	x	1	2	
turpentine (-oil)	3	x	x	x	1	x	x	1	x	1	3-x	1
turpentine, surrogate, mineral	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	
urine	3	1	1	1	1	1	1	1	1	1	1	1
varnish	3	2	x	x	1	x	1	1	x		x	
vaseline see oils u. greases, mineral												1
vegetable oils	1-2	1-2	2-3	2	1	2	2-3	1	2-3	1	2	1
vinegar*1	x	3	1	1	1	2	1	1	2	1	1	1
vinyl acetate (acetic acid vinyl ester)	x	x	x	1	2	x	1	1	x	1	1	1
vinyl chloride (chloroethene), monomer	x	x	x	x	1	x	x	1	x	1	2	x
vitamin C	2-3	1			1	1	1					
vitriol oil (oleum)	x	x	x	x	1	x	x	1	x	1	x	x
vitriol blue (copper sulphate)	2	1	1	2	1	1	1	1	1	1	1*	
washing agent synth. (detergent) 20°C	3	2	1	1	1	1	1	1	2	1	1	
water:	3	2	1	1	1	1	1	1	1	1	1	1

\*) at +20 °C ambient temperature

\*1) as foodstuff, please order food-grade quality versions

\*2) please ask for our detailed consultation

# Chemical Resistance

1 = excellent resistance      3 = medium resistance

2 = good resistance          x = non-resistant

	PUR-Ester	PUR-Ether	Silicone	Hypalon*	Viton*	PVC	PE	PTFE	Neoprene*	Kapton*	TPV	PE-EL
-aqua regia	x	x	3	3	2	2 to 3	2	1	3	1	3	
-condensed, distilled, desalinated or demineralised does not effect polymers but polymers effect water												
-drinking- or mineral water, without additives*1 to °C	25	60	120	100	150	70	80	200		200	100	
-mineral water CO2 saturated*1	3	1	1	1	1	1	1	1	1	1	1	
-seawater	x	2	1	1	1	1	1	1	1	1	1	1
weathering	2	1	1	1	1	1	2	1	1	1	1 bis 2	
white spirit (petroleum spirit, solvent naphta)	1 to 2	1 to 2	x	x	1	3	1 to 2	1			x	1
wines red and white*1	3	1	1	1	1	1	2	1	2 to 3	1	1	1
wood oil	3	2	3	3	1	3	2	1	x	1	2	2
wool grease (lanoline)	1	1	3	3	1	2	2	1	3	1	2	1
xylamon (wood protection)	3	3	x	x	2			1			x	
xylene	x	x	x	x	1 to 2	x	2 to 3	1	x	1	x	1
xylidine (dimethyl aniline)	x	x	1	1	1			1	1		3	
zinc acetate, aqu.	x	x	x	x	x		1	1	x	1	1	1
zinc chloride, aqu.	2 to 3	2	1	1	1 to 2	1	1	1	1	1	1	1
zinc sulphate, aqu.	2 to 3	2	1	1	1	1	1	1	1	1	1	1

\*) at +20 °C ambient temperature  
 \*) as foodstuff, please order food-grade quality versions  
 \*) please ask for our detailed consultation





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