



NORRES INDUSTRIAL HOSES HOSES FOR ALL APPLICATIONS







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About us

NORRES Group

NORRES, headquartered in Gelsenkirchen, Germany, is a global player and a leading manufacturer of technical hoses, hose systems and other innovative, high-performance plastic products. With production and product development locations in the Americas, Asia and Europe, NORRES is the trendsetter in constantly developing product and system innovations, many of which are protected by patents or utility models. As a well-established manufacturer with more than 130 years of tradition, NORRES is known for its customized solutions. The objective: NORRES customers save time and money thanks to efficiency and decisive product advantages.

NORRES product portfolio

NORRES offers its customers a comprehensive portfolio of standard products as well as made-to-measure products. NORRES' certification to ISO 9001 in Germany underlies the consistently high standard – from product development through to production to purchasing and logistics. NORRES products comply with a broad range of regulations such as the ATEX Directive, UL approvals, FDA conformity, EU directives and numerous others. Furthermore, NORRES offers convincing solutions in the field of cable protection systems and environmental technology thanks to the use of high quality plastic materials such as Pre-PUR®. NORRES thus provides a comprehensive and unparalleled product portfolio with future-oriented solutions in the field of plastic hoses. The objective: Reliability, certified quality and a broad spectrum across all product segments.

NORRES innovations

An extremely high level of vertical manufacturing combined with an in-house engineering department with proven expertise in this field is the key qualification and the hallmark of NORRES within the industry. Innovations and standard products are designed to help you solve even the most complex technological challenges. The objective: Further extending our technological leadership to the benefit of our customers.

NORRES services

Know-how, individual consultation and quality are the distinctive features of our services: From consulting and modern logistics through to customer-specific marketing services. NORRES offers impressive performance. The objective: NORRES develops customized service packages that add real value for successful cooperation. Take advantage of the competence and performance of the market leader in the field of technical hoses and hose systems. NORRES – simply flexible!

NORRES Group - expertise in quality and service

Founded in 1889, NORRES has more than 130 years of experience and tradition.

Today, NORRES is a global player and leading manufacturer of technical hoses and hose systems: Highly abrasion proof Pre-PUR[®] polyurethane hoses, suction and transport hoses from PVC, TPE, PE, EVA, silicone etc., high temperature hoses up to 2,000 °F, electrically conductive and antistatic hoses, connecting elements and accessories, many certified products (e.g. ATEX Directive, EU Directives, FDA compliance. UL approvals and numerous others. customized solutions. NORRES products are available as suction and transport hoses and for transportation of bulk solids in the food and pharmaceutical industry, in agriculture, for mobile and stationary extraction systems, for machines in the wood and plastic industry, for municipal vehicles, as cable protection hose system in the electro-technical area and as energy-saving and long lasting membrane diffuser in sewage plants.

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Hosefinder customer-specific solutions Online real-time OPERATIVE 24h shipment customer portal

Immediate Availability – Instant Delivery service



24 hour shipment service:

Products with the NORRES "24 hour" icon leave NORRES or a NORRES branch within the time specified based on the defined wall thickness of the hose.



48 hours shipment service: NORRES ships these products in the below mentioned sizes within 48 hours.

Product	I.D.	Stock length	Icon
	in / mm	ft	
PROTAPE® PUR 301 AS (XLD)	2"/ 50-51mm; 2.36"/ 60mm; 3"/ 75-76mm; 80mm; 3.5"/ 89-90mm; 4"/ 100-102mm; 5"/ 125-127mm; 6"/ 150-152mm; 8"/ 200-203mm; 250mm; 300mm	50	24h Shipping
PROTAPE® PUR 330 AS (LD)	40mm; 2"/ 50-51mm; 2.36"/ 60mm; 3"/ 75-76mm; 80mm; 4"/ 100-102mm; 4.72"/ 120mm; 5"/ 125-127mm; 5.5"/ 140mm; 6"/ 150-152mm; 6.3"/ 160mm; 8"/ 200-203mm	50	24h Shipping
AIRDUC® PUR 350 AS (MD)	40mm; 2"/ 50-51mm; 2.36"/ 60mm; 70mm; 3"/ 75-76mm; 80mm; 4"/ 100-102mm; 4.72"/ 120mm; 5"/ 125-127mm; 5.5"/ 140mm; 6"/ 150-152mm; 6.3"/ 160mm; 8"/ 200-203mm; 250mm; 300mm	50	24h Shipping
AIRDUC [®] PUR 355 AS (HD)	1"/ 25mm; 1.25"/ 32mm; 1.5"/ 38mm; 40mm; 2"/ 50-51mm; 2.36"/ 60mm; 2.5"/ 63-65mm; 70mm; 3"/ 75-76mm; 80mm; 4"/ 100-102mm; 6"/ 150-152mm	50	24/
AIRDUC® PUR 356 AS (XHD)	40mm; 1.75"/ 44-45mm; 2"/ 50-51mm; 2.36"/ 60mm; 2.5"/ 63-65mm; 3"/ 75-76mm; 80mm; 3.5"/ 89-90mm; 4"/ 100-102mm; 5"/ 125-127mm; 6"/ 150-152mm	50	24/
PROTAPE® PVC 371*	3"/ 75-76mm; 80mm; 4"/ 100-102mm; 5"/ 125-127mm; 6"/ 150-152mm; 6.3"/ 160mm; 7"/ 178-180mm; 8"/ 200-203mm; 10"	50	24/ Shippin
NORPLAST [®] PUR 385 AS*	20mm; 1"/ 25mm; 30mm; 1.25"/ 32mm; 1.36"/ 35mm; 1.5"/ 38mm; 40mm; 1.75"/ 44-45mm; 2"/ 50-51mm; 2.36"/ 60mm; 2.5"/ 63-65mm; 70mm; 3"/ 75-76mm; 80mm; 3.5"/ 89-90mm; 4"/ 100-102mm; 110mm; 4.72"/ 120mm; 5"/ 125-127mm; 130mm; 5.5"/ 140mm; 6"/ 150-152mm		24h Shipping
AIRDUC [®] TPE 363 (MD) or PROTAPE [®] TPE 320 AS (XLD)	1.5"/ 38mm; 40mm; 2"/ 50-51mm; 2.36"/ 60mm; 3"/ 75-76mm; 80mm; 4"/ 100-102mm	50	24h Shipping
SIL 391 TWO	1"/ 25mm;1.5"/ 38mm; 1.75"/ 44-45mm; 2"/ 50-51mm; 2.5"/ 63-65mm; 3"/ 75-76mm; 80mm; 3.5"/ 89-90mm; 4"/ 100-102mm	13	24h Shipping
EVA 373 AS	1"/ 25mm; 1.25"/ 32mm; 1.36"/ 35mm; 1.5"/ 38mm; 40mm; 1.75"/ 44-45mm; 2"/ 50-51mm; 2.36"/ 60mm	100	24h Shipping
CP 450 - 487	1.5"/ 38mm; 40; 2"/ 50-51mm; 2.36"/ 60mm; 2.5"/ 63-65mm; 3"/ 75-76mm; 80mm; 3.5"/ 89-90mm; 4"/ 100-102mm; 110mm; 4.5"/ 114-115mm; 4.72"/ 120mm; 5"/ 125-127mm; 5.5"/ 140mm; 6"/ 150-152mm; 6.3"/ 160mm; 170mm; 7"/ 178-180mm; 8"/ 200-203mm; 225mm; 250mm; 300mm; 350mm; 400mm; 450mm; 500mm; 600mm; 700mm; 800mm; 900mm; 1000mm	12,5	48h Shipping

*a product of the PROTAPE® 371 series/NORPLAST® PUR 385 series.



Modern logistics Service Approach EXCELLENCE

Branch Categories

48h assembly

mobile

Always there for you – at norres.com

- The NORRES Website Product information und stock enquiry in real-time
- Soon: The NORRES Shop NORRES customers are able to order their products conveniently via online store
- The NORRES Hose Finder Filter by means of i.e. conveying medium, properties, area of application, etc. your suitable product directly on the product overview pages
- The NORRES Service principle: We keep our promise despatch within 24 hours from our NORRES sites, 48 hours
 assembly time for selective products and product lines

NORRES – always up-to-date

Direct access to the product page via QR code - Here you will find:

- All applications, properties and delivery variants at a glance
- Availability
- · Certificates, approvals and declarations of conformity
- Assembly information and installation guidelines
- All common dimensions and lengths at a glance
- Technical specifications such as pressure, bending radius and weight
- Suitable accessories
- ... and of course: Always up-to-date

NORRES – services for our customers

- Expert advise and Quality
- Modern logistic concepts (e.g. dropshipping)
- · Efficient service packages for customer-specific concepts with sales value
- Specialist custom made solutions for all types of hoses to meet customer requirements
- Extensive product range for all industries
- Assembly service for numerous connecting elements and couplings



NORRES - Technical online

Icons
 Constructions
 Technical videos



- Technical information:
 CE certification
- Ingress Protection
- Thread standards
- Food regulatory approvals
- Standards and regulations
- VDA listing

- Electrical characteristics
- Electrostatic charging data
 - Pressure loss da
- Pressure ratings
- Cut length and assembly information
 Material data sheets
- Nominal diameters diagram
- Installation guidelines
- Chemical resistance table
- Technical terms and definitions
- Loss of strength at higher temperatures
- Material data sheets (incl. Matrix – Technical data)



Pre-PUR®: NORRES uses a special polyurethane mixture for several of its hoses that sets them apart from the majority of commercially available products as follows: Increased material strength

- Higher abrasion resistance
- Improved chemical resistance
- Higher softening points
- Increased heat resistance
- Increased flexibility at low temperatures

Abrasion resistant: NORRES hoses with this symbol have been specially developed to transport very abrasive media while maintaining a long service life.

- Precise construction for optimal strength reinforcement
- Specific materials chosen to provide superior material strength and abrasion resistance



Crush resistant: NORRES hoses with this symbol are able to resist crushing either partially or completely when driven over or stepped on

good recovery properties



Smooth interior: NORRES hoses bearing this icon have optimal flow properties and offer the following advantages: Very high delivery rate

- Low pressure loss (reduced blower power and lower operating costs)
- Gentler material transport
- Low wear and therefore longer service life



High flexibility: This symbol is only used for NORRES hoses that require minimal force to flex.



Microbe-resistant: Not all plastics withstand microbes. This is a critical element for extended contact with soil organic substances or heavy contamination in conditions favorable to microbe growth. The chemical structure of this material is modified for resistance to microbial attack



Approvals for use with foodstuffs: NORRES hoses with this symbol have one or more national and / or international approvals and certificates of conformity that allow them to be used in food applications.



Flame retardant: NORRES hoses with the flame retardant icon have one or more national and/or international approvals classifying them as flame retardant or selfextinguishing



Partially colored: Thanks to our patented production method, transparent hoses can be manufactured with a color stripe along the helix in a specified color. Strengthen your market position by utilising your corporate colors.



AS

+25%

PATENT PENDING

PATENTED





Antistatic and electrically conductive hoses: According to the new ATEX Directive, hoses with a discharge-capable (antistatic $< 10^9 \Omega$) or electrically conductive (<10³ Ω to <10⁶ Ω) wall should be used for combustible bulk materials as well as in hazardous areas. Please comply with all relevant regulations and standards and refer to the Technical Appendix for more details.

Special wire adhesion: Hoses manufactured using our special, highly advanced, multi-stage adhesion process are marked with this symbol. The exceptionally long service life realised with these products - even when subjected to severe combined loads - would otherwise remain unattainable.

Cut lengths: NORRES provides excellent service to customers which includes cutting services on many NORRES hose products that are in stock. This added benefit can be utilized for a small fee to provide you with the hose length that suits your needs when production time is not an option.

Glass / fork symbol: NORRES hoses bearing this symbol have been issued with an official approval from an independent testing institute for use in food applications in accordance with the EU Directive.

Patent pending: Many NORRES hoses and hose systems are in the process of an patent application. This icon shows NORRES' continued effort to assist its partners and customers with unique products and solutions in the field of technical hoses in the future.

Patented: NORRES is one of the leading trendsetters and manufacturer of high quality technical hose systems. A variety of NORRES hoses and systems have internationally registered patents. These products are marked with the NORRES "Patented Icon" providing NORRES customers unique products and solutions in the technical hose field. Customers can easily identify these hoses at a glance with this icon.

Permanently antistatic: Thanks to a novel, innovative material from NORRES, all hoses marked with this symbol are permanently antistatic (<10⁹ Ω).

HT-PUR: Pre-PUR® is improved even further with an innovative and patented process that increases the heat resistance and life of the hose.

Phthalate-free: NORRES hoses with this symbol are 100% free of phthalates and softener.



Media: With the new icon "media" as customers you can recognize the suitability of hoses for specific medias at a glance. This icon "media" distinguishes between gaseous, liquid and fine dust medias as well as solids and heavy loads. This innovative icon enables customers to instantly select the right hose or hose system.



Gas: for all hoses Dust: for all hoses which are suitable which transport for gaseous media. powdery media



Liquid: for all hoses Solids: for all hoses which transport solids.

Abbreviations:

- XI D
- LD
 - = medium heavy
- HD = heavv
- XHD
 - extremely heavy

 - _ high temperature
- FOOD = food safe
 - stainless steel spiral

which transport liquid media.

= super light	
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- light
- MD
 - super heavy
- XXHD =
- AS antistatic
- FC electrically conductive
- HT
 - INOX =

NORRES Product Quality: Raw Material Pre-PUR®

Pre-PUR® Pre-PUR® makes the difference

Polyurethanes are not all the same! As with all raw materials and finished goods, there are large differences in quality here as well.

For many of its hoses, NORRES uses a special mixture called Pre-PUR®, containing an ester-polyurethane or an ether-polyurethane. Compared to many other plastics, rubber formulations and "simple" polyurethanes, the block copolymers, which consist of hard and soft Pre-PUR® segments, have superior properties. The hard segments of Pre-PUR® provide extremely high mechanical stability, while at the same time the soft segments give the material high flexibility and dynamic load capacity.

Our hoses made from Pre-PUR® raw materials differ as follows from many of the hoses commercially available:

 NORRES Pre-PUR[®] consists of special and high-quality, premium ester- and etherpolyurethanes.

Choosing a polyurethane just one level of quality lower can cause a reduction of more than 30% in abrasion resistance.

- The use of high-purity raw materials and a narrow tolerance range ensure a high level of quality. excellent mechanical stability
- Iow abrasion
- excellent chemical and hydrolytic resistance
- NORRES Pre-PUR® has extremely long molecular chains (high molecular weight and a lot of crystalline domains and morphology). During chemical, hydrolytic and thermal degradation, molecular chains are generally shortened as a result of chain scission.
 Consequently, longer molecular chains generally result in longer service life. The length of the molecular chains is also a determining factor in the softening point of a hose. Thus products made from Pre-PUR® have above average residual strength when subjected to heat, while at the same time demonstrating better flexibility at low temperatures.
 - improved chemical and hydrolytic stability
 - higher softening points
 - greater residual strength at high temperatures
 - higher compression strength
 - greater safety due to material stability
 - better hot air aging properties
 - better low temperature flexibility
 - Iower "bending force" when cold
 - Iower risk of bending fracture at low temperatures

- NORRES Pre-PUR[®] contains special stabilisers for hose technology, developed in partnership with our raw material suppliers. Without these additives, hoses generally are more vulnerable to chemical, hydrolytic and thermal attack and occasionally wear out significantly faster.
 - improved chemical and hydrolytic stability
 - improved oxidation resistance
 - better hot air aging properties
 - improved resistance to weathering

The ether-polyure than Pre-PUR[®] used in many of our hoses has the following advantages over ester-polyure than Pre-PUR[®] (and also over other ester-polyure thanes):

- Resistant to microbes (This is critical for extended contact with soil or similar substances or heavy contamination under conditions favourable to microbes. The chemical structure of ether-polyurethanes gives the materials permanent resistance to microbial attack. We believe this is clearly a better solution than ester-polyurethanes that are often stabilized with for health not completely harmless additives for this purpose. With these ester-polyurethanes there is a risk that the additive will leach out, causing the level to fall below that required for protection as the additive migrates to the surface of the hose and comes in contact with the user and the material transported.)
- Resistant to hydrolysis (This is critical for wet or humid applications at higher temperatures and for use in tropical climates.)
- Its chemical stability is far superior to ester-polyurethanes
- Its flexibility at low temperatures is superior to comparable ester-polyurethanes

In summary:

- Ionger service life
- areater safety
- significant added value and greater benefits



An example of stability:

Our high-quality Pre-PUR[®] raw materials with special stabilizers demonstrate considerably better stability and significantly longer service life than can be obtained with many other products.

An appropriate measure of this is hydrolysis testing in water at 176°F, since the mechanism of chemical degradation of polyester-polyurethane is frequently hydrolysis of the polyester chains. Our ester Pre-PUR[®] is shown in Figure 1, compared with an other typical commercial ester TPU.



Example of abrasion resistance:

According to standard tests, the **abrasion resistance** of our Pre-PUR® polyurethanes is about two and a half to five times higher than for many rubber raw materials and about three to four times higher than for many soft PVC's (measured at 68°F). In applications, the differences are frequently even greater, because the excellent damping and impact resilience of Pre-PUR® polyurethanes does not come into play with the standard test method.

Food and Pharma



Silo, silo vehicle/ silo truck, tanker/ tank truck: Conveying of dry foods, e.g. rice, cereals, sugar, milk powder, powders, coffee, tea, grains, flour, frozen foods

Recommended by NORRES customers:

AIRDUC® PUR-INOX 356 FOOD-AS (XHD)

Proven Alternatives:

AIRDUC® PUR 356 FOOD (XHD) AIRDUC® PUR 356 FOOD REINFORCED (XXHD) BARDUC[®] PUR-INOX 382 FOOD-AS (XHD) NORPLAST[®] PUR-C 386 AS (XHD) NORPLAST[®] PUR 387 (XXHD) NORPLAST[®] PUR-C 387 AS (XXHD)



Vacuum conveying device, vacuum hopper, suction conveyor, dosing system, pelleting machine/tablet press

Recommended by NORRES customers: AIRDUC[®] PUR-INOX 355 FOOD-AS (HD)

Proven Alternatives: AIRDUC® PUR 351 FOOD (MD) AIRDUC® PUR-INOX 351 FOOD-AS (MD) AIRDUC[®] PUR 355 FOOD (HD) AIRDUC[®] PUR 356 FOOD (XHD) AIRDUC[®] PUR-INOX 356 FOOD-AS (XHD) BARDUC[®] PUR-INOX 382 FOOD-AS (XHD) BARDUC[®] PVC 381 FOOD (HD)



Mixer, dryer, packaging machine, bulk-bag (big bag)-charging and discharging, mill

Recommended by NORRES customers: PROTAPE® PUR-C 335 FOOD-AS FLAT AIRDUC® PUR-INOX 355 FOOD-AS (HD)

Proven Alternatives:

CP PUR 455 FOOD PROTAPE® PUR 330 FOOD (LD) AIRDUC® PUR 350 FOOD-AS (MD) AIRDUC® PUR 351 FOOD (MD) AIRDUC® PUR-INOX 351 FOOD-AS (MD) AIRDUC® PUR 355 FOOD (HD) AIRDUC® PUR 356 FOOD (XHD) AIRDUC® PUR-INOX 356 FOOD-AS (XHD) AIRDUC® PE 362 FOOD (MD) CP PTFE-INOX 475 FOOD



Raw material processing



Silo, silo vehicle/ silo truck, tanker/ tank truck: Silo charging, silo discharging

Recommended by NORRES customers: AIRDUC® PUR 356 AS (XHD)

NORPLAST® PUR-C 386 AS (XHD)

Proven Alternatives:

AIRDUC® PUR 356 FOOD (XHD) AIRDUC® PUR-INOX 356 FOOD-AS (XHD) AIRDUC[®] PUR 356 EC (XHD) AIRDUC[®] PUR 356 FOOD REINFORCED (XXHD) BARDUC[®] PUR-INOX 382 FOOD-AS (XHD) NORPLAST[®] PUR 387 (XXHD) NORPLAST[®] PUR-C 387 AS (XXHD)

Screening machine/ sifting machine, vibration screening machine, tumbler screening machine, plansifter, windsifter

Recommended by NORRES customers: PROTAPE® PUR-C 335 FOOD-AS FLAT

Proven Alternatives:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) PROTAPE® PUR 330 FOOD (LD) PROTAPE® PUR-INOX 330 FOOD-AS (LD)



Vehicle exhaust gas system

Vehicle exhaust gas extraction system: Hose reel, floorgrid and underfloor extraction system

Recommended by NORRES customers:

PROTAPE® TPE 326 MEMORY

Proven Alternatives:

PROTAPE® TPE 325 WEAR STRIP CP HYP 450 PROTECT CP ARAMID 461 PROTECT CP HiTex 481



Engine test bench, exhaust gas measurement

Recommended by NORRES customers:

CP HiTex 481 CP Kapton® 476 CP HiTex 486 CP HiTex 483

Proven Alternatives:

CP HiTex 485 CP HiTex 487



Automotive/Vehicle industry

Industrial robot, robotic, welding equipment, welding robot, welding gun: Welding spot resistant hose, hose for dresspack for media as water and air

Recommended by NORRES customers:

NORFLEX[®] PUR 441 ROBOTIC Proven Alternatives: NORFLEX[®] PUR 401 WELDING



Plastics industry

Silo, silo vehicle/silo truck, tanker/tank truck: Silo charging, silo discharging

Recommended by NORRES customers: AIRDUC[®] PUR 356 AS (XHD)

NORPLAST® PUR-C 386 AS (XHD) Proven Alternatives:

AIRDUC[®] PUR 356 FOOD REINFORCED (XXHD)

Conveying of granulates and powders: Granulate conveying device, vacuum hopper/conveyor, suction conveyor, dosing system, bulk-bag (big bag)-charging and discharging, shredder, mill, extruder, injection moulding machine

Recommended by NORRES customers:

AIRDUC® PUR 355 AS (HD) AIRDUC® PUR 355 AS WEAR STRIP (HD) BARDUC® PVC 381 FOOD (HD) NORPLAST® PVC-CU 384 AS (HD)

Proven Alternatives:

AIRDUC[®] PUR 355 HT (HD) AIRDUC[®] PUR 356 AS (XHD) AIRDUC[®] PUR 356 HT (XHD) NORPLAST[®] PUR-C 386 AS (XHD)

Granulate/ plastic dryer, hot air dryer PROTAPE® TPE 321 REINFORCED (LD) AIRDUC® TPE 363 (MD)

AIRDUC[©] TPE 363 (MD) NEO 390 ONE NEO 390 TWO SIL 391 ONE SIL 391 TWO

Injection moulding tool cooling, cooling water supply

NORFLEX® PUR 441 FOOD NORFLEX® PUR 441 ROBOTIC NORFLEX® PVC 440 NORFLEX® PVC 440 HIGH PRESSURE

Film blowing machine, cooling air at the extrusion tool

AIRDUC® PUR 351 HT (MD) AIRDUC® PUR 355 HT (HD) PROTAPE® TPE 320 AS (XLD) PROTAPE® TPE 320 HT (XLD) PROTAPE® TPE 321 HEINFORCED (LD) AIRDUC® TPE 363 (MD) NORFLEX® PUR 441 FOOD NEO 390 ONE NEO 390 TWO

Suction and Disposal Vehicles

Suction excavator Recommended by NORRES customers: AIRDUC[®] PUR 356 AS (XHD)

Proven Alternatives: AIRDUC[®] PUR 357 VAC-TRUCK AIRDUC[®] PUR 355 VAC-TRUCK ORANGE



Suction vehicle:

Sewer cleaning, sewage cleaning

Recommended by NORRES customers:

NORPLAST® PVC 389 SUPERELASTIC WEAR STRIP (XHD)

Proven Alternatives:

AIRDUC[®] PUR 356 AS (XHD) NORPLAST[®] PVC 379 GREEN SUPERELASTIC (HD) NORPLAST[®] PVC 389 SUPERELASTIC PLUS (XHD) Vacuum truck, suction vehicle: Roof gravelling, roof gravel conveying

Recommended by NORRES customers:

AIRDUC[®] PUR 356 AS (XHD) NORPLAST[®] PUR 387 (XXHD)

Proven Alternatives: AIRDUC[®] PUR 355 VAC-TRUCK REINFORCED

Vacuum truck, suction vehicle, dry suction truck: Industrial cleaning, furnace cleaning

Recommended by NORRES customers:

AIRDUC[®] PUR 356 AS (XHD) NORPLAST[®] PUR 387 (XXHD)

Proven Alternatives:

AIRDUC® PUR 355 VAC-TRUCK REINFORCED AIRDUC® PUR 356 EC (XHD) NORPLAST® PVC 389 SUPERELASTIC WEAR STRIP (XHD) NORPLAST® PVC-C 389 AS SUPERELASTIC WEAR STRIP (XHD) NORPLAST® PVC 389 SUPERELASTIC PLUS (XHD) NORPLAST® PUR-C 387 AS (XXHD)

Industrial vacuum cleaners

Industrial vacuum cleaners, vacuum cleaners Recommended by NORRES customers:

AIRDUC[®] PUR 355 AS (HD) AIRDUC[®] PUR 355 AS WEAR STRIP (HD) AIRDUC[®] PUR 355 EC (HD)

Proven Alternatives:

AIRDUC® PUR-INOX 351 FOOD-AS (MD) AIRDUC® PUR-INOX 355 FOOD-AS (HD) AIRDUC® PUR 356 AS (XHD) SuperFlex 372 EVA 373 EVA 373 AS EVA 373 EC







Fume and dust extraction

Extraction unit, dedusting system, filter system, oil mist extraction

Recommended by NORRES customers:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) AIRDUC® PUR 350 AS (MD) PROTAPE® PVC 371 (HD) PROTAPE® PVC 371 AS (HD)

Proven Alternatives:

PROTAPE® PUR 330 AS BLACK (LD) AIRDUC® PUR 350 AS BLACK (MD) AIRDUC® PUR 351 FOOD (MD) PROTAPE® PVC 310 (LD) AIRDUC® PVC 341 (MD)

Chemical industry: Chemical vapours, vapour return hose at loading arm, paint steam, spray mist extraction

Recommended by NORRES customers:

PROTAPE® PE 322 EC (XLD)

Proven Alternatives:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) AIRDUC[®] PUR 350 AS (MD) PROTAPE® TPE 320 HT (XLD) PROTAPE® PVC 371 (HD) PROTAPE® PVC 371 AS (HD) AIRDUC® PE 362 EC (MD) CP PE 457 CP PE 457 EC CP HYP 450 CP VITON® 459 EC CP PTFE-INOX 475 FOOD CP PTFE-INOX 475 EC CP PTFE/HYP-INOX 472 CP PTFE/HYP-INOX 472 EC CP PTFE/GLASS-INOX 471 CP PTFE/GLASS-INOX 471 EC CP Kapton® 476

Welding fume extraction

Recommended by NORRES customers: PROTAPE® PVC 371 HT (LD) CP HiTex 467 WELDING

Proven Alternatives:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) PROTAPE® PUR 370 (LD) PROTAPE® PVC 371 (LD) PROTAPE® PVC 371 (MD) PROTAPE® ALU-PVC 369 CP PVC 465 CP PVC 466 HT



Galvanic extraction

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) PROTAPE® PVC 310 (LD) AIRDUC® PVC 341 (MD) AIRDUC® PVC 345 (HD) PROTAPE® PVC 371 (HD) PROTAPE® PVC 371 AS (HD)





Extraction arm

Recommended by NORRES customers:

PROTAPE[®] PVC 371 (LD) PROTAPE[®] PVC 371 HT (LD) PROTAPE[®] PVC 371 (MD)

Proven Alternatives:

PROTAPE® PUR 330 AS (LD) PROTAPE® PUR-INOX 330 FOOD-AS (LD) PROTAPE® PE 322 EC (XLD) CP PE 457 EC PROTAPE® PUR 370 (LD) CP PVC 465 CP PVC 466 CP PVC 466 HT CP HITEx 467 WELDING CP PTFE-INOX 475 FOOD



Shot blasting/sand blasting

Surface preparation: Shot blasting / sand blasting recovery e.g. at blasting chamber, ship yard, stripping machine, floor preparation machine, grinding machine

Recommended by NORRES customers:

AIRDUC® PUR 355 AS (HD) AIRDUC® PUR 355 AS WEAR STRIP (HD)

Proven Alternatives:

PROTAPE® PUR 330 AS (LD) AIRDUC® PUR 350 AS (MD) AIRDUC® PUR 351 FOOD (MD) AIRDUC® PUR 356 AS (XHD)



Wood processing industry

Wood dust extraction, wood chips: Furniture production, saw mill

Recommended by NORRES customers:

TIMBERDUC[®] PUR 531 AS (XLD) TIMBERDUC[®] PUR 532 AS (LD) TIMBERDUC[®] PUR 532 CNC (MD) TIMBERDUC[®] PUR 533 AS (MD)

Proven Alternatives:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) AIRDUC® PUR 350 AS (MD) AIRDUC® PUR 355 AS (HD) METAL HOSE 375 METAL HOSE 375 HT METAL HOSE INOX 376

Wood dust extraction: CNC machine, CNC machining center (especially for fast moving systems)

Recommended by NORRES customers:

TIMBERDUC® PUR 532 CNC (MD)

Proven Alternatives:

TIMBERDUC[®] PUR 531 AS (XLD) PROTAPE[®] PUR 301 AS (XLD) PROTAPE[®] PUR 330 AS (LD)

Wood dust extraction: Vertical panel saw, saw, woodworking machine, edge processing machine, parquet flooring grinding machine

Recommended by NORRES customers:

TIMBERDUC[®] PUR 532 AS (LD) TIMBERDUC[®] PUR 533 AS (MD)

Proven Alternatives:

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) AIRDUC® PUR 350 AS (MD) AIRDUC® PUR 355 AS (HD)





Agricultural industry

Conveying of seed and fertilizers: Seeding machine, seed drill, drilling machine

AIRDUC[®] PUR 355 AS (HD) AIRDUC[®] PUR 355 AS WEAR STRIP (HD) AIRDUC[®] PUR 355 FOOD (HD) NORPLAST[®] PVC 379 GREEN SUPERELASTIC (HD)



Pneumatic grain conveyer

Recommended by NORRES customers:

AIRDUC® PUR 355 AS (HD) AIRDUC® PUR 355 AS WEAR STRIP (HD)

Proven Alternatives:

AIRDUC® PUR 355 FOOD (HD) AIRDUC® PUR 356 AS (XHD) AIRDUC® PUR 356 FOOD (XHD)

Irrigation, fertilizers, insecticides

BARDUC® PVC 381 FOOD (HD) NORPLAST® PVC 383 WEAR STRIP (LD) NORPLAST® PVC 388 SUPERELASTIC (MD) NORPLAST® PVC 380 GREEN (HD) NORPLAST® PVC 379 GREEN SUPERELASTIC (HD) NORPLAST® PVC 389 SUPERELASTIC WEAR STRIP (XHD) NORPLAST® PVC 389 SUPERELASTIC PLUS (XHD) NORFLEX® PVC 440 HIGH PRESSURE

High pressure spraying hose e.g. for pesticides

NORFLEX[®] PUR 441 ROBOTIC NORFLEX[®] PVC 440 HIGH PRESSURE

Manure spreader, slurry spreader, slurry tanker

NORPLAST® PVC 379 GREEN SUPERELASTIC (HD) NORPLAST® PVC 389 SUPERELASTIC WEAR STRIP (XHD) NORPLAST® PVC 389 SUPERELASTIC PLUS (XHD)

Animal stall, animal shed: Barn ventilation

PROTAPE® PUR 301 AS (XLD) PROTAPE® PUR 330 AS (LD) PROTAPE® PVC 310 (LD) PROTAPE® PVC 371 (LD) PROTAPE® PVC 371 (MD)

Animal stall, animal shed: Feedstuff conveying, feedstuff plant, animal feed transport

AIRDUC® PUR 351 FOOD (MD) AIRDUC® PUR 355 FOOD (HD) NORPLAST® PUR 387 (XXHD)







Sweeping and cleaning machines

Municipal vehicle: Sweeper, sweeping machine Recommended by NORRES customers:

AIRDUC® PUR 350 AS (MD) AIRDUC® PUR 351 FOOD (MD) AIRDUC® PUR 355 AS (HD) AIRDUC® PUR 355 AS WEAR STRIP (HD) AIRDUC® PUR 351 SWEEPER AIRDUC® PUR 355 SWEEPER AIRDUC® PUR 355 SWEEPER REINFORCED

Proven Alternatives:

PROTAPE® PUR 327 MEMORY PROTAPE® PUR 327 PP AIRDUC® PUR 355 VAC-TRUCK ORANGE





Municipal vehicle: Lawn mower, slope mower, leaf blower/leaf collector

Recommended by NORRES customers:

AIRDUC[®] PUR 350 AS (MD) AIRDUC[®] PUR 351 FOOD (MD)

Proven Alternatives:

PROTAPE® PUR 327 MEMORY PROTAPE® PUR 327 PP AIRDUC® PUR 355 AS (HD)









Polyurethane (Pre-PUR[®]) vacuum hoses and conveying hoses

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Polyurethane (Pre-PUR®) vacuum hoses and conveying hoses

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PROTAPE® PUR 301 AS (XLD)



ideal for: extraction units, extraction arms, ventilation, filter systems

Universal ester polyurethane hose

- super-light model
- microbe resistant
- good resistance to oil, gasoline and chemicals
- flame-retardant according to: UL94-HB
- flame-retardant according to: DIN 4102-B1
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)

Design, material: patented PROTAPE® tape hose; spring steel wire integrated in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.015"

Ø: 1.5"/38mm - 19.7"/500mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

PROTAPE® PUR 330 AS (LD)



ideal for: extraction units, extraction arms, ventilation, filter systems



<u>&</u>

- Universal ester polyurethane hose
- super-light and reinforced model
- microbe resistant
- good resistance to oil, gasoline and chemicals
- flame-retardant according to: DIN 4102-B1
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)



Wall thickness: 0.025"

Ø: 1"/25mm - 17.7"/450mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

PROTAPE® PUR 330 AS BLACK (LD)



ideal for: extraction units, extraction arms, ventilation, filter systems,

leaf blowers

Universal ester polyurethane hose

- super-light and reinforced model
- good resistance to oil, gasoline and chemicals
- very good low temperature flexibility
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)



Design, material: patented PROTAPE® tape hose; spring steel wire integrated in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.025"

Ø: 1.57"/40mm - 8"/200-203mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271







AIRDUC[®] PUR 350 AS (MD) Universal ester polyurethane hose . medium-heavy model microbe resistant good resistance to oil, gasoline and chemicals very good low temperature flexibility flame-retardant according to: UL94-V2 & DIN 4102-B1 conforms to the safety regulations of the German Wood Trade Association antistatic <10⁹ Ω -40°F to 195°F (255°F) Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: permanently

ideal for: extraction units, leaf blowers, mowing machines

antistatic premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.03"

Ø: 1"/25mm - 20"/508mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

Accessories: 212, 210, 217, 213, 228, 223, 270-271

AIRDUC[®] PUR 350 AS BLACK (MD)

Universal ester polyurethane hose

- medium-heavy model
- good resistance to oil, gasoline and chemicals
- very good low temperature flexibility
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)



ideal for: extraction units, leaf blowers, mowing machines

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.03"

Ø: 1.57"/40mm - 11.8"/300mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271



Polyurethane (Pre-PUR®) vacuum hoses and conveying hoses

AIRDUC® PUR 350 AS TWIN COLOR (MD)



ideal for: extraction units, leaf blowers, mowing machines

Universal ester polyurethane hose

- medium-heavy model
- microbe resistant
- good resistance to oil, gasoline and chemicals
- very good low temperature flexibility
- two-coloured
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)
- Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall

Wall thickness: 0.03"

Ø: 1.25"/32mm - 8"/200-203mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

AIRDUC® PUR 355 AS (HD)



ideal for: granulate conveying, industrial vacuum cleaners, printed circuit board drilling machines (PCB), offset printing machines, pneumatic grain conveyer, seeder

- Universal ester polyurethane hose
- heavy model increased pressure and vacuum resistance
- microbe resistant
- good resistance to oil, gasoline and chemicals flame-retardant according to: UL94-V2 & DIN 4102-B1
- . antistatic <109 Ω
- -40°F to 195°F (255°F)



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.06'

Ø: 0.5"/13mm - 19.7"/500mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 240+241, 242, 243, 244, 245 VAC-TRUCK, 245, 246, 223, 270-271

AIRDUC[®] PUR 355 AS WEAR STRIP (HD)



- Universal ester polyurethane hose
- abrasion protection via special outer sliding surface (floor-saving, prolong service life, easy to use)
- heavy model
- increased pressure and vacuum resistance
- microbe resistant
- . good resistance to oil, gasoline and chemicals
- antistatic <109 Ω
- -40°F to 195°F (255°F)



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®); abrasion resistant protection profile (wear strip)

Wall thickness: 0.06"

Ø: 1.25"/32mm - 2.75"/70mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 240+241, 242, 243, 245 CONE FLANGE, 245, 246, 223, 270-271

ideal for: industrial vacuum cleaners

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AIRDUC[®] PUR 355 AS TWIN COLOR (HD)



ideal for: granulate conveying, industrial vacuum cleaners

Universal ester polyurethane hose

- heavy model
- increased pressure and vacuum resistance
- microbe resistant
- good resistance to oil, gasoline and chemicals
- very good low temperature flexibility
- two-coloured
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)



Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR[®])

Wall thickness: 0.06"

Ø: 1.25"/32mm - 8"/200-203mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 240+241, 242, 243, 245 CONE FLANGE, 245, 246, 223, 270-271

AIRDUC® PUR 356 AS (XHD)

ideal for: roof gravelling, granulate conveying, suction trucks, suction excavators, silos, silo trucks, dry suction trucks



- Universal ester polyurethane hose
- super-heavy model
- extremely abrasion-resistant with reinforcement underneath wire and narrow hose pitch
 - very high pressure, vacuum and compression resistance
- microbe resistant
- good resistance to oil, gasoline and chemicals
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)



Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ester-polyurethane (Pre-PUR[®]); reinforcement of the primary abrasion areas

Wall thickness: 0.08-0.1"

Ø: 1.25"/32mm - 12"/305mm

Accessories: 216, 211, 228, 231, 232, 233, 234, 240+241, 242, 243, 245 CONE FLANGE, 245, 246

AIRDUC® PUR 351 EC (MD)





ideal for: mines, explosion hazard areas, industrial vacuum cleaners

Electrically conductive polyurethane hose

- medium-heavy model
- good resistance to oil, gasoline and chemicals
- very good low temperature flexibility
- electrically conductive <10³ Ω
- -40°F to 195°F

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: electrically conductive premium ester-polyurethane (Pre-PUR[®])

Wall thickness: 0.03"

Ø: 1"/25mm - 10"/254mm

Accessories: 212, 210, 212 EC, 217, 213, 228, 233, 234, 240+241, 240 EC, 242, 243, 245, 246, 223, 270-271



Polyurethane (Pre-PUR®) vacuum hoses and conveying hoses

AIRDUC® PUR 355 EC (HD)



ideal for: explosion hazard areas, industrial vacuum cleaners

Electrically conductive polyurethane hose

- heavy model
- increased pressure and vacuum resistance
 - good resistance to oil, gasoline and chemicals
 - electrically conductive $<10^3 \Omega$
 - -40°F to 195°F



Wall thickness: 0.06"

Ø: 1"/25mm - 12.40"/250mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 240+241, 240 EC, 242, 243, 245, 246, 223, 270-271

AIRDUC® PUR 355 EC TWIN COLOR (HD)



ideal for: explosion hazard areas, industrial vacuum cleaners

Electrically conductive polyurethane hose

- heavy model
- increased pressure and vacuum resistance
- good resistance to oil, gasoline and chemicals
- two-coloured
- electrically conductive <10³ Ω
- -40°F to 195°F

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: electrically conductive premium ester-polyurethane (Pre-PUR[®])

Wall thickness: 0.06"

Ø: 1.25"/32mm - 8"/200-203mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 240+241, 240 EC, 242, 243, 245, 246, 223, 270-271

AIRDUC® PUR 356 EC (XHD)





ideal for: explosion hazard areas, suction trucks, dry suction trucks



- super-heavy model
- extremely abrasion-resistant with reinforcement underneath wire and narrow hose pitch
- very high pressure, vacuum and compression resistance; good resistance to oil, gasoline and chemicals
- electrically conductive <10³ Ω
- -40°F to 195°F



Wall thickness: 0.08-0.1"

Ø: 1.5"/38mm - 4"/102mm

Accessories: 216, 211, 228, 231, 232, 233, 234, 240+241, 240 EC, 242, 243, 245, 246





.







ideal for: granulate conveying, hot air tube, vacuum pumps

High-temperature hose

- medium-heavy model
- . very good heat resistance (better than comparable TPE and Neoprene)
 - good resistance to oil, gasoline and chemicals
- -40°F to 195°F (300°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium high-temperature polyurethane HT-PUR (Pre-PUR®)

Wall thickness: 0.04"

Ø: 1"/25mm - 8"/200-203mm

Accessories: 212, 212 EC, 217, 213, 228, 270-271

AIRDUC[®] PUR 355 HT (HD)



ideal for: granulate conveying, hot air tube, vacuum pumps

AIRDUC® PUR 356 HT (XHD)

- High-temperature hose
- heavy model
- very good heat resistance (better than comparable TPE and Neoprene)
- increased pressure and vacuum resistance
- good resistance to oil, gasoline and chemicals .
- -40°F to 195°F (300°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium high-temperature polyurethane HT-PUR (Pre-PUR®)

Wall thickness: 0.06"

Ø: 1"/25mm - 8"/200-203mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 270-271





ideal for: granulate conveying, hot air tube, vacuum pumps

High-temperature hose

- super-heavy model
- extremely abrasion-resistant with reinforcement underneath wire and narrow • hose pitch
- very good heat resistance (better than comparable TPE and Neoprene)
- very high pressure, vacuum and compression resistance
- good resistance to oil, gasoline and chemicals
- -40°F to 195°F (300°F) •



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium high-temperature polyurethane HT-PUR (Pre-PUR®); reinforcement of the

Ø: 2"/50mm - 6"/152mm

Accessories: 216, 211, 228, 231, 232, 233, 234, 245 CONE FLANGE







primary abrasion areas

Wall thickness: 0.08-0.1"

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PROTAPE® PUR 327 MEMORY



ideal for: municipal vehicles, sweepers, leaf blowers, mowing machines, toilet discharging

Crush resistant polyurethane hose

- medium-heavy model
- crush resistant



- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004, . incl. the latest EU-Directive 2015/174, FDA 21 CFR 177.2600
 - microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- . -40°F to 195°F (255°F)

Design, material: patented PROTAPE® tape hose; special plastic-profile supporting spiral; wall: special premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.025"

Ø: 2"/50-51mmm - 8"/200-203mm

Accessories: 212, 217, 213, 228, 270-271

PROTAPE® PUR 327 PP



ideal for: municipal vehicles, sweepers, magnetic resonance tomograph, leaf blowers, mowing machines



- Crush resistant polyurethane hose, PP helix .
- super-light model
- crush resistant microbe resistant
- .
- good resistance to oil, gasoline and chemicals
- -40°F to 195°F



Design, material: patented PROTAPE® tape hose; special plastic-profile supporting spiral; wall: special premium ester-polyurethane (Pre-PUR $^{\ensuremath{\circledast}}$); grounding wire

Wall thickness: 0.015"

Ø: 2"/50mm - 8"/200-203mm

Accessories: 212, 217, 213, 228, 270-271

AIRDUC[®] PUR 351 SWEEPER



Sweeper hose

- medium-heavy model
- protected, flow-optimizing exterior folds
- microbe resistant
- good resistance to oil, gasoline and chemicals .
 - -40°F to 195°F

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane (Pre-PUR®)

Wall thickness: 0.04"

Ø: 5.5"/140mm - 12.40"/250mm

ideal for: municipal vehicles, sweepers, small street sweeping machines Accessories: 211, 240+241, 270-271





Sweeper hose

- heavy and reinforced model
- good resistance to oil, gasoline and chemicals
 - Interior folding
- -40°F to 195°F (255°F)



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane (Pre-PUR®); reinforcement of the primary abrasion areas

Wall thickness: 0.06 - 0.07"

Ø: 8"/200mm - 12"/305mm

Accessories: 211, 240+241, 245 CONE FLANGE, 270-271

AIRDUC[®] PUR 355 VAC-TRUCK ORANGE

- Vacuum truck hose
- heavy and reinforced model
- microbe resistant
- good resistance to oil, gasoline and chemicals

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane (Pre-PUR®); reinforcement of the

-40°F to 195°F (255°F)

primary abrasion areas Wall thickness: 0.1"





ideal for: slope mowers, municipal vehicles, suction excavators

Ø: 8"/200mm - 13.85"/352mm

Accessories: 211, 240+241, 270-271

AIRDUC® PUR 355 SWEEPER REINFORCED . microbe resistant .

ideal for: large street sweeping machines, municipal vehicles, sweepers



AIRDUC[®] PUR 355 VAC-TRUCK REINFORCED



ideal for: roof gravelling, suction trucks, dry suction trucks

Vacuum truck hose heavy and reinforced model

- . extremely abrasion-resistant with reinforcement underneath wire
- increased pressure and vacuum resistance
- .
- good resistance to oil, gasoline and chemicals
- -40°F to 195°F (255°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.1"

Ø: 3.35"/85mm - 6"/152mm

Accessories: 211

AIRDUC[®] PUR 357 VAC-TRUCK



Vacuum truck hose

- . super-heavy and extremely reinforced model
- extremely abrasion-resistant with extremely thick polyurethane wall .
- very high pressure, vacuum and compression resistance
- good resistance to oil, gasoline and chemicals
- -40°F to 195°F (255°F)



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium ester-polyurethane (Pre-PUR®)

Wall thickness: 0.16 - 0.2"

Ø: 4"/100mm - 12.40"/250mm

Accessories: 211

ideal for: rock drills, suction excavators



Polyurethane (Pre-PUR®) food hoses

Content

PROTAPE® PUR-C 335 FOOD-AS FLAT Screening machine hose and compensator, vibration resistant	40°F to	195°F	31
CP PUR 455 FOOD Food hose and pharmaceutical hose, super-light weight	40°F to	195°F	. 31
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PROTAPE® PUR 330 FOOD (LD) Food hose and pharmaceutical hose, light weight	40°F to	195°F	. 32
PROTAPE® PUR-INOX 330 FOOD-AS (LD) Antistatic food hose and pharmaceutical hose, light weight, stainless steel (INOX)	40°F to	195°F	. 32
AIRDUC® PUR 350 FOOD-AS (MD) Antistatic food hose and pharmaceutical hose, medium-heavy duty	40°F to	195°F	. 32
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AIRDUC® PUR 355 FOOD (HD) Food hose and pharmaceutical hose, heavy duty	40°F to	195°F	. 33
AIRDUC® PUR-INOX 355 FOOD-AS (HD) Antistatic food hose and pharmaceutical hose, heavy duty, stainless steel (INOX)	40°F to	195°F	. 34
AIRDUC® PUR 356 FOOD (XHD) Food hose and pharmaceutical hose, super-heavy duty	40°F to	195°F	. 34
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AIRDUC® PUR 356 FOOD REINFORCED (XXHD) Food hose and pharmaceutical hose, super-heavy duty and reinforced	40°F to	195°F	. 35
BARDUC® PUR-INOX 382 FOOD-AS (XHD) Antistatic food hose and pharmaceutical hose, super-heavy duty + reinforced, smooth in-/ exterior, stainless steel (INOX)	40°F to	195°F	35

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PROTAPE® PUR-C 335 FOOD-AS FLAT



ideal for: Food & pharmaceutical, plansifter, screening machines, tumbler screening machines, vibration screening machines

Screening machine hose

- vibration resistant •
- . Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004, incl. the latest EU-Directive 2015/174, FDA 21 CFR 177.2600
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals antistatic <10⁹ Ω
- -40°F to 195°F (255°F)

Design, material: patented PROTAPE® tape hose; wall interior and exterior smooth; wall: permanently antistatic premium ether-polyurethane (Pre-PUR®); grounding wire

Wall thickness: 0.04"

Ø: 2"/50mm - 16"/405-406mm

Accessories: 208, 211, 228, 270-271





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- Food hose and pharmaceutical hose
- . abrasion protection via external Clamp profile
- highly flexible + compressible 5:1
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004, incl. the latest EU-Directive 2015/174, FDA 21 CFR 177.2600
- microbe and hydrolysis resistant
- -40°F to 195°F (255°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: special premium ether-polyurethane (Pre-PUR®)

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271





ideal for: extraction units, food & pharmaceutical



ideal for: extraction units, food & pharmaceutical



super-light model

Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010

- Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2) and EC 1935/2004
- microbe and hydrolysis resistant
- -40°F to 195°F (255°F) .

Design, material: patented PROTAPE® tape hose; spring steel wire integrated in the wall; extruded tape; wall: special premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.015"

Ø: 1.5"/38mm - 19.7"/500mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271



PROTAPE® PUR 330 FOOD (LD)





ideal for: extraction units, food & pharmaceutical

Food hose and pharmaceutical hose

- super-light and reinforced model
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174,



- food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010 Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2)
- and EC 1935/2004
- microbe and hydrolysis resistant
- -40°F to 195°F (255°F)

Design, material: patented PROTAPE® tape hose; spring steel wire integrated in the wall; wall: special premium ether-polyurethane (Pre-PUR®)

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Design, material: patented PROTAPE® tape hose; spring steel wire integrated in the wall; spiral: stainless

Wall thickness: 0.025"

Ø: 1"/25mm - 19.7"/500mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

PROTAPE® PUR-INOX 330 FOOD-AS (LD)

- Food hose and pharmaceutical hose
- . super-light and reinforced model
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600
- Approval acc. to EU-Directive 10/2011 (food simulant E) and EC 1935/2004

steel wire (INOX); wall: permanently antistatic premium ether-polyurethane (Pre-PUR®)

- microbe and hydrolysis resistant
- antistatic <10⁹ Ω
- -40°F to 195°F

ideal for: extraction units, food & pharmaceutical

Ø: 1,5"/38mm - 11.8"/300mm

Wall thickness: 0.025"

Accessories: 212, 210, 217, 213, 228, 223, 270-271

AIRDUC[®] PUR 350 FOOD-AS (MD)





ideal for: extraction units, food & pharmaceutical, leaf blowers, mowing machines

- Food hose and pharmaceutical hose
 - medium-heavy model
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004, incl. the latest EU-Directive 2015/174, FDA 21 CFR 177.2600
- Food grade wall, complies with: FDA 21 CFR 177.1680 and 177.2600
- microbe and hydrolysis resistant
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: permanently antistatic premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.03"

Ø: 1"/25mm - 20"/508mm

Accessories: 212, 210, 217, 213, 228, 233, 234, 245 TRI CLAMP, 247, 249, 240+241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD, 223, 270-271



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AIRDUC[®] PUR 351 FOOD (MD)



ideal for: Food & pharmaceutical, leaf blowers, vacuum conveyor/vacuum conveying devices

Food hose and pharmaceutical hose

- medium-heavy model
- . Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010
- Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2) and EC 1935/2004
- microbe and hydrolysis resistant
- flame-retardant according to: UL94-HB
- -40°F to 195°F (255°F)

 $\textbf{Design, material:} AIRDUC^{\circledast} \text{ profile hose; spring steel wire firmly embedded in the wall; wall: special}$ premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.04"

Ø: 1"/25mm - 19.7"/500mm

Accessories: 212, 210, 212 EC, 217, 213, 228, 233, 234, 245 TRI CLAMP, 247, 249, 240+241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD, 223, 270-271

AIRDUC® PUR-INOX 351 FOOD-AS (MD)



ideal for: Food & pharmaceutical, vacuum conveyor/vacuum conveying devices

- Food hose and pharmaceutical hose
 - medium-heavy model Approved by an independent testing laboratory for the complete hose acc.
- to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 Approval acc. to EU-Directive 10/2011 (food simulant E) and EC 1935/2004
- microbe and hydrolysis resistant
- . antistatic <10⁹ Ω
- -40°F to 195°F

.

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; spiral: stainless steel wire (INOX); wall: permanently antistatic premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.04"

Ø: 1"/25mm - 8.9"/225mm

Accessories: 212, 210, 212 EC, 217, 213, 228, 233, 234, 245 TRI CLAMP, 247, 249, 240 + 241 FOOD, 242 243 EOOD 244 EOOD 245 EOOD 246 EOOD 223 270-271

AIRDUC[®] PUR 355 FOOD (HD)



ideal for: Food & pharmaceutical, seeder, toilet discharging, vacuum conveyor/vacuum conveying devices

- Food hose and pharmaceutical hose
- heavy model
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010
- Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2) and EC 1935/2004
- microbe and hydrolysis resistant
- flame-retardant according to: UL94-V2
- -40°F to 195°F (255°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium ether-polyurethane (Pre-PUR®)

Wall thickness: 0.06'

Ø: 0.5"/13mm - 11.8"/300mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 245 TRI CLAMP, 247, 249, 240 + 241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD, 223, 270-271





AIRDUC® PUR-INOX 355 FOOD-AS (HD)



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Food hose and pharmaceutical hose

- heavy model
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600
 Approval acc. to EU-Directive 10/2011 (food simulant E) and EC 1935/2004
- Approval acc. to E0-Directive 10/2011 (id
- microbe and hydrolysis resistant
- antistatic <10⁹ Ω
- -40°F to 195°F



Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; spiral: stainless steel wire (INOX); wall: permanently antistatic premium ether-polyurethane (Pre-PUR[®])

Wall thickness: 0.06"

Ø: 1"/25mm - 8"/200-203mm

Accessories: 212, 216, 212 EC, 217, 213, 228, 231, 232, 233, 234, 245 TRI CLAMP, 247, 249, 240 + 241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD, 223, 270-271

AIRDUC® PUR 356 FOOD (XHD)

ideal for: Food & pharmaceutical, tablet presses, vacuum

conveyor/vacuum conveying devices



ideal for: Food & pharmaceutical, silos, silo trucks

- Food hose and pharmaceutical hose
- super-heavy model
- extremely abrasion-resistant with reinforcement underneath wire and narrow hose pitch
- very high pressure, vacuum and compression resistance
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010
- Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2) and EC 1935/2004
- microbe and hydrolysis resistant
- -40°F to 195°F (255°F)



Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; special premium ether-polyurethane (Pre-PUR[®]); reinforcement of the primary abrasion areas

Wall thickness: 0.08-0.1"

Ø: 1.25"/32mm - 6"/152mm

Accessories: 216, 211, 231, 232, 233, 234, 245 TRI CLAMP, 247, 249, 240 + 241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD

AIRDUC® PUR-INOX 356 FOOD-AS (XHD)



ideal for: Food & pharmaceutical, silos, silo trucks

- Food hose and pharmaceutical hose
 - super-heavy model
- extremely abrasion-resistant with reinforcement underneath wire and narrow hose pitch
- very high pressure, vacuum and compression resistance
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600
- Approval acc. to EU-Directive 10/2011 (food simulant E) and EC 1935/2004
- microbe and hydrolysis resistant
- antistatic <10⁹ Ω
- -40°F to 195°F (255°F)

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; spiral: stainless steel wire (INOX); wall: permanently antistatic premium ether-polyurethane (Pre-PUR[®]); reinforcement of the primary abrasion areas

Wall thickness: 0.08-0.1"

Ø: 1.25"/32mm - 6"/152mm

Accessories: 216, 211, 231, 232, 233, 234, 240+241 FOOD, 242, 243 FOOD, 244 FOOD, 245 FOOD, 246 FOOD



AIRDUC® PUR 356 FOOD REINFORCED (XXHD)



ideal for: Food & pharmaceutical

Food hose and pharmaceutical hose

super-heavy and reinforced model



- very high pressure, vacuum and compression resistance
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600 and 178.2010
 Approval acc. to EU-Directive 10/2011 (food simulants A, B, C or E and D2)
- and EC 1935/2004 microbe and hydrolysis resistant
- -40°F to 195°F (255°F)
- Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: special premium ether-polyurethane (Pre-PUR[®]); reinforcement of the primary abrasion areas

Wall thickness: 0.12 - 0.14"

Ø: 2"/50mm - 6"/152mm

Accessories: 211, 230

BARDUC® PUR-INOX 382 FOOD-AS (XHD)



ideal for: Food & pharmaceutical, tablet presses



- super-heavy model
- very high pressure, vacuum and compression resistance
- Approved by an independent testing laboratory for the complete hose acc. to EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive
- 2015/174, food grade polyurethane, complies with: FDA 21 CFR 177.2600
 Approval acc. to EU-Directive 10/2011 (food simulant E) and EC 1935/2004
 microbe and hydrolysis resistant
- antistatic <10⁹ Ω
- -40°F to 195°F



Design, material: BARDUC[®] design; spring steel wire spiral embedded in the wall; spiral: stainless steel wire (INOX); smooth interior and exterior; wall: permanently antistatic premium ether-polyurethane (Pre-PUR[®])

Wall thickness: 0.16 - 0.24"

Ø: 1.25"/32mm - 4"/100-102mm

Accessories: 211





TPE suction hoses and conveying hoses

Content

PROTAPE® TPE 320 AS (XLD) TPE hose, medium-heavy, antistatic (up to 300°F)
PROTAPE® TPE 320 HT (XLD) TPE hose, light (up to 300°F)40°F to 284°F 37
PROTAPE® TPE 321 REINFORCED (LD) TPE hose, light, fabric reinforced (up to 255°F)40°F to 230°F 37
AIRDUC [®] TPE 363 (MD) TPE hose, medium-heavy (up to 300°F)40°F to 195°F37
PROTAPE[®] TPE 320 AS (XLD)



ideal for: steam soaking, granulate dryer, infrared dryer, UV dryer

TPE hose

- super-light model
- very good heat resistance
- good resistance to oil, gasoline and chemicals
- good resistance to alkalis and acids
- antistatic <109 Ω
- -40°F to 195°F (300°F)



Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; wall: thermoplastic rubber (TPE), antistatic

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall;

Wall thickness: 0.015"

TPE hose

.

super-light model very good heat resistance

Wall thickness: 0.015" Ø: 1,5"/38mm - 11.8"/300mm

-40°F to 284°F (300°F)

wall: thermoplastic rubber (TPE)

Ø: 2"/50-51mm - 12.40"/250mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271

good resistance to oil, gasoline and chemicals

Accessories: 212, 210, 217, 213, 228, 223, 270-271

good resistance to alkalis and acids

PROTAPE® TPE 320 HT (XLD)



ideal for: hot air tube

PROTAPE® TPE 321 REINFORCED (LD)



ideal for: steam soaking, granulate dryer, infrared dryer, UV dryer

TPE hose

- light model
- . very good heat resistance
- good resistance to oil, gasoline and chemicals
- . good resistance to alkalis and acids
- -40°F to 230°F (255°F)

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; fabric-reinforced tape; wall: EPDM / PP coated fabric

Wall thickness: 0.02"

Ø: 2"/50-51mm - 11.80"/300mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271



AIRDUC[®] TPE 363 (MD)



ideal for: steam irons, dedusting systems, film blowing machines, granulate dryer

- TPE hose
- medium-heavy model
- very good heat resistance
- good resistance to oil, gasoline and chemicals
- good resistance to alkalis and acids
- -40°F to 195°F (300°F)

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall

Wall thickness: 0.03"

Ø: 1.20"/30mm - 9.85"/250mm

Accessories: 210, 217, 213, 228, 223, 270-271









PVC, PE, EVA suction and transport hoses

Content

PROTAPE® PVC 310 (LD) PVC hose, light	5°F to 160°F 39
AIRDUC® PVC 341 (MD) PVC hose, medium-heavy	
AIRDUC® PVC 345 (HD) PVC hose, heavy	5°F to 160°F 39
PROTAPE® PVC 371 (LD) PVC ducting (up to 230°F)	15°F to 175°F 39
PROTAPE® PVC 371 (MD) PVC ducting (up to 230°F)	15°F to 175°F 40
PROTAPE® PVC 371 (HD) PVC ducting (up to 230°F)	4°F to 194°F 40
PROTAPE® PVC 371 AS (HD) PVC ducting (up to 230°F)	4°F to 194°F 40
PROTAPE® PVC 371 HT (LD) PVC ducting (up to 250°F)	15°F to 230°F 41
PROTAPE® PUR 370 (LD) Polyurethane ducting (up to 255°F)	
CP PVC 465 PVC clamp profile hose (clip hose) (up to 230°F)	15°F to 175°F 41
CP PVC 465 EC Electrically conductive PVC clamp profile hose (clip hose) (up to 230°F)	15°F to 175°F 42
CP PVC 466 HT PVC clamp profile hose (clip hose) (up to 250°F)	15°F to 230°F 42
CP HiTex 467 WELDING Clamp profile hose (clip hose) for flying sparks or welding sparks (up to 540°F)	95°F to 500°F 42
CP PE 457 Polyethylene clamp profile hose (clip hose)	30°F to 175°F 43
CP PE 457 EC Electrically conductive polyethylene clamp profile hose (clip hose)	30°F to 175°F 43
PROTAPE® PE 322 EC (XLD) Electrically conductive polyethylene hose, light	30°F to 175°F 43
AIRDUC® PE 362 FOOD (MD) Polyethylene food hose and pharmaceutical hose, medium-heavy	30°F to 175°F 44
AIRDUC® PE 362 EC (MD) Electrically conductive polyethylene hose, medium-heavy	30°F to 175°F 44
SuperFlex PVC 372 Highly flexible PVC hose, light	32°F to 185°F 44
EVA 373 Vacuum cleaner hose	50°F to 150°F 45
EVA 373 AS Vacuum cleaner hose, antistatic <10 ¹¹ Ω	15°F to 150°F 45
EVA 373 EC Vacuum cleaner hose, electrically conductive <10 ⁶ Ω	15°F to 150°F 45

PVC, PE, EVA suction and transport hoses

PROTAPE® PVC 310 (LD)



ideal for: extraction units, ventilation, galvanic extraction

AIRDUC[®] PVC 341 (MD)

PVC suction hose

- light model
- good resistance to alkalis and acids
- good resistance to chemicals
- -5°F to 160°F (175°F)

Design, material: patented $\mathsf{PROTAPE}^{\circledast}$ tape hose; spring steel wire integrated in the wall; wall: high grade soft PVC

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in

Wall thickness: 0.02"

Ø: 1.20"/30mm - 11.80"/300mm

Accessories: 212, 210, 217, 213, 228, 223, 270-271







ideal for: extraction units, galvanic extraction

AIRDUC[®] PVC 345 (HD)



Wall thickness: 0.04"

PVC suction hosemedium-heavy model

-5°F to 160°F (175°F)

Ø: 0.80"/20mm - 13.80"/350mm

the wall; wall: high grade soft PVC

good resistance to alkalis and acids

Accessories: 212, 210, 212 EC, 217, 213, 228, 240 + 241, 242, 243, 245, 246, 223, 270-271



- PVC suction nose
- heavy model
- increased pressure and vacuum resistance
 - good resistance to alkalis and acids
- -5°F to 160°F (175°F)

Design, material: AIRDUC $^{\otimes}$ profile hose; spring steel wire firmly embedded in the wall; wall: high grade soft PVC

Wall thickness: 0.06"

Ø: 0.80"/20mm - 13.80"/350mm

Accessories: 212, 212 EC, 217, 213, 228, 240 + 241, 242, 243, 245, 246, 223, 270-271

ideal for: extraction units, galvanic extraction

PROTAPE[®] PVC 371 (LD)



ideal for: extraction arms, asbestos sanitation, ventilation, construction drying, welding fume extraction

PVC ventilation hose

- light model
- good resistance to alkalis and acids
- good resistance to chemicals
- flame-retardant wall according to: NF P 92-503 M2
- 15°F to 175°F (230°F)



Wall thickness: 0.01"

Ø: 1.57"/40mm - 20"/508mm

Accessories: 210, 208, 228, 223, 270-271











ideal for: extraction arms, asbestos sanitation, ventilation, construction drying, welding fume extraction



Accessories: 210, 208, 228, 223, 270-271

PROTAPE® PVC 371 AS (HD)



- PVC ventilation hose
- heavy model
- permanently antistatic wall: in accordance with ISO 8031 electrical and surface resistance <10 9 Ω
- flame-retardant according to: NF P 92-507 M2
- -4°F to 194°F

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; fabric-reinforced tape; wall: PVC coated fabric

Wall thickness: 0.0195"

Ø: 2"/50mm - 17.7"/450mm

ideal for: extraction arms, ventilation

Accessories: 210, 208, 228, 223, 270-271



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PROTAPE[®] PVC 371 HT (LD)



ideal for: extraction arms, ventilation, welding fume extraction

PVC ventilation hose

- light model
- very good heat resistance
- flame-retardant according to: NF P 92-503 M1
- 15°F to 230°F (250°F)

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; fabric-reinforced tape; Wall: PVC coated glass fabric

Wall thickness: 0.01"

Ø: 2"/50-51mm - 12"/305mm

Accessories: 210, 208, 228, 223, 270-271



PROTAPE® PUR 370 (LD)



ideal for: extraction arms, ventilation, welding fume extraction



- light model
- flame-retardant according to: NF P 92-503 M1
- -40°F to 255°F



Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; fabric-reinforced tape; wall: polyurethane coated fabric

Wall thickness: 0.01"

Ø: 2"/50-51mm - 10"/254mm

Accessories: 210, 208, 228, 223, 270-271

CP PVC 465



PVC clip hose

- abrasion protection via external Clamp profile
- good resistance to alkalis and acids
- flame-retardant wall according to: NF P 92-503 M2
- 15°F to 175°F (230°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; fabric-reinforced tape; wall: PVC coated fabric

Ø: 1.5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271





ideal for: welding fume extraction

CP PVC 465 EC



ideal for: extraction of chemical vapours, vapour return hose



- abrasion protection via external Clamp profile
- good resistance to alkalis and acids
- electrically conductive approx. 10⁶ Ω
- 15°F to 175°F (230°F)

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Design, material: CP construction; clamp profile supporting spiral: galvanized steel; fabric-reinforced tape; wall: PVC coated fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



ideal for: welding fume extraction

CP HiTex 467 WELDING



Clip hose for flying sparks or welding sparks

- abrasion protection via external Clamp profile
- extremely heat resistant
- flame-retardant
- -95°F to 500°F (540°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; fabric-reinforced tape; wall: special-coated high-temperature fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271







PVC, PE, EVA suction and transport hoses

CP PE 457



Polyethylene clip hose

- abrasion protection via external Clamp profile
- odourless and tasteless
- good resistance to alkalis and acids
 - extremely good resistance to chemicals
- -30°F to 175°F

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: polyethylene fabric (LDPE + HDPE)

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



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ideal for: asbestos sanitation, construction drying

CP PE 457 EC



ideal for: extraction of chemical vapours, explosion hazard areas

Electrically conductive polyethylene clip hose

- abrasion protection via external Clamp profile
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- electrically conductive <10³ Ω
- -30°F to 175°F

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: electrically conductive polyethylene (PE)

Ø: 1.5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



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PROTAPE® PE 322 EC (XLD)



ideal for: extraction arms, mines, extraction of chemical vapours, explosion hazard areas, spray mist extraction, vapour return hose Electrically conductive polyethylene hose

- super-light model
- good resistance to alkalis and acids
 extremely good resistance to chemical
- extremely good resistance to chemicals
- electrically conductive <10³ Ω
 highly chemical resistant
- -30°F to 175°F

Design, material: patented $PROTAPE^{\oplus}$ tape hose; spring steel wire integrated in the wall; wall: electrically conductive polyethylene (PE)

Wall thickness: 0.012"

Ø: 1.57"/40mm - 11.80"/300mm

Accessories: 212, 217, 213, 228, 223, 270-271



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AIRDUC[®] PE 362 FOOD (MD)



ideal for: extraction of chemical vapours, tobacco conveying

Polyethylene food hose and pharmaceutical hose

- medium-heavy model
- Food grade wall, complies with: FDA 21 CFR 177.1520 3.1 and 3.2, FCN741, EU-Directive 10/2011 and EC 1935/2004
- odourless and tasteless
- extremely good resistance to chemicals
- -30°F to 175°F

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: special polyethylene (PE)

Wall thickness: 0.03"

Ø: 1"/25mm - 9.85"/250mm

Accessories: 212, 210, 212 EC, 217, 213, 228, 223, 270-271

AIRDUC[®] PE 362 EC (MD)



ideal for: extraction of chemical vapours, explosion hazard areas

- Electrically conductive polyethylene hose
- medium-heavy model
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- electrically conductive <10³ Ω
- highly chemical resistant
- -30°F to 175°F

Design, material: AIRDUC[®] profile hose; spring steel wire firmly embedded in the wall; wall: electrically conductive polyethylene (PE)

Wall thickness: 0.03"

Ø: 1.25"/32mm - 11.8"/300mm

Accessories: 212, 210, 212 EC, 217, 213, 228, 223, 270-271

SuperFlex PVC 372



ideal for: construction drying, floor cleaning machines, industrial vacuum cleaners, welding fume extraction, scrubbing machine



- light model
- good resistance to alkalis and acids
- 32°F to 185°F

Design, material: SuperFlex design; plastic coated spring steel wire; wall: high grade soft PVC

Ø: 1"/25mm - 4"/100-102mm

Accessories: 208, 228, 223, 226, 270-271









PVC, PE, EVA suction and transport hoses

EVA 373



ideal for: industrial vacuum cleaners, vacuum cleaners

Vacuum cleaner hose

- light model
- crush resistant
- floatable
- good resistance to alkalis and acids
- crush resistant
- -50°F to 150°F

Design, material: EVA design; self-supporting profile design; open profile geometry; wall: EVA

Ø: 0.80"/20mm - 2.36"/60mm

Accessories: 208, 228, 227

EVA 373 AS



ideal for: industrial vacuum cleaners, vacuum cleaners

Accessories: 208, 228, 227

EVA 373 EC



ideal for: industrial vacuum cleaners, vacuum cleaners

Vacuum cleaner hose

- light model
- crush resistant
- floatable
- good resistance to alkalis and acids
- surface resistance <10⁶ Ω
- crush resistant
- -15°F to 150°F

Design, material: EVA design; self-supporting profile design; open profile geometry; wall: EVA



Accessories: 208, 228, 227









BARDUC[®] suction and pressure hoses

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BARDUC® PVC 381 FOOD (HD) PVC hose, heavy, smooth interior and exterior, vacuum-proof.....

......-5°F to 160°F 47

BARDUC[®] PVC 381 FOOD (HD)



ideal for: Food & pharmaceutical, agricultural industry, vacuum conveyor/vacuum conveying devices, caravans/camper

- PVC food hose
- heavy model
- . very high pressure, vacuum and compression resistance •



- good resistance to alkalis and acids
- good resistance to chemicals
- . -5°F to 160°F (175°F)

Design, material: $\mathsf{BARDUC}^{\scriptscriptstyle(\!\!\!\!\ensuremath{\mathbb{B}}\xspace}$ design; spring steel wire spiral embedded in the wall; smooth interior and exterior; wall: high grade soft PVC

Wall thickness: Ø 0.4": 0.09", Ø 0.47"-0.63": 0.12", Ø 0.7": 1.28", Ø 0.75"-0.87": 0.14", Ø 1": 0.15", Ø1.18"-1.65": 0.18", Ø1.77"-2.36": 0.2", Ø2.5"-2.75": 0.22", Ø3": 0.255", Ø3.15"-4": 0.275"

Ø: 0.40"/10mm - 4"/100-102mm

Accessories: 211





NORPLAST[®] suction hoses and pressure hoses

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NORPLAST® PVC-C 389 AS-SUPERELASTIC WEAR STRIP (XHD) Antist. PVC hose, super-heavy, flexible at low temp., grounding wire	13°F to 140°F 53
NORPLAST® PVC 389 SUPERELASTIC PLUS (XHD) PVC hose, heavy, flexible at low temp, (down to -40°F)	40°F to 140°F 53

NORPLAST® PUR 385 AS (LD)





ideal for: breathing hose, agricultural industry, X-ray machines, mowing machines, welding masks, ship yards

Full plastic suction hose made of PU

- light model
- . abrasion-resistant
- microbe resistant
- antistatic approx. $10^9 \,\Omega$
- -5°F to 160°F (175°F)



Wall thickness: Ø 0.8"-2": 0.02", Ø 2.36"-3": 0.025", Ø 3.15"-4": 0.028", Ø 4.33"-10": 0.03"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 208, 228, 233, 223, 270-271

NORPLAST® PUR 385 FOOD (LD)



ideal for: Food & pharmaceutical, pharmaceutical, X-ray machines

ideal for: extraction hose



- · Full plastic suction hose made of PU, food grade
- light model Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174, FDA 21 CFR 177.2600
 - odourless and tasteless
- microbe and hydrolysis resistant
- . -5°F to 160°F (175°F)

.

Design, material: NORPLAST® full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: special premium ether-polyurethane (Pre-PUR®)

Wall thickness: Ø 0.8"-2": 0.02", Ø 2.36"-3": 0.025", Ø 3.15"-4": 0.028", Ø 4.33"-10": 0.03"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 208, 228, 233, 223, 270-271







- liaht model
- abrasion-resistant
- microbe resistant
- antistatic <109 Ω
- -5°F to 160°F (175°F)



Design, material: NORPLAST® full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: permanently antistatic premium ester-polyurethane (Pre-PUR®); grounding wire

Wall thickness: Ø 0.8"-2": 0.02", Ø 2.36"-3": 0.025", Ø 3.15"-4": 0.028", Ø 4.33"-10": 0.03"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 208, 228, 233, 223, 270-271

NORPLAST[®] PUR-C 386 AS (XHD)





ideal for: granulate conveying, wood pellet conveying, agricultural

industry, seeder, silos, silo trucks

Full plastic transport and suction hose made of PVC/PU

- super-heavy model
- . highly abrasion-resistant
- . increased pressure and vacuum resistance
- antistatic <109 O
- -5°F to 160°F (175°F)



Design, material: NORPLAST® full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: antistatic polyurethane inside layer 0.03 - 0.04 inch approximate, exterior soft PVC; grounding wire

Wall thickness: Ø 0.08"-1.2": 0.08", Ø 1.25"-1.5": 0.087", Ø 1.57"-1.77": 0.095", Ø 2": 0.098", Ø 2.36": 0.1", Ø 2.5"-3.5": 0.12", Ø 4"-4.33": 0.134", Ø 4.72"-5.9": 0.145"

Ø: 1.25"/32mm - 4"/100-102mm

Accessories: 211, 233, 270-271







Full plastic transport and suction hose made of PVC/PU

- abrasion protection via special outer sliding surface (floor-saving, prolong service life, easy to use)
- super-heavy and reinforced model
- extremely abrasion-resistant .
- very high pressure, vacuum and compression resistance
- -5°F to 160°F (175°F)

Design, material: NORPLAST® full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: premium polyurethane (Pre-PUR®), inside layer 0.079 inch approximate exterior soft PVC

Wall thickness: Ø3": 0.2", Ø3.55"-4": 0.24", Ø5": 0.29", Ø6": 0.28"

Ø: 3"/75-76mm - 6"/150-152mm

Accessories: 211

NORPLAST[®] PUR-C 387 AS (XXHD)

ideal for: roof gravelling, suction trucks, silos, silo trucks,

dry suction trucks





ideal for: suction trucks, silos, silo trucks, dry suction trucks

- Full plastic transport and suction hose made of PVC/PU
- abrasion protection via special outer sliding surface (floor-saving, prolong service life, easy to use)
 - super-heavy and reinforced model
- extremely abrasion-resistant
- very high pressure, vacuum and compression resistance
- antistatic <10⁹ Ω
- -5°F to 160°F (175°F)



Design, material: NORPLAST® full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: antistatic polyurethane inside layer 0.079 inch approximate, exterior soft PVC; grounding wire

Wall thickness: Ø 3": 0.2", Ø 3.55"-4": 0.24", Ø 5": 0.29", Ø 6": 0.28"

Ø: 3"/75-76mm - 6"/150-152mm

Accessories: 211

NORPLAST[®] PVC 383 (LD)



ideal for: agricultural industry, X-ray machines, caravans/camper

PVC suction hose

- light model
- good resistance to alkalis and acids
- 25°F to 140°F

Design, material: NORPLAST^{\oplus} full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: soft PVC

Wall thickness: Ø 0.8"-1": 0.025", Ø 1.2"-1.5": 0.028", Ø 1.57"-2": 0.03", Ø 2.36"-4": 0.035", Ø 4.33"-5.9": 0.04"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 208, 228, 233, 223, 270-271



NORPLAST® PVC 384 AS (HD)



ideal for: granulate conveying, wood pellet conveying, vacuum conveyor/vacuum conveying devices

- Full plastic transport and suction hose made of PVCheavy model
 - increased pressure and vacuum resistance
- good resistance to alkalis and acids
- antistatic approx. 10⁹ Ω
- 23°F to 158°F (176°C)



Design, material: NORPLAST^{\oplus} full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: high grade soft PVC and antistatic

Wall thickness: Ø0.8"-1.2": 0.08", Ø1.25"-1.5": 0.087", Ø1,57"-1.77": 0.095", Ø2: 0.098", Ø2.37: 0.1", Ø2.5-3.5: 0.12", Ø4"-4.33": 0.134", Ø4,72"-5.9": 0.145"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 211, 233, 270-271

NORPLAST® PVC-CU 384 AS (HD)



ideal for: granulate conveying, wood pellet conveying, vacuum conveyor/vacuum conveying devices

Full plastic transport and suction hose made of PVC

- heavy model
- increased pressure and vacuum resistance
- good resistance to alkalis and acids
- antistatic approx. 10⁹ Ω
- 23°F to 158°F (176°C)



Wall thickness: Ø 0.8"-1.2": 0.08", Ø 1.25"-1.5": 0.087", Ø 1,57"-1.77": 0.095", Ø 2: 0.098", Ø 2.37: 0.1", Ø 2.5-3.5: 0.12", Ø 4"-4.33": 0.134", Ø 4,72"-5.9": 0.145"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 211, 233, 270-271

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NORPLAST[®] PVC 380 GREEN (HD)



Full plastic transport and suction hose made of PVC

- heavy model
- good resistance to alkalis and acids
- 25°F to 140°F

Design, material: NORPLAST^{\oplus} full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: soft PVC

Wall thickness: Ø0.75"-1.2": 0.083", Ø1.25"-1.5": 0.09", Ø1.57"-1.77": 0.1", Ø2"-2.5": 0.15", Ø2.75"-3": 0.165", Ø3.15"-4": 0.185"

Ø: 3/4"/19mm - 4"/100-102mm

Accessories: 211, 233, 270-271

ideal for: irrigation, toilet discharging, caravans/camper

NORPLAST® PVC 379 GREEN SUPERELASTIC (HD)

- Full plastic transport and suction hose made of PVC
- heavy model
- good resistance to alkalis and acids
- very good low temperature flexibility
- -13°F to 140°F

Design, material: NORPLAST[®] full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: low temperature flexible soft PVC

Wall thickness: Ø0.75"-1.2": 0.083", Ø1.25"-1.5": 0.09", Ø1.57"-1.77": 0.1", Ø2"-2.5": 0.15", Ø2.75"-3": 0.165", Ø3.15"-4": 0.185"

Ø: 3/4"/19mm - 2"/50-51mm

Accessories: 211, 233, 270-271

ideal for: irrigation, manure spreader, manure spreader, agricultural industry, seeder, caravans/camper

NORPLAST® PVC 388 SUPERELASTIC (MD)



ideal for: vacuum lifters/vacuum lifting devices



- medium-heavy model
- good resistance to alkalis and acids
- very good low temperature flexibility
- -13°F to 140°F

Design, material: NORPLAST[®] full plastic hose; hard plastic spiral integrated in the wall; spiral: rigid PVC; smooth interior; wall: high grade low temperature flexible soft PVC

Wall thickness: Ø 0.8": 0.06", Ø 1"-1.2": 0.048", Ø 1.25": 0.05", Ø 1.38"-1.5": 0.055", Ø 1.57"-3.55": 0.06", Ø 4"-5": 0.06", Ø 6: 0.048"

Ø: 0.80"/20mm - 6"/150-152mm

Accessories: 208, 228, 233, 223, 270-271







NORPLAST® PVC 389 SUPERELASTIC WEAR STRIP (XHD)



ideal for: manure spreader, manure spreader, sewer cleaning, agricultural industry, suction trucks, sewage cleaning, dry suction trucks

Full plastic transport and suction hose made of PVC



- super-heavy model
- very high pressure, vacuum and compression resistance
- good resistance to alkalis and acids
- -13°F to 140°F



Design, material: NORPLAST® full plastic hose; outer hard plastic spiral; spiral: rigid PVC; smooth interior; wall: high grade low temperature flexible soft PVC

Wall thickness: Ø1"-1.5": 0.115", Ø1.57"-2": 0.14", Ø2.36"-2.75": 0.15", Ø3"-3.55": 0.17", Ø4"-4.33": 0.215", Ø5"-6": 0.22"

Ø: 1.25"/32mm - 6"/150-152mm

Accessories: 211, 270-271



NORPLAST® PVC-C 389 AS-SUPERELASTIC WEAR STRIP (XHD)



- service life, easy to use)
- super-heavy model

NEW

- very high pressure, vacuum and compression resistance
- good resistance to alkalis and acids
- antistatic <10⁹ Ω
- -13°F to 140°F

Design, material: NORPLAST® full plastic hose; outer hard plastic spiral; spiral: rigid PVC; smooth interior; wall: high grade antistatic and low temperature flexible soft PVC; grounding wire

Wall thickness: Ø1"-1.5": 0.115", Ø1.57"-2": 0.14", Ø2.36"-2.75": 0.15", Ø3"-3.55": 0.17", Ø4"-4.33": 0.215", Ø5"-6"; 0.22"

Ø: 1"/25mm - 6"/150-152mm

Accessories: 211, 270-271

NORPLAST® PVC 389 SUPERELASTIC PLUS (XHD)



- abrasion protection via special outer sliding surface (floor-saving, prolong service life, easy to use)
- super-heavy model
- very high pressure, vacuum and compression resistance .
- good resistance to alkalis and acids
- -40°F to 140°F

Design, material: NORPLAST® full plastic hose; outer hard plastic spiral; spiral: impact-resistant modified rigid PVC; smooth interior; wall: high grade low temperature flexible soft PVC

Wall thickness: Ø1"-1.5": 0.115", Ø1.57"-2": 0.14", Ø2.36"-2.75": 0.15", Ø3"-3.55": 0.17", Ø4"-4.33": 0.215", Ø5"-6": 0.22"

Ø: 1"/25mm - 6"/150-152mm

Accessories: 211, 270-271

ideal for: suction trucks, dry suction trucks



sewage cleaning, dry suction trucks









Metal hoses

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ETAL HOSE 375 HT etal hose, suction hoseup to 752°F	55
ETAL HOSE INOX 376 etal hose, stainless steel (INOX), suction hoseup to 1112°F	55
ETAL HOSE 377 REINFORCED etal hose, transport hoseup to 248°F	55

METAL HOSE 375



Metal hose

abrasion-resistant



248°F

Metal hose

profile; seal: glass fiber

. 752°F

Design, material: Metal hose; profiled metal strip, galvanized steel; hooked profile; seal: special fiber

Design, material: Metal hose; profiled metal strip, galvanized steel; hooked

Ø: 0.80"/20mm - 11.80"/300mm

very good heat resistance flame-retardant

Ø: 0.80"/20mm - 11.80"/300mm Accessories: 270-271, 202 - 206

Accessories: 270-271, 202 - 206



ideal for: wood chips, high temperature extraction, edge trim exhaust systems

METAL HOSE 375 HT



ideal for: wood chips, high temperature extraction

METAL HOSE INOX 376

- Metal hose
- extremely heat resistant
- good resistance to alkalis and acids
- extremely good resistance to chemicals .
 - flame-retardant
- 1112°F .

Design, material: Metal hose; profiled metal strip, stainless steel (INOX); hooked profile; seal: glass fiber

Ø: 0.80"/20mm - 11.80"/300mm

Accessories: 270-271, 202 - 206









METAL HOSE 377 REINFORCED



Metal hose

- super-heavy and reinforced model
- . flame-retardant
- 248°F

Design, material: Metal hose; profiled metal strip, galvanized steel; hooked profile; seal: special fiber; reinforcement of the primary abrasion areas

Ø: 2"/50-51mm - 11.80"/300mm

Accessories: 270-271, 202 - 206









Hot air hoses, high temperature hoses (-325°F to +2,000°F)

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NEO 390 ONE Neoprene hose, single-layer, leak-proof (up to 300°F)	31°F to 275°	°F 57
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CP PTFE/HYP-INOX 472 Clamp profile hose (clip hose), double-layer (up to 338°F)	40°F to 338°	°F 58
CP PTFE/HYP-INOX 472 EC Electrically conductive clamp profile hose (clip hose), double-layer, highly chemical resistant (up to 338°F)	40°F to 338'	°F 58
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CP PTFE-INOX 475 FOOD Clamp profile hose (clip hose), food hose and pharmaceutical hose, highly chemical resistant (up to 520°F)	240°F to 480'	°F 59
CP PTFE-INOX 475 EC Electrically conductive clamp profile hose (clip hose), highly chemical resistant (up to 520°F)	240°F to 480°	°F 59
CP PTFE/GLASS-INOX 471 Clamp profile hose (clip hose), double-layer, highly chemical resistant (up to 520°F)	240°F to 480°	°F 59
CP PTFE/GLASS-INOX 471 EC Electrically conductive clamp profile hose (clip hose), double-layer, highly chemical resistant (up to 520°F)	240°F to 480°	°F 60
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SIL 391 TWO Silicone hose, double-layer, leak-proof (up up to 540°F)	95°F to 500°	°F 61
CP Kapton® 476 High-temperature hose, clamp profile hose (clip hose) (up to 750°F)	75°F to 750°	°F 61
CP HiTex 480 High-temperature hose, clamp profile hose (clip hose) (up to 840°F)	75°F to 750°	°F 62
CP HiTex 487 High-temperature hose, clamp profile hose (clip hose) (up to 930°F)	75°F to 840°	°F 62
CP HiTex 485 High-temperature hose, clamp profile hose (clip hose), multi-layer, insulating, suitable for slight overpressure (up to 1000°F)	75°F to 930'	°F 62
CP HiTex 481 High-temperature hose, clamp profile hose (clip hose), double-layer (up to 1300°F)	75°F to 1100'	°F 63
CP HiTex 486 High-temperature hose, clamp profile hose (clip hose), multi-layer, insulating, suitable for slight overpressure (up to 1300°F)	75°F to 1200'	°F 63
CP HiTex 483 High-temperature hose, clamp profile hose (clip hose), multi-layer, insulating (up to 2012°F)	75°F to 1650'	°F 63

Hot air hoses, high temperature hoses (-325°F to +2,000°F)

NEO 390 ONE



Neoprene hose

- fiber reinforced
- very good heat resistance
- -31°F to 275°F (300°F)



Design, material: Neoprene hose; spring steel wire; fabric-reinforced tape; wall: neoprene-coated glass fabric; cord as reinforcement

Ø: 0.50"/13mm - 12"/305mm

Accessories: 208, 211, 228, 270-271

ideal for: granulate dryer, infrared dryer, UV dryer

NEO 390 TWO



ideal for: granulate dryer, infrared dryer, UV dryer

Neoprene hose

- fiber reinforced
- very good heat resistance
- -31°F to 275°F (300°F)



Design, material: Neoprene hose; spring steel wire integrated in the wall; fabricreinforced tape; wall: neoprene-coated glass fabric; cord as reinforcement

Ø: 0.50"/13mm - 12"/305mm

Accessories: 208, 211, 228, 270-271

CP HYP 450



ideal for: waste gas exhaust, extraction units, extraction of chemical vapours

Clip hose

.

- abrasion protection via external Clamp profile
- vibration resistant
- very good heat resistance
- good resistance to oil, gasoline and chemicals
 - good resistance to alkalis and acids
- double-layer
- -40°F to 338°F

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: CSM coated polyester fabric

Ø: 1.5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271





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CP PTFE/HYP-INOX 472



ideal for: extraction of chemical vapours, spray mist extraction

Clip hose

- abrasion protection via external Clamp profile
- very good heat resistance
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- **TEFLON[®]**
- -40°F to 338°F

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); double-layer wall; wall: PTFE film interior, CSM coated polyester fabric exterior

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



ideal for: extraction of chemical vapours, explosion hazard areas



- very good heat resistance
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- surface resistance PTFE film <106 Ω .
- TEFLON[®] <10⁶ Ω
- -40°F to 338°F

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); wall: semi-conducting PTFE film interior, CSM coated polyester fabric exterior

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271

CP VITON® 459 EC



ideal for: extraction of chemical vapours, explosion hazard areas

- Electrically conductive clip hose
- abrasion protection via external Clamp profile .
- very good heat resistance
- good resistance to oil, gasoline and chemicals
- good resistance to alkalis and acids
- electrically conductive wall: electrical and surface resistance <10⁴ Ω (according to NFPA 652 <106Ω)
 - VITON[®] <10⁴ Ω
- -4°F to 410°F



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Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: VITON® coated polyester fabric

Ø: 1,5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271





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Hot air hoses, high temperature hoses (-325°F to +2,000°F)

CP PTFE-INOX 475 FOOD



ideal for: extraction of chemical vapours, spray mist extraction,

Food hose and pharmaceutical hose

- very good heat resistance
- Inside layer food quality complies with: EU-Directive 10/2011 and EC 1935/2004
- Food grade wall, complies with: FDA 21 CFR 177.1550, German guideline XV BfR
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- TEFLON[®]
- -240°F to 480°F (520°F)

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); wall: PTFE coated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



food & pharmaceutical



ideal for: extraction of chemical vapours, explosion hazard areas, spray mist extraction

- Electrically conductive clip hose
- abrasion protection via external Clamp profile
- very good heat resistance
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- surface resistance PTFE film <10⁶ Ω
- TEFLON[®] <10⁶ Ω
- -240°F to 480°F (520°F)

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); wall: PTFE coated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271

CP PTFE/GLASS-INOX 471



ideal for: extraction of chemical vapours, spray mist extraction



.

- abrasion protection via external Clamp profile
- very good heat resistance
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- TEFLON[®]
- -240°F to 480°F (520°F)

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); double-layer wall; wall: interior PTFE foil, exterior special-coated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271







TEFLON® and VITON® are registered trademarks of DuPont.

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CP PTFE/GLASS-INOX 471 EC



ideal for: extraction of chemical vapours, explosion hazard areas

Electrically conductive clip hose

- abrasion protection via external Clamp profile
- very good heat resistance
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- surface resistance PTFE film <10⁶ Ω
- TEFLON[®] <10⁶ Ω
- -240°F to 480°F (520°F)



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Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); wall: interior semi-conducting PTFE foil, exterior special-coated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271

CP SIL 460



ideal for: high temperature extraction, blast furnace, ceramic

Clip hose

- abrasion protection via external Clamp profile
- highly flexible + compressible 4:1
- very good heat resistance
- flame-retardant according to: DIN 4102-B1
- -95°F to 500°F (540°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: Silicone coated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271

CP ARAMID 461

industry



ideal for: waste gas exhaust, extraction units

Clip hose

- abrasion protection via external Clamp profile
- vibration resistant
- very good heat resistance
- flame-retardant according to: DIN 4102-B1
- Aramid wall: Fire-class "M1" according to UNE 23.727-90
- -75°F to 500°F (570°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: special-coated high-temperature fabric

Ø: 1.5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



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Hot air hoses, high temperature hoses (-325°F to +2,000°F)





Silicone hose/tubing

- single-layer
- fiber reinforced
- very good heat resistance
- -95°F to 500°F (540°F)

Design, material: Silicone hose; spring steel wire; fabric-reinforced tape; wall: Silicone coated glass fabric; chords made of interwoven yarns as reinforcement

Ø: 0.50"/13mm - 12"/305mm

Accessories: 208, 211, 228, 270-271



ideal for: granulate dryer, infrared dryer, UV dryer

SIL 391 TWO



ideal for: granulate dryer, infrared dryer, UV dryer



- double-layer
- fiber reinforced
- very good heat resistance
- -95°F to 500°F (540°F)

Design, material: Silicone hose; spring steel wire integrated in the wall; fabricreinforced tape; wall: Silicone coated glass fabric; chords made of interwoven yarns as reinforcement

Ø: 0.50"/13mm - 12"/305mm

Accessories: 208, 211, 228, 270-271



CP Kapton® 476



ideal for: waste gas exhaust, aluminium mills, extraction of chemical vapours

High-temperature hose

- abrasion protection via external Clamp profile
- very good heat resistance
 good resistance to alkalis a
- good resistance to alkalis and acids
- extremely good resistance to chemicals
- -75°F to 750°F

.

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: Kapton[®] laminated glass fabric

Ø: 2"/50-51mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271





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CP HiTex 480



High-temperature hose

- very good in case of flying sparks and welding sparks
- abrasion protection via external Clamp profile
- very good heat resistance
- flame-retardant according to: DIN 4102-B1
- -75°F to 750°F (840°F)

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Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: stainless steel wire reinforced and special coated glass fabric

Ø: 1,5"/38mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271







ideal for: high temperature extraction, engine test rigs

CP HiTex 485



High-temperature hose

- insulating
- suitable for light overpressure
- very good heat resistance
- -75°F to 930°F (1000°F)



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Design, material: CP construction; clamp profile supporting spiral: galvanized steel; multi-layer hose wall; wall: interior and exterior special coated glass fabric

Ø: 4"/100-102mm - 20"/508mm

Accessories: 212, 217, 213, 228, 270-271

ideal for: waste gas exhaust, aluminium mills, high temperature extraction, engine test rigs

Hot air hoses, high temperature hoses (-325°F to +2,000°F)

CP HiTex 481



High-temperature hose

- very good in case of flying sparks and welding sparks
- abrasion protection via external Clamp profile
- very good heat resistance
- -75°F to 1100°F (1300°F)

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); double-layer wall; wall: interior and exterior stainless steel wire reinforced and special coated glass fabric

Ø: 3"/75-76mm - 40"/1016mm

Accessories: 212, 217, 213, 228, 270-271



ideal for: waste gas exhaust, aluminium mills, high temperature extraction, ceramic industry, engine test rigs

CP HiTex 486



ideal for: waste gas exhaust, aluminium mills, blast furnace, ceramic industry, engine test rigs

- High-temperature hose
- very good in case of flying sparks and welding sparks
- insulating
- suitable for light overpressure
- very good heat resistance
- -75°F to 1200°F (1300°F)

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; multi-layer hose wall; wall: interior and exterior special coated glass fabric, thermo-insulation fabric; special thermal insulation layer

Ø: 4"/100-102mm - 20"/508mm

Accessories: 212, 217, 213, 228, 270-271



CP HiTex 483



ideal for: waste gas exhaust, aluminium mills, blast furnace, ceramic industry, engine test rigs

High-temperature hose

- very good in case of flying sparks and welding sparks
- abrasion protection via external Clamp profile
- insulating; extremely heat resistant
- -75°F to 1650°F (2012°F)

Design, material: CP construction; clamp profile supporting spiral: all-stainless steel (INOX); multi-layer hose wall; wall: interior stainless steel wire reinforced and special coated glass fabric, thermo-insulation fabric, exterior special coated glass fabric; special thermal insulation layer

Ø: 4"/100-102mm - 20"/508mm

Accessories: 212, 217, 213, 228, 270-271







Exhaust gas hoses for combustion engines

Content

PROTAPE® TPE 326 MEMORY Crush resistant exhaust gas hose	up to 392°F 65
CP HYP 450 PROTECT Exhaust gas hose, vibration resistant, outer protection profile	up to 392°F 65
CP ARAMID 461 PROTECT Exhaust gas hose, vibration resistant, outer protection profile	up to 572°F 65

PROTAPE® TPE 326 MEMORY





ideal for: waste gas exhaust, car gas extraction, hose reels

Crush resistant exhaust gas hose

- fabric reinforced
- protected, flow-optimizing exterior folds
 - vibration resistant; crush resistant
- 392°F, when correctly applied with exhaust gas funnels and sufficient fresh air supply (50% approximate).

Design, material: patented PROTAPE® tape hose; special plastic-profile supporting spiral; fabric-reinforced tape; wall: EPDM/PP coated fabric

Wall thickness: 0.02"

Ø: 2"/50-51mm - 8"/200-203mm

Accessories: 212, 217, 213, 228, 270-271





ideal for: waste gas exhaust, car gas extraction, hose reels

- Exhaust gas hose
- outer protection profile made of elasticised material
- abrasion protection via external Clamp profile
- vibration resistant
- very good heat resistance
- 392°F, when correctly applied with exhaust gas funnels and sufficient fresh air supply (50% approximate).



Ø: 3"/75-76mm - 10"/254mm

Accessories: 212, 217, 213, 228, 270-271



CP ARAMID 461 PROTECT



ideal for: waste gas exhaust, car gas extraction, hose reels

- Exhaust gas hose
- outer protection profile made of elasticised material
 abrasion protection via external Clamp profile
- vibration resistant
- very good heat resistance
- flame-retardant
- Aramid wall: Fire-class "M1" according to UNE 23.727-90
- 572°F, when correctly applied with exhaust gas funnels and sufficient fresh air supply (50% approximate).

Design, material: CP construction; clamp profile supporting spiral: galvanized steel; wall: special-coated high-temperature fabric; firmly clamped, shock-absorbing, anti-abrasion profile made from elasticized, high-temperature plastic

Ø: 3"/75-76mm - 10"/254mm

Accessories: 212, 217, 213, 228, 270-271



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Flame resistant hoses for rail vehicles, buses

Content

PROTAPE® PUR 332 SE (LD) Suction hose and pressure hose according to UL94-V2, DIN 4102-B1, light67
AIRDUC® PUR 352 SE (MD) Suction & pressure hose according to UL94-V0, DIN 4102-B1& 5510-2 (S2, SR2, ST2), NF P 92-507 M3, medium heavy40°F to 195°F67
AIRDUC® PUR 352 SE RAILWAY (MD) Suction hose and pressure hose according to DIN EN 45545-2, medium-heavy
AIRDUC® PUR 352 SE RAILWAY PLUS (MD) Suction hose and pressure hose according to DIN EN 45545-2, medium-heavy67

PROTAPE® PUR 332 SE (LD)





ideal for: sand conveying in braking systems, rail vehicles, trams

AIRDUC® PUR 352 SE (MD)



- light model
- . microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

flame-retardant according to: UL94-V0, DIN 4102-B1, FMVSS 302

-40°F to 195°F (255°F)

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; extruded tape; wall: special premium polyurethane with flame retardant additive (Pre-PUR®)

Wall thickness: 0.025"

Ø: 1.57"/40mm - 19.7"/500mm

medium-heavy model

-40°F to 195°F (255°F)

.

Accessories: 212, 210, 217, 213, 223

microbe and hydrolysis resistant

ST2), FMVSS 302, NF P 92-507 M3

Suction and pressure hose for rail vehicles and buses

good resistance to oil, gasoline and chemicals





ideal for: sand conveying in braking systems, roof drainage, rail vehicles, trams

AIRDUC[®] PUR 352 SE RAILWAY (MD)



Design, material: $\mathsf{AIRDUC}^{\scriptscriptstyle \otimes}$ profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane with flame retardant additive (Pre-PUR®)

Wall thickness: 0.04"

Ø: 1.57"/40mm - 19.7"/500mm

Accessories: 208, 212, 270-271



ideal for: sand conveying in braking systems, roof drainage, rail vehicles, trams

ideal for: sand conveying in braking systems, roof drainage, rail

vehicles, trams

AIRDUC® PUR 352 SE RAILWAY PLUS (MD)



- Suction and pressure hose for rail vehicles and buses
- medium-heavy model
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- flame-retardant according to: DIN EN 45545-2; R23 HL1 tested according to NFPA 130: ASTM E 162 + ASTM E 662 + BSS 7239 +
 - BSS 7242 tested according to EN45545-2: ISO 5658-2 + ISO 5659-2 662
- -40°F to 195°F

Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane with flame retardant additive (Pre-PUR®)

Wall thickness: 0.04"

Ø: 0.80"/20mm - 7"/178-180mm

medium-heavy model insulating

Accessories: 212, 210, 208, 270-271

microbe and hydrolysis resistant





flame-retardant according to: DIN EN 45545-2

flame-retardant according to: DIN EN 45545-2; R1 HL1, HL2, HL3; R22

HL1, HL2, R23 HL1, HL2 -40°F to 195°F



Design, material: AIRDUC® profile hose; spring steel wire firmly embedded in the wall; wall: special premium polyurethane with flame retardant additive (Pre-PUR®); special thermal insulation layer Wall thickness: 0.04"

Ø: 0.80"/20mm - 7"/178-180mm

Accessories: 208 270-271



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PVC, PE air conditioning and ventilation hoses, air conditioning hoses, insulating hoses

Conten

PROTAPE® PVC 371 GREY (XLD) PVC Climatic hose, flame resistant, grey	15°F to 175°F 69
PROTAPE® PVC 371 ANTI-BACTERIAL (XLD) PVC air-conditioning hose, anti-bacterial, flame resistant	15°F to 175°F 69
ISODUC PVC 368 GREY PVC Climatic hose, insulated, flame resistant, grey	15°F to 175°F 69
ISODUC PVC 368 ANTI-BACTERIAL PVC climatic hose, insulated, anti-bacterial, flame resistant	15°F to 175°F 70
PROTAPE® PVC 371 BLACK (XLD) PVC Climatic hose, flame resistant, black	32°F to 167°F 70
ISODUC PVC 368 BLACK PVC air conditioning hose, insulated, flame resistant, black	32°F to 167°F 70
PROTAPE® ALU-PVC 369 Alu / PVC air conditioning hose, flame resistant	14°F to 284°F 71
PROTAPE® ALU-PES 369 Aluminium / Polyester air conditioning hose, flame resistant (M1)	22°F to 284°F 71
ISODUC ALU-PES 368 SOUND-INSULATION Alu/ Polyester air conditioning hose, insulated, sound-absorbing, flame retardant (M1)	22°F to 284°F 71
ISODUC ALU-PES 368 Aluminium / Polyester air conditioning hose, insulated, flame resistant (M1)	22°F to 284°F 72
PROTAPE [®] ALU-PES 369 SE Aluminium/ Polyester air conditioning hose, flame resistant (M0)	22°F to 482°F 72
ISODUC ALU-PES 368 SE Aluminium / Polyester air conditioning hose, insulated, flame resistant (M0)	30°F to 392°F 72
PROTAPE® ALU-PES 369 ANTI-BACTERIAL Aluminium/Polyester air conditioning hose, anti-bacterial, flame resistant (M1)	22°F to 266°F 73
ISODUC ALU-PES 368 ANTI-BACTERIAL Aluminium/polyester air conditioning hose, insulated, anti-bacterial, flame resistant (M1)	22°F to 266°F 73
METAL HOSE ALU 377 - ALUFLEX Aluminium air conditioning hose, flame retardant (M0), self-locking	up to 572°F 73

PVC, PE air conditioning and ventilation hoses, air conditioning hoses, insulating hoses

PROTAPE® PVC 371 GREY (XLD)



PVC climatic hose

- super-light model
- approved to FMVSS 302 (flame retardant)
- . 15°F to 175°F

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; wall: PVC coated fabric; Pressure max. 200 mm H₂O; Air speed max. 20 m/s; bending radius 0,6 x ID

Wall thickness: 0.01"

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





PROTAPE® PVC 371 ANTI-BACTERIAL (XLD)



ideal for: ventilation, ventilation, air conditioning, heating system

- PVC climatic hose
- super-light model
- anti-bacterial: PVC contains antimicrobial protection Sanitized® US EPA e . US FDA approved
- flame-retardant according to: class 1 (Italy)
- 15°F to 175°F



Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; wall: PVC coated fabric; Pressure max. 200 mm H₂O; Air speed max. 20 m/s; bending radius 0,6 x ID

Wall thickness: 0.01"

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271

ISODUC PVC 368 GREY



PVC climatic hose

flame-retardant according to: class 1 (Italy)

15°F to 175°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and weight 300 g/m²; Pressure max. 200 mm H₂O; Air speed max. 20 m/s; bending radius 0,6 x ID

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ideal for: ventilation, air conditioning, thermal and acoustic insulation

ISODUC PVC 368 ANTI-BACTERIAL



PVC climatic hose

- anti-bacterial: PVC contains antimicrobial protection Sanitized[®] US EPA e US FDA approved
- 15°F to 175°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and weight 250-300 g/m²; Pressure max. 200 mm H₂O; Air speed max. 20 m/s; bending radius 0,6 x ID

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ideal for: ventilation, air conditioning in hospitals, thermal and acoustic insulation





ISODUC PVC 368 BLACK

ideal for: ventilation, ventilation, air conditioning, heating system



PVC climatic hose

- flame-retardant according to: class 1 (Italy)
- 32°F to 167°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and density 17 Kg/m³; Pressure max. 200 mm H₂O; Air speed max. 20 m/s; bending radius 0,6 x ID

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ideal for: ventilation, air conditioning, thermal and acoustic insulation

PVC, PE air conditioning and ventilation hoses, air conditioning hoses, insulating hoses

PROTAPE® ALU-PVC 369



Alu/PVC Climatic hose super-light model 14°F to 284°F

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; wall: PVC coated aluminium; Pressure max. 250 mm H₂O; Air speed max. 25 m/s; bending radius 0,6 x ID



Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271



PROTAPE® ALU-PES 369



ideal for: ventilation, bathroom and kitchen extraction and ventilation, ventilation, air conditioning, heating system

Alu / Polyester Climatic hose

- . super-light model
- flame-retardant according to: C.S.T.B. class M1 (France)
- -22°F to 284°F

Design, material: PROTAPE[®] tape hose; spring steel wire integrated in the wall; wall: aluminium; Pressure max. 300 mm H₂O; Air speed max. 30 m/s

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271



ISODUC ALU-PES 368 SOUND-INSULATION



Alu / Polyester Climatic hose

 flame-retardant according to: C.S.T.B. class M1 (France) -22°F to 284°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and density 17 Kg/m³; Pressure max. 300 mm H₂O; Air speed max. 30 m/s

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ideal for: ventilation, air conditioning, thermal and acoustic insulation

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PVC, PE air conditioning and ventilation hoses, air conditioning hoses, insulating hoses

ISODUC ALU-PES 368



Alu / Polyester Climatic hose

flame-retardant according to: NF P 92-512 M1

-22°F to 284°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and density 17 Kg/m³; Pressure max. 300 mm H₂O; Air speed max. 30 m/s

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271



ideal for: ventilation, air conditioning, thermal and acoustic insulation



ideal for: ventilation, air conditioning in marine applications

ISODUC ALU-PES 368 SE



Alu / Polyester Climatic hose

- flame-retardant according to: C.S.T.B. class M0 (France)
- -22°F to 482°F

 $\label{eq:Design, material: special thermal insulation layer; fibreglass insulation thickness 25 mm and density 16 Kg/m³; Pressure max. 300 mm H_{2}O; Air speed max. 30 m/s$

Ø: 3"/75-76mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ideal for: ventilation, air conditioning in marine applications, thermal and acoustic insulation
PROTAPE® ALU-PES 369 ANTI-BACTERIAL



ideal for: ventilation, bathroom and kitchen extraction and ventilation, ventilation, air conditioning, heating system

Alu / Polyester Climatic hose

- super-light model
- odourless
- anti-fungal performance according to ASTM G21
- anti-bacterial performance according to ISO 22196
- flame-retardant according to: C.S.T.B. class M0 (France)
- -22°F to 266°F

Design, material: PROTAPE® tape hose; spring steel wire integrated in the wall; wall: aluminium; Pressure max. 300 mm H₂O; Air speed max. 30 m/s

Ø: 3.23"/82mm - 24"/610mm

Accessories: 210, 208, 228, 270-271





ISODUC ALU-PES 368 ANTI-BACTERIAL



ideal for: ventilation, air conditioning in hospitals, thermal and acoustic insulation

- Alu / Polyester Climatic hose
- odourless
- anti-fungal performance according to ASTM G21
- anti-bacterial performance according to ISO 22196
- flame-retardant according to: C.S.T.B. class M1 (France)
- -22°F to 266°F

Design, material: special thermal insulation layer; polyester insulation thickness 25 mm and weight 250-300 g/m²; Pressure max. 300 mm H₂O; Air speed max. 30 m/s

Ø: 3.23"/82mm - 24"/610mm

Accessories: 210, 208, 228, 270-271



METAL HOSE ALU 377 - ALUFLEX



Alu Climatic hose

- highly flexible + compressible 3:1
- retaining any adjusted position
- 572°F

Design, Material: Metal hose; Pressure max. 300 mm H₂O

Accessories: 208, 270-271



ideal for: ventilation, air conditioning in marine applications, ventilation, air conditioning, heating system



Compressed air hoses, pneumatic hoses, fluid hoses

Conten

NORFLEX® PUR 401 FOOD Abrasion resistant polyurethane hose/tubing	40°F to 195°F 75
NORFLEX® PUR 441 FOOD Abrasion resistant polyurethane hose/tubing, fabric reinforced pressure hose	40°F to 195°F75
NORFLEX® PUR 401 WELDING Flame-retardant polyurethane hose/tubing, for flying sparks or welding sparks	5°F to 140°F 75
NORFLEX® PUR 441 ROBOTIC Abrasion resistant polyurethane hose/tubing for industrial robots, fabric reinforced high pressure hose	30°F to 175°F 76
NORFLEX® PVC 400 PVC hose/tubing	5°F to 140°F 76
NORFLEX® PVC 440 PVC hose/tubing, fabric reinforced pressure hose	5°F to 140°F76
NORFLEX® PVC 440 HIGH PRESSURE PVC hose/tubing, fabric reinforced high pressure hose	5°F to 140°F 77
NORFLEX® SIL 408 Silicone hose/tubing	75°F to 355°F 77
NORFLEX® SIL 448 Silicone hose/tubing, fabric reinforced pressure hose	75°F to 355°F77
NORFLEX® PTFE 407 PTFE hose/tubing	238°F to 392°F 77

NORFLEX® PUR 401 FOOD

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ideal for: Food & pharmaceutical, hose pumps

Polyurethane hose

- crush resistant
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- microbe and hydrolysis resistant
- . good resistance to oil, gasoline and chemicals . -40°F to 195°F (255°F)



Ø: 0.08"/2mm - 3/4"/19mm

Accessories: 208

NORFLEX[®] PUR 441 FOOD



ideal for: compressed air hose, cooling water hose, food & pharmaceutical



- Polyurethane hose
- . fabric reinforced crush resistant .
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- microbe and hydrolysis resistant .
- . good resistance to oil, gasoline and chemicals
- . -40°F to 195°F (255°F)



Ø: 1/8"/2,9mm - 3/4"/19mm Accessories: 208

NORFLEX® PUR 401 WELDING





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ideal for: compressed air hose, pneumatic tube, robots, welding equipment, welding robots

Additional information at www.norres.com. NORRES reserves the right to modify technical data at any time. Proper use and maintenance of NORRES hoses is the sole responsibility of purchaser and ultimate user of the product. The individual conditions, applications and the number of variables make firm recommendations technically impossible. This information is intended as a general guide only.

75

NORFLEX® PUR 441 ROBOTIC





Hose/tubing for industrial robots

- fabric reinforced
- crush resistant
- good resistance to oil, gasoline and chemicals
- -30°F to 175°F

Design, material: NORFLEX[®] design; fabric reinforced wall; smooth interior and exterior; wall: special premium polyurethane (Pre-PUR[®])

Ø: 1/4"/6,4mm - 3/4"/19,5mm

Accessories: 208





ideal for: hose pumps, water hose

NORFLEX® PVC 440



- PVC nose/ tubing
 fabric reinforced
- rabitic reinforced
 crush resistant
- good resistance to alkalis and acids
- good resistance to chemicals
- -5°F to 140°F



Ø: 0.16"/4mm - 1 1/4"/32mm

Accessories: 208

ideal for: compressed air hose, cooling water hose, water hose





NORFLEX® PVC 440 HIGH PRESSURE



- PVC hose/tubing
- fabric reinforced
- . crush resistant
- good resistance to alkalis and acids
- good resistance to chemicals
- -5°F to 140°F

Design, material: NORFLEX® design; fabric reinforced wall; wall interior and exterior smooth; wall: soft PVC

Ø: 5/16"/8mm - 1 1/4"/32mm

Accessories: 208

ideal for: compressed air hose, high pressure spraying hose, cooling water hose, agricultural industry, water hose



ideal for: Food & pharmaceutical

NORFLEX® SIL 448



- Silicone hose/tubing
- . fabric reinforced
- crush resistant
- Food grade wall, complies with: FDA 21 CFR 177.2600, German guideline XV BfR
- -75°F to 355°F

Accessories: 208

Design, material: NORFLEX® design; fabric reinforced wall; smooth interior and exterior; wall: silicone 70 \pm 5 Shore A



ideal for: cooling water hose, Food & pharmaceutical

NORFLEX[®] PTFE 407



ideal for: chemical industry, food & pharmaceutical

PTFE hose/tubing

Ø: 1/8"/3mm - 3/4"/19mm

- Food grade wall, complies with: FDA 21 CFR 177.1550, German guideline XV BfR
- microbe and hydrolysis resistant
- . good resistance to alkalis and acids
- extremely good resistance to chemicals
- -238°F to 392°F

Design, material: NORFLEX® design; wall interior and exterior smooth; wall: PTFE

Ø: 0.08"/2mm - 0,56"/14mm

Accessories: 208



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CLAMP 212



- Bridge clamp for attaching externally corrugated spiral hoses
 - practically leak-proof and firmly clamping with special bridge geometry
 - easily and quickly fitted
 - re-usable

Design, material: Quality: W2; clamp strip: stainless steel 1.4301 = AISI 304; screw: galvanised steel; Body: stainless steel 1.4016 = AISI 430; bridge: stainless steel 1.4301 = AISI 304 (INOX)

Accessories: 228; 270-271





- Hose Clamp for watertight attachment of heavy, externally corrugated spiral hoses
- watertight and tensile connection at very low overpressure due to special spiral geometry
- easily and guickly fitted
- re-usable

Design, material: Quality: W2; clamp strip: stainless steel 1.4016 = AISI 430; clamp wire: stainless steel 1.4310 = AISI 301 (INOX); screw: chromated steel; Body: stainless steel 1.4016 = AISI 430

Accessories: 228; 270-271

CLAMP 208



Hose clamp for attachment of light-duty hoses with smooth exterior

- easily and quickly fitted
- re-usable

Design, material: Quality: W1; Clamp strip: galvanised steel; screw: galvanised steel; Body: galvanised steel;

Quality: W2; Clamp strip: stainless steel 1.4016 = AISI 430; screw: galvanised steel; Body: stainless steel 1.4016 = AISI 430;

Quality: W4; Clamp strip: stainless steel 1.4301 = AISI 304; screw: stainless steel 1.4301 = AISI 304; Body: stainless steel 1.4301 = AISI 304

Accessories: 228; 223; 270-271



CLAMP 210 BRIDGE CLAMP



- Clamp with plastic bridge for attaching externally corrugated spiral hoses
 practically leak-proof and firmly clamping with special bridge geometry
- easily and quickly fitted
- re-usable
- multi-piece

Design, material: Bridge: PA6 Quality: W1; clamp strip: galvanised steel; screw: galvanised steel; body: galvanised steel

10 pieces plastic bridge with 10 pieces CLAMP 208 loosely welded in a bag







CLAMP 211



- T-bolt clamp for attaching heavy-duty hoses with a smooth exterior surface

easily and quickly fitted

re-usable

Design, material: Quality: W1; Clamp strip: galvanised steel; screw: galvanised steel;

Quality: W2; Clamp strip: stainless steel 1.4016 = AISI 430; screw: galvanised steel;

Quality: W4; Clamp strip: stainless steel 1.4301 = AISI 304; screw: stainless steel 1.4301 = AISI 304

Accessories: 270-271



CLAMP 212 EC



- Bridge Clamp with integrated grounding for attaching externally corrugated spiral hoses
- grounding without exposing spiral and without damaging hose
- . practically leak-proof and firmly clamping with special bridge geometry easily and quickly fitted
- . re-usable



Accessories: 270-271



CLAMP 217



Bridge clamp with eyelet for attaching externally corrugated spiral hoses

- practically leak-proof and firmly clamping with special bridge geometry •
- . easily and quickly fitted
- . re-usable

Design, material: Quality: W2; Clamp strip: stainless steel 1.4016 = AISI 430; screw: galvanised steel; Body: stainless steel 1.4016 = AISI 430; bridge: stainless steel 1.4301 = AISI 304 (INOX); fixing eyele: galvanised steel





CLAMP 213



- Bridge Clamp with quick-release closure for attaching externally corrugated spiral hoses
- practically leak-proof and firmly clamping with special bridge geometry . easily and quickly fitted
- . re-usable
- Design, material: Quality: W2; Clamp strip: stainless steel 1.4016 = AISI 430;



closure: stainless steel (INOX); bridge: stainless steel 1.4301 = AISI 304

Accessories: 270-271

CONNECT 228



- Elastic clamp protection tape
- easily and quickly fitted
- re-usable
- highly abrasion-resistant
- good resistance to oil, gasoline and chemicals

Design, material: wall: polyurethane

Accessories: 212; 216; 208; 270-271



CONNECT 230



- Special safety clamp coupling system for silos and dry-bulk transporters with couplers: Storz, Threaded connection, etc.
- special threaded profil of the Clamp shells adapted to the outer hose contour
- easily and quickly fitted
- re-usable
- vibration resistant
- thread reference DIN ISO 228

Design, material: clamp shells: aluminum; screw and nut: galvanized steel gunmetal finish; Adapter: material acc. to table

CONNECT SAFETY CLAMP ASSEMBLY 231

- Universal safety clamp coupling system incl. assembly if appropriate
- special threaded sealing insert adapted to the outer hose contour
- easily and quickly fitted
- re-usable
- vibration resistant
- Food grade sealing insert, complies with: FDA 21 CFR 177.2600 and 178.2010, EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: AIRDUC[®] profile hose; patented coupling system; clamp shells: aluminum; sealing insert: special premium ether-polyurethane (Pre-PUR[®]); screw and nut: galvanized steel gunmetal finish; Adapter: available as an option

Accessories: 234, 245, 247, 249

CONNECT PRESS ASSEMBLY 232





Crimped coupling system incl. assembly

- special threaded sealing insert adapted to the outer hose contour
- vibration resistant
- Food grade sealing insert, complies with: FDA 21 CFR 177.2600 and 178.2010, EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- microbe and hydrolysis resistant
 - good resistance to oil, gasoline and chemicals

Design, material: patented coupling system; AIRDUC[®] profile hose; pressing sleeve: stainless steel 1.4404 = AISI 316L; Adapter: available as an option; sealing insert: special premium ether-polyurethane (Pre-PUR[®])

Accessories: 234, 245, 247, 249





CONNECT MOULD ASSEMBLY 233





- Potted coupling system incl. assembly
- vibration resistant
- Food grade wall, complies with: EU Directive 10/2011
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: AIRDUC[®] profile hose; wall: special premium ether-polyurethane (Pre-PUR[®]); Adapter: available as an option

Accessories: 234, 245, 247, 249



CONNECT THREAD FITTING 234



Threaded adapter

- thread reference DIN ISO 228
- gas and liquid tight as pre-fitted version

Accessories: 231, 232, 233



CONNECT TRI-CLAMP FITTING 245



- TRI clamp adapters based on DIN 32676 and ISO 2853
- gas and liquid tight as pre-fitted version

Design, material: fitting: stainless steel 1.4404 (stamped) = AISI 316L; matching Accessories: seal (silicone white, FDA), adapter (stainless steel 1.4404, stamped), clamp (stainless steel)

Accessories: 231, 232, 233



CONNECT DAIRY FITTING 247





Design, material: fitting: stainless steel 1.4301 (stamped) = AISI 304 or 1.4571 (stamped) = AISI 316Ti; Threaded adapter with light blue Nitrile Perbunan (NBR) seal, safe for food

Accessories: 231, 232, 233



CONNECT ASEPTIC FITTING 249



- Aseptic adapters based in DIN 11864-4
- gas and liquid tight as pre-fitted version

Design, material: fitting: stainless steel 1.4404 (stamped) = AISI 316L

Accessories: 231, 232, 233



CONNECT 240+241 AS

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m.-



- easily and quickly fitted
- re-usable (threaded)
- gas and liquid tight as pre-fitted version
- highly abrasion-resistant
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- version 241 permanently antistatic wall: electrical and surface resistance approx. 10° Ω

Design, material: wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 240+241 FOOD

- ____
- Soft sleeve to slide onto connectors or push into pipes, foodgrade
- easily and quickly fitted
- re-usable (threaded)
- gas and liquid tight as pre-fitted version
- version 241: material food grade according to EU 10/2011, FDA 21 CFR 177.1680 and CFR 177.2600
- odourless and tasteless
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 240 EC



- Soft sleeve to slide onto connectors or push into pipes, electrically conductive
 easily and quickly fitted
- re-usable (threaded)
- re-usable (trireaded)
 bisble shareise assists
- highly abrasion-resistantmicrobe and hydrolysis resistant
- Inicrobe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- electrically conductive wall: electrical and surface resistance <103 Ω (according to NFPA 652 <106 $\Omega)$

Design, material: Wall of EC version electrically conductive <10³ Ω: electrically conductive premium ester-polyurethane (Pre-PUR®)







CONNECT 242



Threaded adapter

- easily and quickly fitted
- . re-usable (threaded)
- . gas and liquid tight as pre-fitted version
- . highly abrasion-resistant
- . microbe and hydrolysis resistant
- . good resistance to oil, gasoline and chemicals
- . thread reference DIN ISO 228

Design, material: wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 243



Flanged pipe according to the popular pipe systems in the ventilation field (for example Jacob-Standard)

- easily and quickly fitted
- . re-usable (threaded)
- gas and liquid tight as pre-fitted version
- . highly abrasion-resistant
- . microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals .

Design, material: flanged pipe: galvanized sheet metal; wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 243 FOOD





Flanged pipe according to the popular pipe systems in the ventilation field (for example Jacob-Standard), food-grade

- easily and quickly fitted
- . re-usable (threaded)
- gas and liquid tight as pre-fitted version
- highly abrasion-resistant; odourless and tasteless
- microbe and hydrolysis resistant .
- good resistance to oil, gasoline and chemicals

Design, material: flanged pipe:Stainless Steel (INOX); wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 244



- Loose flange to fit mating flanges acc. to DIN 2632/2633, hole pattern DIN-EN 1092-1
- easily and quickly fitted
- re-usable (threaded)
- gas and liquid tight as pre-fitted version
- . highly abrasion-resistant
- . microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: loose flange: polypropylene (PP) coated steel core; wall: special premium ether-polyurethane (Pre-PUR®)





CONNECT 244 FOOD



- Loose flange to fit mating flanges acc. to DIN 2632/2633, hole pattern DIN-EN 1092-1
- easily and quickly fitted
- re-usable (threaded)
 - gas and liquid tight as pre-fitted version
- highly abrasion-resistant
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- odourless and tasteless
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: loose flange: polypropylene (PP) coated steel core; wall: special premium ether-polyurethane (Pre-PUR $^{\circ}$)

CONNECT 245 VAC-TRUCK





- Tapered flange coupling system to fit adapter acc. to DIN 3016-4
 easily and quickly fitted
- re-usable (threaded)
- highly abrasion-resistant
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- gas and liquid tight as pre-fitted version
- When used vertically user must secure flange and hose with additional attachments

Design, material: wall: special premium ether-polyurethane (Pre-PUR®)

CONNECT 245



- TRI-Clamp coupling to fit adapter acc. to DIN 32677
- easily and quickly fitted
- re-usable (threaded)
- highly abrasion-resistant
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals

Design, material: wall: special premium ether-polyurethane (Pre-PUR®)



Accessories: TRI-CLAMP 245





CONNECT 246 AS





- Spiral hose connector for connecting, lengthening or repairing spiral hoses
 easily and quickly fitted
- re-usable (threaded)
- highly abrasion-resistant
- microbe and hydrolysis resistant
- good resistance to oil, gasoline and chemicals
- permanently antistatic wall: electrical and surface resistance approx. 10⁹ Ω

Design, material: wall: special premium ether-polyure thane (Pre-PUR $^{\oplus})$

CONNECT 246 FOOD



- Spiral hose connector for connecting, lengthening or repairing spiral hoses, foodgrade
- easily and quickly fitted
- re-usable (threaded)
- highly abrasion-resistant
- Food grade wall, complies with: EU-Directive 10/2011 and EC 1935/2004 and the latest EU-Directive 2015/174
- odourless and tasteless
- microbe and hydrolysis resistant
 good resistance to oil gasoline a
 - good resistance to oil, gasoline and chemicals

Design, material: wall: special premium ether-polyurethane (Pre-PUR $^{\tiny (\!\!\!\!)}$



CONNECT 223



- Shrink hose for connecting one hose to another or to an adapter
- adapts itself to any surface
- easily and quickly fitted

Design, material: polyolefine

Accessories: 208; 270-271



CONNECT 226



- Soft sleeve for SuperFlex hoses
- easily and quickly fitted
- re-usable (threaded)
- good resistance to alkalis and acids
- good resistance to chemicals

Design, material: wall: high grade soft PVC



CONNECT 227



• Soft sleeve for EVA hoses; easily and quickly fitted; re-usable; good resistance to alkalis and acids; good resistance to chemicals

Design, material: Wall: high grade soft PVC, electrically conductive <10 6 Ω



CONNECT 270-271



- Metal hose connector/reducer
- easily and quickly fitted
- re-usable (threaded)

Design, material: galvanized sheet metal

Accessories: 212; 216; 208; 211; 212 EC; 217; 213; 228; 223



CONNECT 202



Connectors for connecting or attaching metal hose

Bayonet lock 202: cylindrical bayonet lock, alternatively coupling with a pin
or flange with an L-slot, extension at one end for attaching the metal hose

Design, material: stainless steel (INOX)



CONNECT 203-204



- Connectors for connecting or attaching metal hoses
- Adapter 203: cylindrical adapter, extension at one end for attaching the metal hose
- Slotted adapter 204: cylindrical adapter with two slots, extension at one end for attaching the metal hose

Design, material: stainless steel (INOX)



CONNECT 205



- Connectors for connecting or attaching metal hoses
- Flange 205: cylindrical adapter with rotatable flange, extension at one end for attaching the metal hose

Design, material: stainless steel (INOX)



CONNECT 206



Connectors for connecting or attaching metal hoses

 Quick-release coupling 206: quick-release coupling with several clamp clips, option of coupling with clamp clips or flange with flat face, extension at one end for attaching the metal hose





CONNECT STORZ DIN ALU 251



- Storz suction coupling
- DIN design forged aluminium (52-C = DIN 14321/75-B = DIN 14322/110-A = DIN 14323)
- Not to be used for explosive fluides group 1 and not according to pressure equipment directive



CONNECT TANK TRUCK BRASS 252



- Brass tank truck coupling
- according to EN 14420 -6
- Not to be used for explosive fluides group 1 and not according to pressure equipment directive

Design, material: material: brass



CONNECT KAMLOK ALU 253



- Kamlok coupling
- Fluted nozzle for band clamp fitting
- Not to be used for explosive fluides group 1 and not according to pressure equipment directive

Design, material: material: aluminium



CONNECT KARDAN 254



- Kardan coupling
- Not to be used for explosive fluides group 1 and not according to pressure equipment directive

Design, material: material: galvanized steel; incl. sealing ring made of NBR







ASSEMBLING CONFIGURATOR

Inlet								
Step 1 Inlet fitting		Step 2 Hose			Step 3 Inlet assembly			Assembly needed parts
234 THREAD 245 TRI-CLAMP 247 DAIRY 249 ASEPTIC 251 STORZ 252 TANK TRUCK 253 KAMLOK 254 KARDAN	<pre>}</pre>	according datasheet of	fitting	<pre>}</pre>	229 CLAMP (separate dat 231 SAFETY CLAMP 232 PRESS 233 MOULD	asheet)	\rightarrow	CLAMP 208/211/212/212 EC/216 231 SAFETY CLAMP 232 PRESS -
		Outlet						Additional services (separate datasheets)
Step 4 Outlet fitting		Step 5 Outlet assembly		assembly	needed parts			Step 6
234 THREAD 245 TRI-CLAMP 247 DAIRY 249 ASEPTIC 251 STORZ 252 TANK TRUCK 253 KAMLOK 254 KARDAN		229 CLAMP 231 SAFETY CLAMP 232 PRESS 233 MOULD	$\begin{array}{c} \uparrow \\ \uparrow \\ \uparrow \\ \uparrow \\ \uparrow \end{array}$		08/211/212/212 EC/216 TY CLAMP S		•	235 (cutting and grounding) 237 (packaging and labeling) 239 (testing)



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