

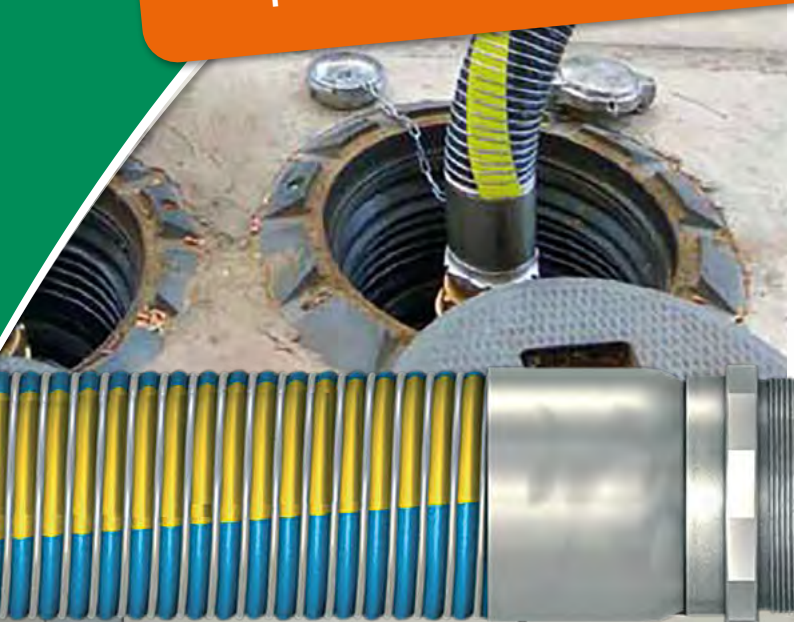
RENTAL PARK SERVICE

Chemical and oil hoses

Grünin **G+L** oske

www.gruelo.de

-  Stockpiling
-  Testing
-  Administration of your hose lines
-  Customised transport racks
-  Wear and corrosion protection for pumps, tanks and containers



Chem SP UPE EN 12115

Reliable, for sure!

★ friendly

★ flexible

★ fair

★ competent

★ reliable

5-STAR - SERVICE EVERY DAY!



As a certified specialist company for hose and fittings technology, we take care of your hose lines for the rental park: Whether suction and pressure hoses for use on submersible motor or diesel pumps, chemical, tanker or compressed air hoses, multi-layer film hoses or drinking water lines for treatment plants. We assemble your hose lines up to a nominal diameter of 305 mm / 12" with the required coupling systems. All hose assemblies are subjected to a hose inspection in accordance with BetrSichV and DGRL at regular intervals and are, if necessary, repaired or replaced. Cleaning of hose lines goes without saying.

With our GrüloCOAT system we offer a perfect solution for all corrosion and wear problems. We coat your pump housings, impellers and pipes from inside and outside with polyurea or rubber.

In addition, we stock hose racks for your rental fleet and process your containers.

In case you need more detailed information about a particular product or would like to get a general idea about our extensive assortment, please visit us on www.gruelo.de.

In case you need help to choose the adequate product for your application area our kind and competent sales team provides assistance under:

Fon: +49 (0) 51 02 - 91 99 - 01

Fax: +49 (0) 51 02 - 91 99 - 90

Mail: info@gruelo.de

Enjoy our new range of products!

Dirk Loske
CEO



www.gruelo.de



REACHABILITY

- We are personally available from Monday to Thursday, 7:30 a.m. to 4:30 p.m., and Friday 7:30 a.m. to 2:00 p.m.
- You are welcome to make an appointment with your local sales representative.
- Detailed information can be found on www.gruelo.de around the clock.

SERVICES

- We deliver your goods on your requested date.
- Packaging is done according to your transport specifications.
- We also pack your orders neutrally and send them directly to your customer.
- We take care of customs formalities for your shipments abroad.
- We help you to plan and realise custom-made products and special fabrications.
- Feel free to arrange call or blanket orders with us.
- We assemble and test your hose lines in conformity with PED (Pressure Equipment Directive) and BetrSichV (German Operational Safety Regulations).

DELIVERY OPTIONS

- Delivery throughout Germany within 24 hrs./48 hrs.
- Orders with express shipment can be delivered the next day.
- It is possible to pick up goods directly from our warehouse.

CUSTOMISED LABELS

- On request we can produce your hose line with a transfer tape in your corporate colour and logo.
- With our in-house laser we mark fittings or hose clamps according to your specifications.

YOUR SALES DOCUMENTS

- We gladly create our sales documents with your corporate design.

OUR LOCATION

- In addition to the office building, our company headquarter in Laatzen consists of two production areas and three warehouses with a total area of approx. 4,000 m². Our storage area is equipped with the latest high-bay warehouse technology, to ensure the fastest possible processing of your order.



Hose service

Consultation and assembly

Assembly is done under strong compliance with regulations applying to the manufacturing of complete hose lines (European Pressure Equipment Directive PED 2014/68/EU).

A safe operation of a hose line is only possible, considering the actual operation conditions. This includes resistance against the conducted media, working pressure, operating temperature, installation situation, bending frequency, duration and frequency of operation, environmental conditions and mechanical load.

All advice and practical support you require for your individual operation purpose will be given by our skilled expert staff. The personnel in hose technology is "Qualified Person pursuant to the Ordinance on Industrial Safety and Health for pressure tanks and piping" and additionally „Certificated Expert Advisers for Hose and Fitting Technology" (Certification through Trade Association).



Pressing of hoses

Our services:

- Assembly of hose lines/swaging of hose lines up to DN 300 mm, with clamps, bolted clamps and all customary hose coupling systems: e.g. Storz, Perrot, Bauer, Anfor, Flange, Kamlok, GEKA
- Swaging of composite hoses up to DN 250 mm
- Assembly of hose packs and heatable hose lines
- Detailed advice by phone or personally on-site
- Management of hose lines
- Hose testing in conformity with European Pressure Equipment Directive PED 2014/68/EU as well as German BetrSichV (Occupational Safety Regulations)
- Labelling or marking of hoses
- Hose repair
- On-site mobile hose testing service
- Lasting security through maintenance contracts
- Hose recycling
- Hose winding and unwinding equipment



We test your hose assemblies!

- according to European Pressure Equipment Directive PED 2014/68/EU

Hose lines are subject to special requirements, as they are partly under severe stress by the predominant operational conditions, transported media, operating pressure, temperature and external influences.

To minimise risks at operating hose lines, a constant inspection of the work capability is essential. A recurrent inspection of hose lines is even regulated by law. Grüning & Loske inspects your hose lines pursuant to the Ordinance on Industrial Safety and Health and Pressure Equipment Directive PED 2014/68/EU.

Following the inspection each hose line gets an identification number which is permanently attached to the line by a marking strip. We hand out a certification report after inspection. Furthermore we keep records of all accomplished inspections. Through the given identification number we can recall your master and test data any time.

Our mobile testing unit enables us to inspect your hose lines on-site without any circumstances.

**Take advantage of this Grüning & Loske service.
It saves you time and effort - and thus lowers your costs!**

Our services:

- Hose line testing according to European Pressure Equipment Directive PED 2014/68/EU:
 - Inspection
 - External and internal testing (visual examination)
 - Electrical conductivity test
 - Pressure test (strength test) up to 2.800 bar
 - Vacuum test
- Individual labeling
- Documentation by itemised report according to EN 10204
- Consultancy on CE-identification marks
- Variant inspections conforming to your works standard specification
- Repair on-site through our mobile testing and installation service
- Supervision of your inspection dates and punctual email reminder



Pressure testing

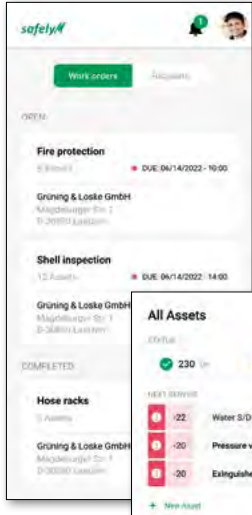


Pressure test with the aid of the Resato-P160-65-1



Hose management system

Initial and periodic inspections only make sense if they are documented over the entire life of the hose line. In the future, we will manage this data in a database. This will help to us avoid unplanned downtime, unnecessary repairs, missed maintenance and forgotten certifications, and provide you with the analysis you need quickly.



Many companies state that they lack visibility of their assets and are looking for a solution to address this. But it's not just about money. A lot of time is spent on documentation and avoidable errors often result in significant downtime. Another important issue is health and safety. With **safelyM**, we have the ideal solution for you. From now on, the service provider will coordinate the maintenance appointments for you. **SafelyM** informs you about all maintenance, repair and service work and the associated downtime. All work is also documented in a complete, secure and legally compliant manner.

You can find all the information about your assets on one central platform. **SafelyM** provides a fully and freely configurable dashboard with all information such as countries, locations, plants, areas, machines and much more, which can be fully customised to your needs.

The benefits at a glance

Security

- Status of all assets
- Secure and compliant (change log)
- DGUV & BetrSichV
- Dramatic increase in security standards

Large data volumes

- All logs in one place
- Seamless documentation
- Assigned certification
- Export lists to multiple file formats

Plug'n'Play

- No third party software required
- Ready to use in minutes
- Works online and offline
- Customisable dashboard
- Different user groups

Up to date

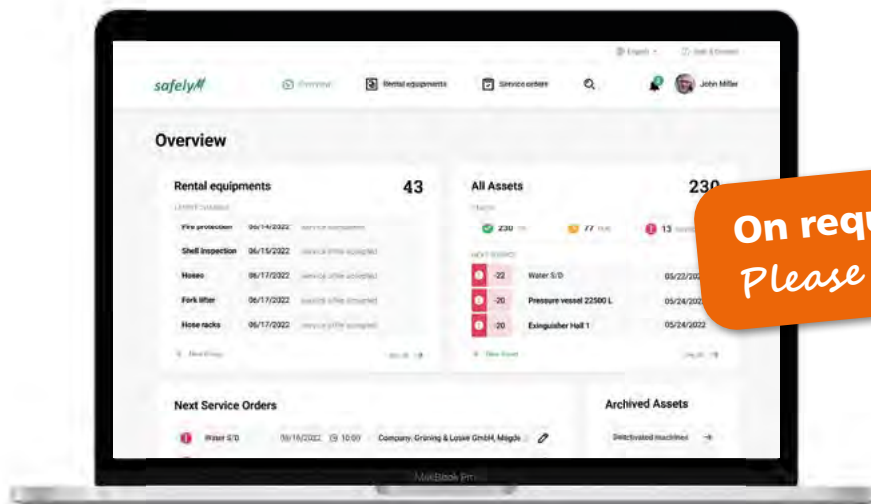
- Scheduled maintenance
- No service and maintenance gaps
- Increased uptime
- Complete overview of assets to be checked
- Plan downtime in advance
- Visibility of each inspection step
- Use the inspection module to carry out your own regular inspections in accordance with DGUV and BetrSichV.

Service life

- Longer life cycles
- No unnecessary repairs
- Fewer spare parts

Asset location

- Locate all assets
- Allocation of all assets
- Operational data at a glance

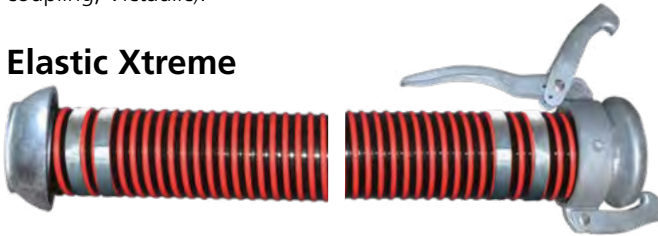


On request!
Please contact us.

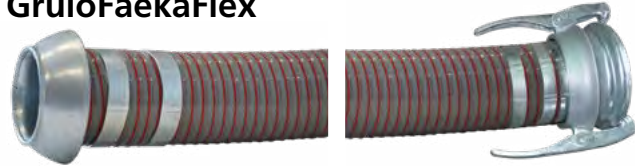
Assembled hose lines

Assembly is done under strong compliance with regulations applying to the manufacturing of complete hose lines according to European Pressure Equipment Directive PED 2014/68/EU. Our qualified specialist staff compresses your hose lines up to DN 12"/305 mm with all common coupling systems (Bauer, Perrot, Flange, clamping ring coupling, Victaulic).

Elastic Xtreme



GrüloFaekaFlex



Water S/D 10



GrüloElastic Oil AS



COMPRESSION holds at least **750 kg** TENSILE FORCE

Tested in-house the grouting withstood a tensile force of at least 750 kg!

Arizona Superelastic



GrüloTank SP



Individual labelling

HOSE MARKINGS

On request we produce your hose line with a transfer tape in your corporate colour and logo.

LASER ENGRAVING

We mark your assembled hose lines with our in-house laser. Thus, manufacturer name and order number are visible at a glance. Of course customer-specific specifications are possible.



Here your manufacturer name, order number and test date can be applied.



Your company name could also appear here



GrüloChem SP EPDM

EPDM Chemical hose

GrüloChem SP EPDM, for the conveyance of a wide range of chemicals, acids and solvents, is highly flexible, resistant to ageing and ozone. Cover and core are electrically conductive ($R \leq 106 \Omega/m$). Suitable for ATEX Zones 0 and 1.

Technical characteristics

Approval: EN 12115:2011 Ω/T
 Temperature range: $-20 \text{ }^\circ\text{C}$ to $+100 \text{ }^\circ\text{C}$
 Standard Length: 40 m



Construction

Cover: EPDM, black, fabric impressions
 Reinforcement: Textile cord with two steel spirals
 Lining: EPDM, black

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BP bar	BR mm	Weight kg/m	Article no.
50	2	8,00	16	0,90	64	250	1,650	10164-051
75	3	7,50	16	0,90	64	375	2,750	10164-076
100	4	8,00	16	0,90	64	500	3,850	10164-102
152	6	10,00	16	0,90	64	680	8,940	10164-152



GrüloChem SP UPE

UPE Chemical hose

GrüloChem SP UPE is a highly flexible chemical protection hose with a conductive UPE liner. Suitable for the transport of acids, alkalis, salts, organic compounds incl. aromatic substances, chlorinated hydrocarbons and oxidising acids. Cover and lining are electrically conductive ($R \leq 106 \Omega/m$).

Technical characteristics

Approval: EN 12115:2011
 Temperature range: $-20 \text{ }^\circ\text{C}$ to $+65 \text{ }^\circ\text{C}$ | depending on medium
 Standard Length: 40 m, 60 m



Construction

Cover: EPDM, fabric impressions, electrically conductive
 Reinforcement: Galvanized high tensile steel spiral
 Seele: UPE, schwarz, glatt, elektrisch leitfähig

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BP bar	BR mm	Weight kg/m	Article no.
50	2	7,00	16	0,90	64	350	2,150	10163-050
75	3	7,50	16	0,90	64	525	3,350	10163-075
100	4	8,00	16	0,90	64	700	4,450	10163-100
152	6	9,00	16	0,80	64	1064	8,940	10163-152



Hi-Per®

Premium FEP Chemical Hose

Highly flexible **Hi-Per®** has an extra strong FEP-liner, which is particularly suitable for use with crimped couplings. It can be used for the transport of almost all chemicals as well as acids, solvents, hydrocarbons, paints, lacquers, alcohols, food products (FDA compliant). Suitable for steam cleaning up to $+150 \text{ }^\circ\text{C}$ in open systems.

Technical characteristics

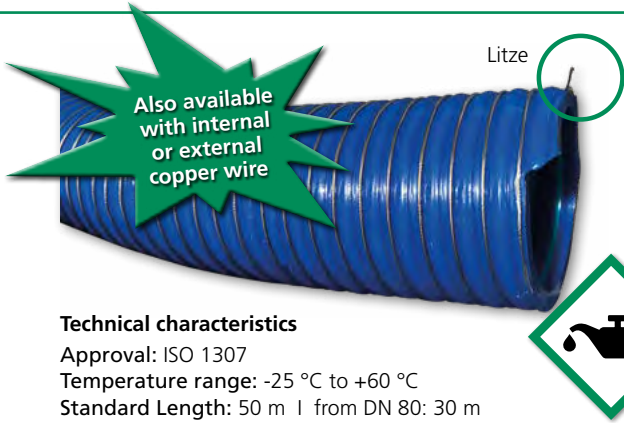
Temperature range: $-40 \text{ }^\circ\text{C}$ to $+149 \text{ }^\circ\text{C}$
 Standard Length: 15,2 m, 30,5 m
 Colour: Blue



Construction

Cover: EPDM
 Reinforcement: FEP, white

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
19,1	3/4	4,55	14	56	0,80	127	0,830	12163-019
25,4	1	6,60	14	56	0,80	191	1,060	12163-025
31,8	1 1/4	6,05	14	56	0,80	279	1,250	12163-032
38,1	1 1/2	8,00	14	56	0,80	356	1,850	12163-038
50,8	2	8,75	14	56	0,80	457	2,540	12163-051



GrüloElastic Oil AS

Tank truck hose

Highly flexible, antistatic and cold resistant tank truck hose, with shock and pressure resistant PVC-spiral. **GrüloElastic Oil AS** is especially suitable as suction and discharge hose for tank trucks. All technical data refer to a temperature of 20 °C.

Construction

Cover: PVC/NBR, corrugated, outer copper wire
Reinforcement: Shock and pressure resistant PVC spiral
Lining: PVC/NBR, smooth

Technical characteristics

Approval: ISO 1307
 Temperature range: -25 °C to +60 °C
 Standard Length: 50 m | from DN 80: 30 m

Inner mm	Inner Inch	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
50	2	4	20	0,80	400	1,250	10571-051
75	3	3	12	0,80	600	2,100	10571-076
80	-	3	12	0,80	680	2,500	10571-080
100	4	3	12	0,80	800	3,300	10571-102



Ölflex

Antistatic tank truck hose

Tank truck hose suitable for hydrocarbons with max. 50% aromatic contents. Lining and cover are electrically conductive ($R \leq 10^6 \Omega/m$).

Construction

Cover: SBR, corrugated, electrically conductive
Reinforcement: Highly tear resistant textile fibres, steel wire helix, copper litz wire
Lining: NBR, black, electrically conductive

Technical characteristics

Temperature range: -20 °C to +80 °C
 Standard length: 40 m | further lengths on request

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
32	1 1/4	4,00	9	0,90	60	0,650	10419-032
38	1 1/2	4,00	9	0,90	80	0,850	10419-038
52	2	5,00	9	0,90	100	1,375	10419-052
76	3	7,50	9	0,90	150	1,900	10419-076
102	4	6,00	9	0,90	200	2,300	10419-102



GrüloLine

Tankmeister TMSL

Light tanker hose with helix

Light weight tank truck hose according to EN 12115 for heavy applications. The cover of **GrüloTank L** is resistant to weather, oil and abrasion. For filling and discharging petrol tank trucks and rail tank wagons. Lining and cover are electrically conductive ($R \leq 10^6 \Omega/m$).

Construction

Cover: CR, corrugated, fabric impressions
Reinforcement: Textile wrapped, copper wire, zinc plated double steel wire helix
Lining: NBR, black, smooth

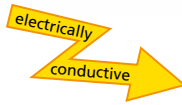
Technical characteristics

Temperature range: -30 °C to +90 °C
 Standard Length: 40 m | further lengths on request

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
32	1 1/4	6,00	10	0,90	55	0,800	10108-032
38	1 1/2	6,50	10	0,90	70	1,200	10108-038
50	2	7,50	10	0,90	80	1,850	10108-050
75	3	7,50	10	0,90	100	3,000	10108-075
100	4	8,00	10	0,90	150	3,500	10108-100



GrüloLine



Technical characteristics

Temperature range: -30 °C to +80 °C
Standard Length: 40 m

GrüloTank SP EN 12115

Tank truck hose with helix

Tank truck hose with spiral according EN 12115. Suitable for hydrocarbons up to max. 55% aromatic contents. Oil, weather and ozone resistant cover. Electrically conductive ($R \leq 10^6 \Omega/m$).

Construction

Cover: CR
Reinforcement: Synthetic fibres with steel wire helix and two copper litz wires
Lining: NBR, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
51	2	8,00	16	0,90	310	1,690	10191-051
76	3	8,00	16	0,90	460	2,830	10191-076
102	4	8,00	16	0,90	620	3,950	10191-102
152	6	10,00	16	0,90	910	8,480	10191-152



GrüloLine



Technical characteristics

Norm: EN 12115
Temperature range: -30 °C to +80 °C
Standard Length: 120 m

GrüloTank EN 12115

Tank truck hose without helix

Petroleum- and fuel hose according to EN 12115 for heavy duty. The cover is resistant to weather, abrasion and oil. It is antistatic and self-extinguishing. Suitable for the filling of fuel oil tanks.

Construction

Cover: CR
Reinforcement: High-strength synthetic cord
Lining: NBR, black, smooth

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	BR mm	Weight kg/m	Article no.
25	1	6,00	16	64	200	0,700	10185-025
32	1 1/4	6,00	16	64	260	0,870	10185-032
38	1 1/2	6,50	16	64	304	1,070	10185-038
50	2	8,00	16	64	400	1,650	10185-050
63	2 1/2	8,00	16	64	504	2,000	10185-063
76	3	8,00	16	64	600	2,380	10185-076
80	-	8,00	16	64	800	2,820	10185-080
102	4	8,00	16	64	1000	3,150	10185-102



MERLETT



Technical characteristics

Norm: ISO 4649, ISO 291
Temperature range: -25 °C to +55 °C
Standard Length: DN 25: 60 m, from DN 38: 40 m

Vacupress® Oil

Flexible PVC-hose with steel wire helix

Two-layer hose in thermoplastic PVC with embedded galvanized steel spiral and polyester yarn reinforcement for the delivery and suction of hydraulic oils and fuels. From DN 76 with cover in PU. Highly flexible and a good abrasion resistance.

Construction

Cover: Polyurethane, abrasion resistant
Reinforcement: Polyester yarn, steel wire helix
Lining: PVC/polyurethane rubber compound

Inner mm	Inner Inch	Wall mm	WP bar	BP bar	Vacuum bar	BR mm	Weight kg/m	Article no.
25	1	5,25	16	48	0,90	80	0,670	10428-025
38	1 1/2	6,50	14	42	0,90	125	1,200	10428-038
45	1 3/4	6,50	12	36	0,90	140	1,340	10428-045
50	2	7,00	12	36	0,90	150	1,730	10428-050
60	-	7,00	12	36	0,90	180	1,950	10428-060



Multilayer foil hoses

COMPOSITE HOSES

Grüning & Loske offers you a comprehensive range of multi-layer foil hoses or composite hoses for flexible transport of oil and chemical products in accordance with EN 13765:2010. Apart from an assortment of standards individual solutions on demand are available. Production and assembly are made according to ISO 9001 and PED. Convince yourself once more of our know-how and 5-star service.



CompoOIL 10 GGE

Oil resistant composite hose

CompoOil 10 GGE is suitable for use and delivery and/or suction of fuels, oils and lubricants in tank trucks, wagons or deposits. Also available with 14 bar working pressure.

Technical characteristics

Approval: EN 13765:2010
 Temperature range: -30 °C to +100 °C
 Standard length: max. 30 m
 Safety factor: 5:1

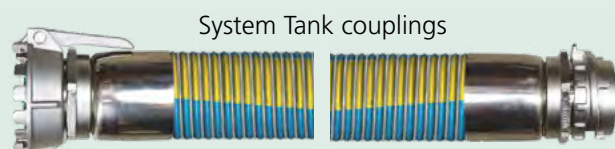


Construction

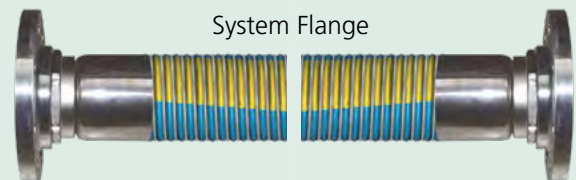
Cover: PVC, PP on request
 Inner wire spiral: Galvanized steel
 Outer wire spiral: Galvanized steel
 Lining: Polypropylene

Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,060	10324-051
76	3	10	50	290	3,500	10324-076
102	4	10	50	320	5,440	10324-102

We assemble your multi-layer foil hoses with all common coupling systems!



System Tank couplings



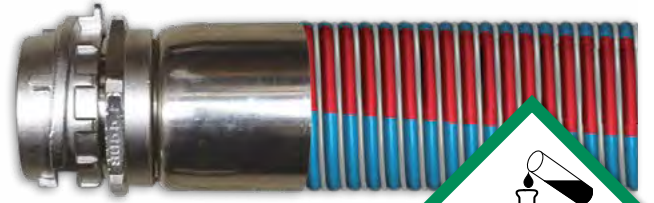
System Flange

Chemical-resistant multi-layer foil hoses

These chemical-resistant composite hoses are suitable for loading and unloading tank trucks in industry plants and marine applications. Suitable for chemical products such as acids, fatty acids, alkalis and solvents, even in corrosive environments.

Also available in other versions and with a working pressure of 14 bar.

CompoCHEM 10 EGE



Technical characteristics

Approval: EN 13765:2010
 Temperature range: -30 °C to +100 °C
 Standard length: max. 30 m
 Safety factor: 5:1

Construction

Cover: PVC coated polyester fabric
 Inner wire spiral: PP coated steel
 Outer wire spiral: Galvanized Steel
 Lining: Polypropylene

Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,060	10326-051
76	3	10	50	290	3,500	10326-076
102	4	10	50	320	5,440	10326-102

CompoCHEM 10 SSE



Technical characteristics

Approval: EN 13765:2010
 Temperature range: -30 °C to +100 °C
 Standard length: max. 30 m
 Safety factor: 5:1

Construction

Cover: PVC coated polyester fabric
 Inner wire spiral: Stainless steel
 Outer wire spiral: Stainless steel
 Lining: Polypropylene

Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,160	10325-051
76	3	10	50	290	3,670	10325-076
102	4	10	50	320	5,710	10325-102

CompoCHEM 10 ESE



Technical characteristics

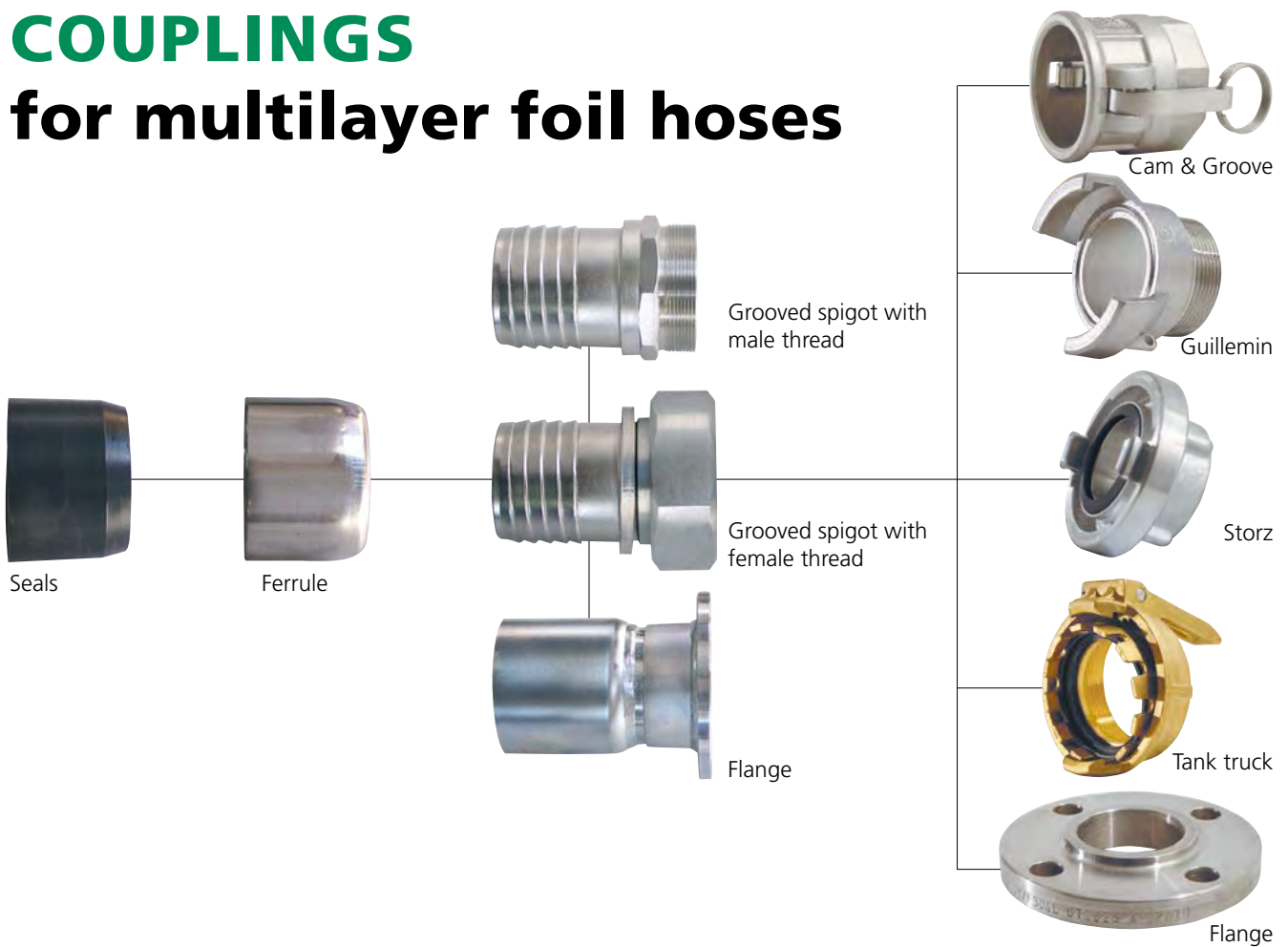
Approval: EN 13765:2010
 Temperature range: -30 °C to +100 °C
 Standard length: max. 30 m
 Safety factor: 5:1

Construction

Cover: PVC coated polyester fabric
 Inner wire spiral: PP coated steel
 Outer wire spiral: Stainless steel
 Lining: Polypropylene

Inner mm	Inner Inch	WP bar	BP bar	BR mm	Weight kg/m	Article no.
51	2	10	50	190	2,010	10327-051
76	3	10	50	290	3,400	10327-076
102	4	10	50	320	5,420	10327-102

COUPLINGS for multilayer foil hoses



Coupling	Ø Inch	Material	Standard	Picture
Presshülse	1 - 10	Galvanised steel, stainless steel, aluminium	-	
Seal	1 - 10	NBR, Viton (conductive)	-	
Grooved spigot with male thread	1 - 6	Galvanised steel, stainless steel, aluminium	BSP, NPT	
Grooved spigot with female thread	1 - 4	Stainless steel	BSP	
For fixed flange	1 - 10	Galvanised steel, stainless steel	DIN, ANSI, TTMA	
For swivel flange	1 - 10	Galvanised steel, stainless steel	-	
Cam & groove C Male part-/Female part	3 - 4	Aluminium	-	
Guillemin	1 1/2 - 4	Stainless steel, aluminium, brass	-	
Milk pipe fitting with / without union	2 - 3	Stainless steel	DIN	

TANK TRUCK COUPLINGS

Brass

Material: Brass

Max. Working pressure: 25 bar

Temperature range: -30 °C to +120 °C

Norm: EN 14420-6 / DIN 28450

Seal coupling: NBR

Seal thread: PU

Stainless steel

Material: Stainless steel

Max. Working pressure: 25 bar

Temperature range: -20 °C to +80 °C

Seal coupling: Hypalon

Seal thread: PTFE

**Male part
with female thread**


DN Inch	DN mm	Thread Inch	Brass		Stainless steel		Stainless steel with PTFE lining	
			Weight/unit kg	Article no.	Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	G 2	0,300	24454-050-20-02	0,320	24454-050-20-03	0,320	24450-050-20-03
3	80	G 3	0,780	24454-080-30-02	0,740	24454-080-30-03	0,740	24450-080-30-03
4	100	G 4	1,220	24454-100-40-02	1,250	24454-100-40-03	-	-

**Crown part
with female thread**


DN Inch	DN mm	Thread Inch	Brass		Stainless steel		Stainless steel with PTFE lining	
			Weight/unit kg	Article no.	Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	G 2	0,230	24456-20-02	0,200	24456-20-03	0,200	24456-50-20-03
3	80	G 3	0,550	-	0,490	24456-30-03	0,490	24456-80-30-03

**Crown part
with female thread, locking ring and lever**


DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	G 2	0,740	24455-050-20-02	0,630	24455-050-20-03
3	80	G 3	1,460	24455-080-30-02	1,300	24455-080-30-03
4	100	G 4	2,710	24455-100-40-02	2,160	24455-100-40-03

**Locking ring with lever,
for crown part**


DN Inch	DN mm	Thread Inch	Brass		Stainless steel	
			Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	G 2	0,510	24457-20-02	0,430	24457-20-03
3	80	G 3	0,930	-	0,910	24457-30-03

Dust cap for male part

also available in aluminium



DN Inch	DN mm	Brass		Stainless steel	
		Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	0,370	24458-050-02	0,350	24458-050-03
3	80	0,880	24458-080-02	0,810	24458-080-03
4	100	1,140	24458-100-02	1,210	24458-100-03

Dust plug for crown part



DN Inch	DN mm	Brass		Stainless steel	
		Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	0,360	24459-050-02	0,300	24459-050-03
3	80	0,890	24459-080-02	0,710	24459-080-03
4	100	1,100	24459-100-02	0,990	24459-100-03

Hose shank with male thread

Brass

Norm: EN 14420-5 / DIN 2817

Thread: EN ISO 228-1, BSP

Material: Brass

WP: 16 bar

Stainless steel

Norm: EN 14420-5 / DIN 2817

Thread: EN ISO 228-1, BSP

Material: Stainless steel

WP: 16 bar

Serrated hose shank for clip binding



Thread Inch	DN mm	For hose mm	SW mm	Brass		Stainless steel	
				Weight/unit kg	Article no.	Weight/unit kg	Article no.
2	50	50	65	0,500	24424-20-050-02	0,540	24424-20-050-03
3	80	75	100	1,000	24424-30-075-02	0,960	24424-30-075-03
4	100	100	125	1,890	24424-40-100-02	1,840	24424-40-100-03

Smooth hose shank with safety collar for clamping shell binding



Thread Inch	DN mm	For hose mm	SW mm	Brass		Stainless steel	
				Weight/unit kg	Article no.	Weight/unit kg	Article no.
G 2	50	50	65	0,460	24421-050-20-02	0,430	24421-050-20-13
G 3	80	75	100	0,910	24421-075-30-02	0,910	24421-075-30-13
G 4	100	100	125	1,930	24421-100-40-02	1,176	24421-100-40-13

Adapter pieces and reducers

available in different versions!



CAM & GROOVE COUPLINGS

Female Coupler with hose shank

Type C

Standard seal:

NBR | also in FEP, Hypalon and PTFE

For PP: EPDM



DN	Size Inch	For hose mm	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	38	18	22004-040-01	18	22004-040-13*	18	22004-040-02	7	22004-040-07
50	2	50	18	22004-050-01	18	22004-050-13*	18	22004-050-02	7	22004-050-07
65	2 1/2	63	11	22004-065-01	11	22004-065-13*	11	22004-065-02	-	-
80	3	75	9	22004-080-01	9	22004-080-13*	9	22004-080-02	4	22004-080-07
100	4	100	7	22004-100-01	7	22004-100-13*	7	22004-100-02	4	22004-100-07
125	5	125	5	22004-125-01	5	22004-125-13*	5	22004-125-02	-	-
150	6	150	5	22004-150-01	5	22004-150-13*	5	22004-150-02	-	-

*with safety collar

Male Coupler with hose shank

Type E



DN	Size Inch	For hose mm	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	38	18	22104-040-01*	18	22104-040-13*	18	22104-040-02*	7	22104-040-07*
50	2	50	18	22104-050-01*	18	22104-050-13*	18	22104-050-02*	7	22104-050-07*
65	2 1/2	63	11	22104-065-01*	11	22104-065-13*	11	22104-065-02*	-	-
80	3	75	9	22104-080-01*	9	22104-080-13*	9	22104-080-02*	4	22104-080-07*
100	4	100	7	22104-100-01*	7	22104-100-13*	7	22104-100-02*	4	22104-100-07*
125	5	125	5	22104-125-01*	5	22104-125-13*	5	22104-125-02*	-	-
150	6	150	5	22104-150-01*	5	22104-150-13*	5	22104-150-02*	-	-

*with safety collar

Female Coupler with female thread

Type D

Standard seal:

NBR | also in FEP, Hypalon and PTFE

For PP: EPDM



DN	Size Inch	Thread EN ISO 228-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	G 1 1/2	18	22000-040-01	18	22000-040-13	18	22000-040-02	7	22000-040-07
50	2	G 2	18	22000-050-01	18	22000-050-13	18	22000-050-02	7	22000-050-07
65	2 1/2	G 2 1/2	11	22000-065-01	11	22000-065-13	11	22000-065-02	-	-
80	3	G 3	9	22000-080-01	9	22000-080-13	9	22000-080-02	4	22000-080-07
100	4	G 4	7	22000-100-01	7	22000-100-13	7	22000-100-02	4	22000-100-07
125	5	G 5	5	22000-125-01	5	22000-125-13	5	22000-125-02	-	-
150	6	G 6	5	22000-150-01	5	22000-150-13	5	22000-150-02	-	-

Male Coupler with female thread

Type A



DN	Size Inch	Thread EN ISO 228-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	G 1 1/2	18	22100-040-01	18	22100-040-13	18	22100-040-02	7	22100-040-07
50	2	G 2	18	22100-050-01	18	22100-050-13	18	22100-050-02	7	22100-050-07
65	2 1/2	G 2 1/2	11	22100-065-01	11	22100-065-13	11	22100-065-02	-	-
80	3	G 3	9	22100-080-01	9	22100-080-13	9	22100-080-02	4	22100-080-07
100	4	G 4	7	22100-100-01	7	22100-100-13	7	22100-100-02	4	22100-100-07
125	5	G 5	5	22100-125-01	5	22100-125-13	5	22100-125-02	-	-
150	6	G 6	5	22100-150-01	5	22100-150-13	5	22100-150-02	-	-

Female Coupler with male thread

Type B

Standard seal:

NBR | also in FEP, Hypalon and PTFE
For PP: EPDM



DN	Size Inch	Thread EN 10226-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	R 1 1/2	18	22001-040-01	18	22001-040-13	18	22001-040-02	7	22001-040-07
50	2	R 2	18	22001-050-01	18	22001-050-13	18	22001-050-02	7	22001-050-07
65	2 1/2	R 2 1/2	11	22001-065-01	11	22001-065-13	11	22001-065-02	-	-
80	3	R 3	9	22001-080-01	9	22001-080-13	9	22001-080-02	4	22001-080-07
100	4	R 4	7	22001-100-01	7	22001-100-13	7	22001-100-02	4	22001-100-07
125	5	R 5	5	22001-125-01	5	22001-125-13	5	22001-125-02	-	-
150	6	R 6	5	22001-150-01	5	22001-150-13	5	22001-150-02	-	-

Male Coupler with male thread

Type F



DN	Size Inch	Thread EN 10226-1	Aluminium		Stainless steel		Brass		PP	
			WP bar	Article no.	WP bar	Article no.	WP bar	Article no.	WP bar	Article no.
40	1 1/2	R 1 1/2	18	22101-040-01	18	22101-040-13	18	22101-040-02	7	22101-040-07
50	2	R 2	18	22101-050-01	18	22101-050-13	18	22101-050-02	7	22101-050-07
65	2 1/2	R 2 1/2	11	22101-065-01	11	22101-065-13	11	22101-065-02	-	-
80	3	R 3	9	22101-080-01	9	22101-080-13	9	22101-080-02	4	22101-080-07
100	4	R 4	7	22101-100-01	7	22101-100-13	7	22101-100-02	4	22101-100-07
125	5	R 5	5	22101-125-01	5	22101-125-13	5	22101-125-02	-	-
150	6	R 6	5	22101-150-01	5	22101-150-13	5	22101-150-02	-	-

STORZ COUPLINGS

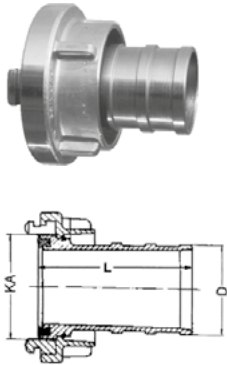
Aluminium

Material: Aluminium | also available in brass
 Seal: Nitrile rubber, black / white
 Thread: DIN ISO 228
 WP: 16 bar / 10 bar

Stainless steel

Material: Stainless steel
 Seal: Fluoro rupper
 Thread: DIN ISO 228
 WP: 16 bar

Suction hose coupling



Storz	Lug mm	D mm	Aluminium				Stainless steel		
			L mm	Remark	Weight piece/kg	Article no.	L mm	Weight piece/kg	Article no.
25-D	31	25	53	DIN 14301	0,090	21015-025-025-01	53	0,260	21015-025-025-13
52-C	66	52	90	DIN 14321	0,370	21015-052-052-01	90	0,950	21015-052-052-13
75-B	89	75	125	DIN 14322	0,710	21015-075-075-01	105	1,790	21015-075-075-13
100	115	100	150	-	1,150	21015-100-100-01	100	3,760	21015-100-100-13
110-A	133	110	170	DIN 14323	1,660	21015-110-110-01	170	4,250	21015-110-110-13
125	148	125	200	-	2,270	21015-125-125-01	180	5,550	21015-125-125-13
150	160	150	180	-	2,900	21015-150-150-01	180	9,460	21015-150-150-13
205	220	205	375	max. PN 10	7,200	21015-205-205-01	-	-	-
250	278	258	400	max. PN 10	11,700	21015-254-254-01	-	-	-

Adapter with female thread



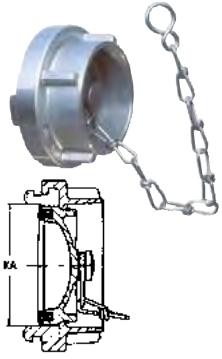
Storz	Lug mm	Female thread Inch	Aluminium			Stainless steel	
			Remark	Weight piece/kg	Article no.	Weight piece/kg	Article no.
25-D	31	1	DIN 14306	0,080	21020-025-10-01	0,210	21020-025-10-13
52-C	66	2	DIN 14307	0,280	21020-052-20-01	0,770	21020-052-20-13
75-B	89	2 1/2	DIN 14308	0,420	21020-075-24-01	1,510	21020-075-24-13
		3	-	0,420	21020-075-30-01	1,260	21020-075-30-13
100	115	4	-	0,850	21020-100-40-01	2,220	21020-100-40-13
110-A	133	4 1/2	DIN 14309	1,120	21020-110-44-01	3,200	21020-110-44-13
125	148	5	-	1,380	21020-125-50-01	3,550	21020-125-50-13
150	160	6	-	1,820	21020-150-60-01	5,300	21020-150-60-13
205	220	8	max. PN 10	3,480	21020-205-80-01	-	-

Adapter with male thread



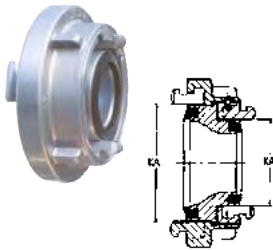
Storz	Lug mm	Male thread Inch	Aluminium			Stainless steel	
			Remark	Weight piece/kg	Article no.	Weight piece/kg	Article no.
52-C	66	1 1/2	-	0,250	21021-052-14-01	0,720	21021-052-14-13
		2	-	0,210	21021-052-20-01	0,710	21021-052-20-13
75-B	89	2 1/2	-	0,360	21021-075-24-01	1,110	21021-075-24-13
		3	-	0,390	21021-075-30-01	1,320	21021-075-30-13
100	115	4	-	0,710	21021-100-40-01	2,760	21021-100-40-13
110-A	133	4	-	1,010	21021-110-40-01	2,920	21021-110-40-13
125	148	5	with nipple	1,810	21021-125-50-01	-	-
150	160	6	with nipple	2,340	21021-150-60-01	-	-

Blank cap with chain



Storz	Lug mm	Aluminium			Stainless steel	
		Remark	Weight piece/kg	Article no.	Weight piece/kg	Article no.
52-C	66	DIN 14311	0,380	21030-052-01DIN	0,880	21030-052-13V
75-B	89	DIN 14312	0,560	21030-075-01DIN	1,340	21030-075-13
110-A	133	DIN 14313	1,340	21030-110-01DIN	3,650	21030-110-13
125	148	-	1,700	21030-125-01	4,610	21030-125-13
150	160	-	2,140	21030-150-01	7,130	21030-150-13

Reducer Storz to Storz



Storz to Storz	Lug mm	Aluminium			Stainless steel	
		Remark	Weight piece/kg	Article no.	Weight piece/kg	Article no.
75-B / 52-C	89 / 66	DIN 14342	0,600	21040-075-052-01DIN	2,170	21040-075-052-03
110-A / 75-B	133 / 89	DIN 14343	1,570	21040-110-075-01DIN	4,460	21040-110-075-03
125 / 100	148 / 115	-	2,630	21040-125-100-01	-	-
150 / 125	160 / 148	-	3,960	21040-150-125-01	-	-

Suction hose coupling with security collar for clamping shell binding



Storz	Lug mm	D mm	L mm	Aluminium			Stainless steel	
				Remark	Weight piece/kg	Article no.	Weight piece/kg	Article no.
25-D	31	25	75	NW 25	0,110	21018-025-025-01	0,310	21018-025-025-03
52-C	66	50	95	NW 50	0,410	21018-052-050-01	1,030	21018-052-050-03
75-B	89	75	105	NW 80	0,700	21018-075-080-01	2,270	21018-075-075-13
100	115	100	195	NW 100	1,390	21018-100-100-01	-	-
110-A	133	100	145	NW 100	1,670	21018-110-100-01	4,490	21018-110-100-03
125	148	125	190	NW 125	2,340	21018-125-125-01	-	-
150	160	150	250	NW 150	3,610	21018-150-150-01	-	-

Suction hose coupling with serrated profile for spiral hoses

Material: Aluminium



Storz	Lug mm	D mm	L mm	Weight piece/kg	Article no.
52-C	66	51	90	0,370	21017-052-051-01
75-B	89	76	125	0,800	21017-075-076-01
110-A	133	102	170	1,800	21017-110-102-01
150	160	152	180	3,700	21017-150-152-01

Coupling spanners



Storz	Remark	Fig.	Weight piece/kg	Article no.
D	Steel	①	0,160	21060-025-04
65 / 38	Malleable cast iron	②	0,300	21060-065-038-05
B C	Malleable cast iron	③	0,430	21060-075-052-05
B C	Steel (plastic handle)	④	0,300	21060-075-052-04
A B C	Malleable cast iron	⑤	0,780	21060-110-052-05
A B C	Steel (plastic handle)	⑥	0,730	21060-110-052-04
150 / 125	Steel (plastic handle)	⑦	0,720	21060-150-125-04

FLANGE COUPLINGS

Material: galvanised steel
Stainless steel AISI 316 - 1.4401

Temperature range: -20 °C to +65 °C

Swivel flange coupling with smooth hose shank



DN Inch	DN mm	Pressure class	For hose mm	Hose shank galvanised steel Flange galvanised steel		Hose shank stainless steel Flange stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
1/2	15	EN-DIN PN 25/40	13	0,820	24401-013-04	0,810	24401-013-03
3/4	20		19	1,120	24401-019-04	1,110	24401-019-03
1	25		25	1,560	24401-025-04	1,500	24401-025-03
1 1/4	32		32	2,100	24401-032-04	2,190	24401-032-03
1 1/2	40		38	2,650	24401-038-04	2,680	24401-038-03
1 1/2	40	EN-DIN PN 10/16	40	2,650	24401-040-04	2,680	24401-040-03
2	50		50	3,220	24401-050-04	3,580	24401-050-03
2 1/2	65		63	4,450	24401-063-04	4,180	24401-063-03
2 1/2	65		65	4,450	24401-065-04	4,450	24401-065-03
3	80		75	5,540	24401-075-04	5,430	24401-075-03
3	80		80	5,600	24401-080-04	5,540	24401-080-03
4	100		100	6,730	24401-100-04	6,890	24401-100-03
5	125		125	9,610	24401-125-04	9,130	24401-125-03
6	150		150	12,340	24401-150-04	12,440	24401-150-03
8	200		EN-DIN PN 10	200	18,550	24401-200-10-04	-
8	200	EN-DIN PN 16	200	18,000	24401-200-16-04	-	-
1/2	15	EN 1092-1-PN 40	13	0,920	24403-013-04	1,010	24403-013-03
3/4	20		19	1,170	24403-019-04	1,610	24403-019-03
1	25		25	1,940	24403-025-04	1,870	24403-025-03
1 1/4	32		32	2,820	24403-032-04	2,780	24403-032-03
1 1/2	40		38	3,280	24403-038-04	3,330	24403-038-03
2	50		50	4,610	24403-050-04	4,650	24403-050-03
2 1/2	65		63	6,160	24403-063-04	6,170	24403-063-03
3	80		75	8,330	24403-075-04	8,310	24403-075-03
4	100		100	9,880	24403-100-04	9,580	24403-100-03



DN Inch	DN mm	Pressure class	For hose mm	Hose shank Polypropylen Flange galvanised steel		Hose shank stainless steel Flange galvanised steel		
				Weight piece/kg	Article no.	Weight piece/kg	Article no.	
1/2	15	EN-DIN PN 25/40	13	0,660	24401-013-0704	0,810	24401-013-0304	
3/4	20		19	0,810	24401-019-0704	1,110	24401-019-0304	
1	25		25	1,070	24401-025-0704	1,490	24401-025-0304	
1 1/4	32		32	1,410	24401-032-0704	2,160	24401-032-0304	
1 1/2	40		38	1,850	24401-038-0704	2,700	24401-038-0304	
1 1/2	40	EN-DIN PN 10/16	40	1,850	24401-040-0704	2,700	24401-040-0304	
2	50		50	2,000	24401-050-0704	3,260	24401-050-0304	
2 1/2	65		63	2,690	24401-063-0704	4,280	24401-063-0304	
2 1/2	65		65	2,800	24401-065-0704	4,280	24401-065-0304	
3	80		75	3,520	24401-075-0704	5,520	24401-075-0304	
3	80		80	3,520	24401-080-0704	5,520	24401-080-0304	
4	100		100	4,000	24401-100-0704	7,010	24401-100-0304	
6	150		150	-	-	-	12,490	24401-150-0304

Flat gaskets

We will find the right solution for you. *Just contact us!*



Swivel flange coupling with serrated hose shank and collar



DN Inch	DN mm	Pressure class	For hose mm	Galvanised steel		Stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
1/2	15	EN 1092-1-PN40	13	0,820	24405-013-04	0,790	24405-013-03
3/4	20		19	1,100	24405-019-04	1,100	24405-019-03
1	25		25	1,530	24405-025-04	1,490	24405-025-03
1 1/4	32		32	2,060	24405-032-04	2,120	24405-032-03
1 1/2	40		38	2,680	24405-038-04	2,500	24405-038-03
1 1/2	40		40	2,680	24405-040-04	2,500	24405-040-03
2	50		50	3,220	24405-050-04	3,430	24405-050-03
2 1/2	65		63	4,180	24405-063-04	3,850	24405-063-03
2 1/2	65		65	4,180	24405-065-04	3,850	24405-065-03
3	80		75	5,290	24405-075-04	5,250	24405-075-03
3	80		80	5,290	24405-080-04	5,250	24405-080-03
4	100		100	7,010	24405-100-04	6,020	24405-100-03
5	125		125	14,190	24405-125-04	9,130	24405-125-03
6	150		150	17,720	24405-150-04	11,830	24405-150-03

Fixed flange coupling with smooth hose shank



DN Inch	DN mm	Pressure class	For hose mm	Galvanised steel		Stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
1/2	15	EN-DIN PN 40	13	0,690	24408-013-04	0,700	24408-013-03
3/4	20		19	1,000	24408-019-04	1,010	24408-019-03
1	25		25	1,230	24408-025-04	1,240	24408-025-03
1 1/4	32		32	1,800	24408-032-04	1,830	24408-032-03
1 1/2	40		38	2,010	24408-038-04	2,030	24408-038-03
1 1/2	40		40	2,010	24408-040-04	2,030	24408-040-03
2	50	EN-DIN PN 10	50	2,800	24408-050-04	2,790	24408-050-03
2 1/2	65		63	3,470	24408-063-04	3,470	24408-063-03
2 1/2	65		65	3,470	24408-065-04	3,470	24408-065-03
3	80		75	4,260	24408-075-04	4,330	24408-075-03
3	80		80	4,260	24408-080-04	4,330	24408-080-03
4	100		100	5,670	24408-100-04	5,670	24408-100-03
5	125		125	8,730	24408-125-04	8,630	24408-125-03
6	150		150	11,640	24408-150-04	11,990	24408-150-03

Fixed flange coupling with serrated hose shank and collar



DN Inch	DN mm	Pressure class	For hose mm	Galvanised steel		Stainless steel	
				Weight piece/kg	Article no.	Weight piece/kg	Article no.
1/2	15	EN 1092-1-PN40	13	0,700	24406-013-04	0,700	24406-013-03
3/4	20		19	1,020	24406-019-04	1,010	24406-019-03
1	25		25	1,230	24406-025-04	1,240	24406-025-03
1 1/4	32		32	1,820	24406-032-04	1,830	24406-032-03
1 1/2	40		38	2,010	24406-038-04	2,030	24406-038-03
1 1/2	40		40	2,010	24406-040-04	2,030	24406-040-03
2	50		50	2,790	24406-050-04	2,790	24406-050-03
2 1/2	65		63	3,700	24406-063-04	3,470	24406-063-03
2 1/2	65		65	3,700	24406-065-04	3,470	24406-065-03
3	80		75	4,260	24406-075-04	4,330	24406-075-03
3	80		80	4,260	24406-080-04	4,330	24406-080-03
4	100		100	5,680	24406-100-04	5,670	24406-100-03
5	125		125	8,510	24406-125-04	8,630	24406-125-03
6	150		150	11,290	24406-150-04	11,990	24406-150-03

Clamping shells, stainless steel


For hose mm	Clamping range mm	Weight piece/kg	Article no.
13 x 5	22 - 24	0,250	24432-013-005-03
19 x 6	30 - 33	0,300	24432-019-006-03
25 x 6	36 - 39	0,330	24432-025-006-03
32 x 6	43 - 46	0,370	24432-032-006-03
38 x 6,5	50 - 52	0,410	24432-038-006,5-03
50 x 8	64 - 67	0,690	24432-050-008-03
75 x 8	89 - 93	1,200	24432-075-008-03
100 x 8	114 - 119	2,900	24432-100-008-03

Clamping shells, aluminium


For hose mm	Clamping range mm	Weight piece/kg	Article no.
19 x 6	30 - 33	0,120	24430-019-006-01
25 x 6	36 - 39	0,140	24430-025-006-01
32 x 6	43 - 46	0,150	24430-032-006-01
38 x 6,5	50 - 52	0,150	24430-038-006,5-01
50 x 8	64 - 67	0,290	24430-050-008-01
63 x 8	78 - 82	0,300	24430-063-008-01
75 x 8	89 - 93	0,490	24430-075-008-01
75 x 10	94 - 97	0,520	24430-075-010-01
80 x 8	94 - 97	0,510	24430-080-008-01
100 x 8	114 - 119	1,090	24430-100-008-01
100 x 10	118 - 122	1,150	24430-100-010-01
100 x 12	122 - 126	1,150	24430-100-012-01
125 x 13	149 - 154	1,880	24430-125-013-01
150 x 10	168 - 174	3,780	24430-150-010-01

Clamping shells, polypropylen


For hose mm	Clamping range mm	WP bar	Article no.
25 x 6	36 - 39	8	24430-025-006-07
32 x 6	43 - 46	8	24430-032-006-07
38 x 6,5	50 - 53	8	24430-038-006-07
50 x 6	61 - 63	8	24430-050-006-07
63 x 8	78 - 82	8	24430-063-008-07
75 x 8	89 - 93	8	24430-075-008-07


Ferrules for hydraulic crimping, galvanised steel


Type size mm	Version	Weight piece/kg	Article no.
100	Flat hose	0,180	28PH100SF
100	Rubber hose	0,215	28PH100SG
150	Flat hose	0,219	28PH150SF
150	Rubber hose	0,333	28PH150SG
200	Flat hose	0,240	28PH200SF
200	Rubber hose	0,360	28PH200SG
250	Flat hose	0,370	28PH250SF
250	Rubber hose	0,450	28PH250SG

Attention: Always specify the exact hose type and dimensions!

Hinge bolt clamps GrüloClamp



Material W1: completely steel, zinc-coated
W2: Bolt 8.8, band stainless steel X8Cr17 zinc-coated (DIN 1.4016/AISI 430) other parts steel, zinc-coated
W4: completely stainless steel X5CrNi1810 (DIN 1.4301/AISI 304)
Screw material: Hexagon bolt

Bandwidth mm	Dimension mm	W1	W2	W4
		Article no.	Article no.	Article no.
18	17 - 19	30050-W1-18-019	30050-W2-18-019	30050-W4-18-019
	19 - 21	30050-W1-18-021	30050-W2-18-021	-
	20 - 22	30050-W1-18-022	30050-W2-18-022	30050-W4-18-022
	21 - 23	30050-W1-18-023	30050-W2-18-023	-
	23 - 25	30050-W1-18-025	30050-W2-18-025	30050-W4-18-025
	26 - 28	30050-W1-18-028	30050-W2-18-028	30050-W4-18-028
	29 - 31	-	-	30050-W4-18-031
20	29 - 31	30050-W1-20-031	30050-W2-20-031	-
	31 - 33	30050-W1-20-033	30050-W2-20-033	-
	32 - 35	30050-W1-20-035	30050-W2-20-035	30050-W4-20-035
	34 - 37	30050-W1-20-037	30050-W2-20-037	-
	36 - 39	30050-W1-20-039	30050-W2-20-039	30050-W4-20-039
	38 - 41	30050-W1-20-041	30050-W2-20-041	-
	40 - 43	30050-W1-20-043	30050-W2-20-043	30050-W4-20-043
	43 - 46	30050-W1-20-046	30050-W2-20-046	-
	44 - 47	30050-W1-20-047	30050-W2-20-047	30050-W4-20-047
	48 - 51	30050-W1-20-051	30050-W2-20-051	30050-W4-20-051
	52 - 55	30050-W1-20-055	30050-W2-20-055	30050-W4-20-055
	56 - 59	30050-W1-20-059	30050-W2-20-059	30050-W4-20-059
	60 - 63	30050-W1-20-063	30050-W2-20-063	30050-W4-20-063
	64 - 67	30050-W1-20-067	30050-W2-20-067	30050-W4-20-067
25	68 - 73	30050-W1-25-073	30050-W2-25-073	30050-W4-25-073
	74 - 79	30050-W1-25-079	30050-W2-25-079	30050-W4-25-079
	80 - 85	30050-W1-25-085	30050-W2-25-085	30050-W4-25-085
	86 - 91	30050-W1-25-091	30050-W2-25-091	30050-W4-25-091
	92 - 97	30050-W1-25-097	30050-W2-25-097	30050-W4-25-097
	98 - 103	30050-W1-25-103	30050-W2-25-103	30050-W4-25-103
	104 - 112	30050-W1-25-112	30050-W2-25-112	30050-W4-25-112
	113 - 121	30050-W1-25-121	30050-W2-25-121	30050-W4-25-121
	122 - 130	30050-W1-25-130	30050-W2-25-130	30050-W4-25-130
26	131 - 139 mm	30050-W1-26-139	30050-W2-25-139	30050-W4-26-139
	140 - 148 mm	30050-W1-26-148	30050-W2-26-148	-
	149 - 161 mm	30050-W1-26-161	30050-W2-26-161	30050-W4-26-148
	162 - 174 mm	30050-W1-26-174	30050-W2-26-174	30050-W4-26-174
	175 - 187 mm	30050-W1-26-187	30050-W2-26-187	-
	188 - 200 mm	30050-W1-26-200	30050-W2-26-200	-
	201 - 213 mm	30050-W1-26-213	30050-W2-26-213	-
	214 - 226 mm	30050-W1-26-226	30050-W2-26-226	-
	227 - 239 mm	30050-W1-26-239	30050-W2-26-239	-
	240 - 252 mm	30050-W1-26-252	30050-W2-26-252	-

PA-RI® HOSE CLAMPS

Material: Steel, galvanised

Type of screw: Allen screw

Type 1, 1-part Steel band 20 x 1 mm



Type 1a, 2-part Steel band 20 x 1 mm



Nominal size	Clamping range mm	Screw size	Article no.
SK 33	28 - 34	M6	31000-20-033
SK 35	30 - 36	M6	31000-20-035
SK 36	32 - 38	M6	31000-20-036
SK 40	36 - 42	M6	31000-20-040
SK 42	38 - 44	M6	31000-20-042
SK 45	41 - 47	M6	31000-20-045
SK 48	44 - 50	M6	31000-20-048
SK 52	48 - 54	M6	31000-20-052
SK 55	51 - 57	M6	31000-20-055
SK 58	54 - 60	M6	31000-20-058
SK 60	56 - 62	M6	31000-20-060
SK 62	58 - 64	M6	31000-20-062
SK 63	59 - 65	M6	31000-20-063
SK 65	61 - 67	M6	31000-20-065
SK 66	62 - 68	M6	31000-20-066
SK 70	66 - 72	M6	31000-20-070
SK 72	68 - 74	M6	31000-20-072
SK 76	72 - 78	M6	31000-20-076
SK 78	74 - 80	M6	31000-20-078
SK 80	76 - 82	M6	31000-20-080
SK 85	81 - 87	M6	31000-20-085
SK 88	84 - 90	M6	31000-20-088
SK 90	86 - 92	M6	31000-20-090
SK 92	88 - 94	M6	31000-20-092
SK 95	91 - 97	M6	31000-20-095
SK 100	96 - 102	M6	31000-20-100
SK 102	98 - 104	M6	31000-20-102
SK 105	101 - 110	M6	31000-20-105
SK 106	102 - 108	M6	31000-20-106
SK 108	104 - 110	M6	31000-20-108
SK 110	106 - 112	M6	31000-20-110
SK 115	111 - 117	M6	31000-20-115
SK 125	121 - 127	M6	31000-20-125
SK 145	141 - 147	M6	31000-20-145
SK 150	146 - 152	M6	31000-20-150
SK 215	211 - 217	M6	31000-20-215

Nominal size	Clamping range mm	Screw size	Article no.
SK 60	52 - 64	M6	31001-20-060
SK 65	57 - 69	M6	31001-20-065
SK 70	62 - 74	M6	31001-20-070
SK 75	67 - 79	M6	31001-20-075
SK 85	77 - 89	M6	31001-20-085
SK 90	82 - 94	M6	31001-20-090
SK 95	87 - 99	M6	31001-20-095
SK 100	92 - 104	M6	31001-20-100
SK 105	97 - 109	M6	31001-20-105
SK 110	102 - 114	M6	31001-20-110
SK 116	108 - 120	M6	31001-20-116
SK 120	112 - 124	M6	31001-20-120
SK 130	122 - 134	M6	31001-20-130
SK 135	127 - 139	M6	31001-20-135
SK 165	157 - 169	M6	31001-20-165
SK 174	166 - 178	M6	31001-20-174

Type 4a, 2-part Steel band 30 x 2 mm



Nominal size	Clamping range mm	Screw size	Article no.
SK 135	127 - 139	M10	31004-30-135
SK 160	152 - 164	M10	31004-30-160
SK 165	157 - 169	M10	31004-30-165
SK 169	161 - 173	M10	31004-30-169
SK 172	166 - 176	M10	31004-30-172
SK 224	216 - 228	M10	31004-30-224
SK 230	222 - 234	M10	31004-30-230

Type 2, 1-part Steel band 25 x 1 mm



Type 2a, 2-part Steel band 25 x 1 mm



Nominal size	Clamping range mm	Screw size	Article no.
SK 90	86 – 92	M8	31002-25-090
SK 110	106 – 112	M8	31002-25-110
SK 114	110 – 116	M8	31002-25-114
SK 115	111 – 117	M8	31002-25-115
SK 117	113 – 119	M8	31002-25-117
SK 120	116 – 122	M8	31002-25-120
SK 122	118 – 124	M8	31002-25-122
SK 125	123 – 127	M8	31002-25-125
SK 130	126 – 132	M8	31002-25-130
SK 138	132 – 140	M8	31002-25-138
SK 144	140 – 146	M8	31002-25-144
SK 150	146 – 152	M8	31002-25-150
SK 154	150 – 156	M8	31002-25-154
SK 160	156 – 162	M8	31002-25-160
SK 170	166 – 172	M8	31002-25-170
SK 180	176 – 182	M8	31002-25-180
SK 190	186 – 192	M8	31002-25-190

Nominal size	Clamping range mm	Screw size	Article no.
SK 80	76 – 82	M8	31003-25-080
SK 84	80 – 86	M8	31003-25-084
SK 92	88 – 94	M8	31003-25-092
SK 95	91 – 97	M8	31003-25-095
SK 120	116 – 122	M8	31003-25-120
SK 160	156 – 162	M8	31003-25-160
SK 165	161 – 167	M8	31003-25-165
SK 170	166 – 172	M8	31003-25-170
SK 210	206 – 212	M8	31003-25-210
SK 216	212 – 220	M8	31003-25-216
SK 218	214 – 220	M8	31003-25-218
SK 220	216 – 222	M8	31003-25-220
SK 227	223 – 229	M8	31003-25-227
SK 230	226 – 232	M8	31003-25-230





TRANSPORT RACKS AND LOAD SECURING

The safe and space-saving solution for your hoses and pipes

Correct storage prevents the premature ageing of hose assemblies and maintain their quality.

Hoses and hose assemblies must always be stored horizontal and free of tension and kinks.

When stored in rings, the bending radius must not be less than the smallest specified by the manufacturer (DIN 7716 / T002 (BGI 572) / BGR 23).

The hoses should be stored in a cool, dry and dust-free place and protected from direct sunlight or UV radiation.

To ensure this, we design hose racks that can be adapted to your needs. The height and width of the racks can be changed individually. On request, we paint these in your company colour.

Of course, we also develop suitable frames for your accessories.

Stackable transport racks for hoses and pipes

for DN 150 - DN 500

Base welded with perforated plate.

Technical characteristics

Norm: Welded according to DIN ISO 3834

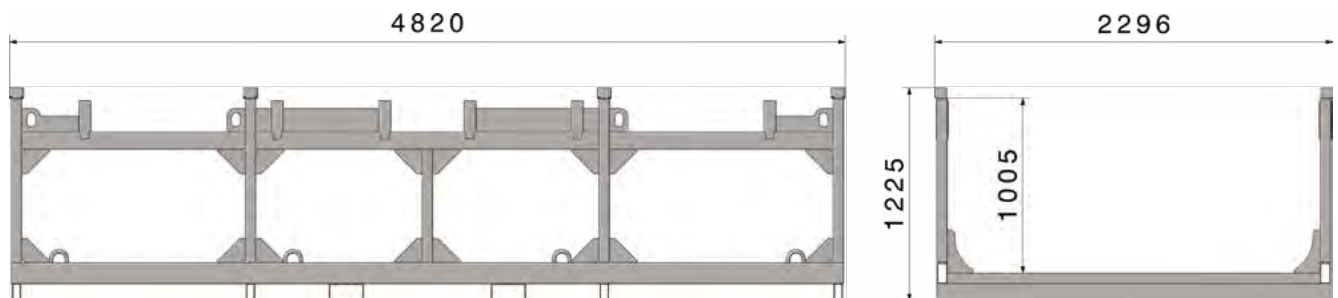
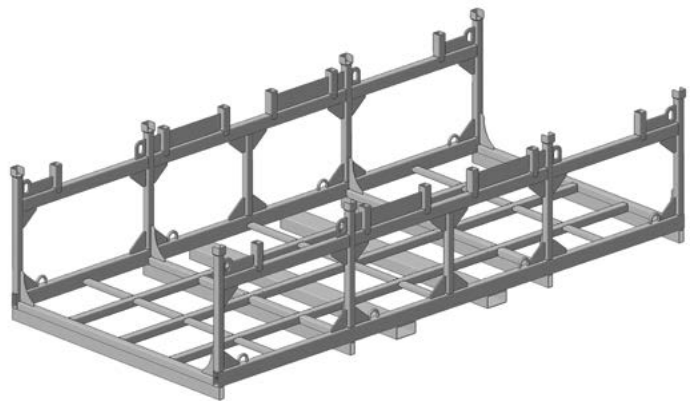
Material: Steel ST37, galvanised

Weight: 760 kg

Payload: 4500 kg

Type plate: Payload, Year of construction

Article no.: 84000-41-0032



Please enquire!

We design your perfect solution.



Stackable mesh box for accessories

Base welded with perforated plate.

Technical characteristics

Norm: Welded according to DIN ISO 3834

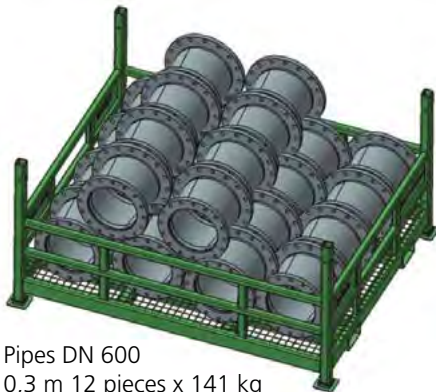
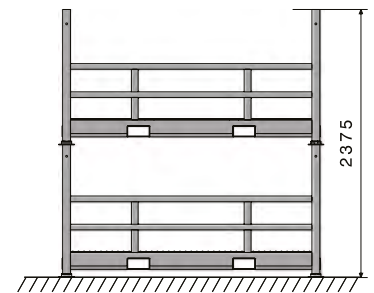
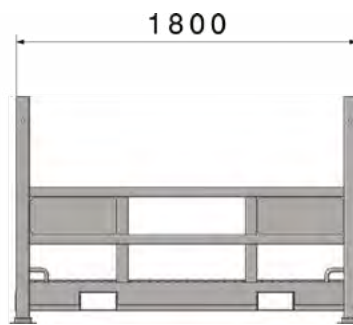
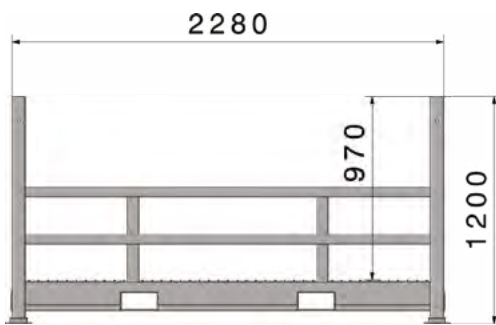
Material: Steel ST37, galvanised

Weight: 502 kg

Payload: 4500 kg

Type plate: Payload, Year of construction

Article no.: 84000-41-0033

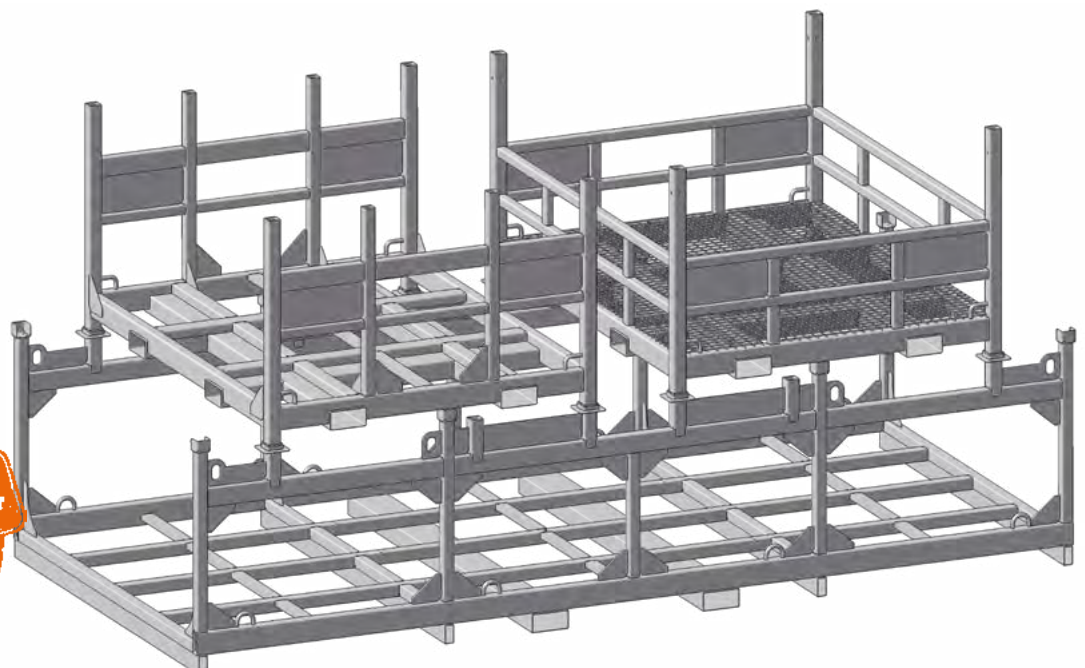


Pipes DN 600
0,3 m 12 pieces x 141 kg

Also available with lid



Combinable
with the
long frames!



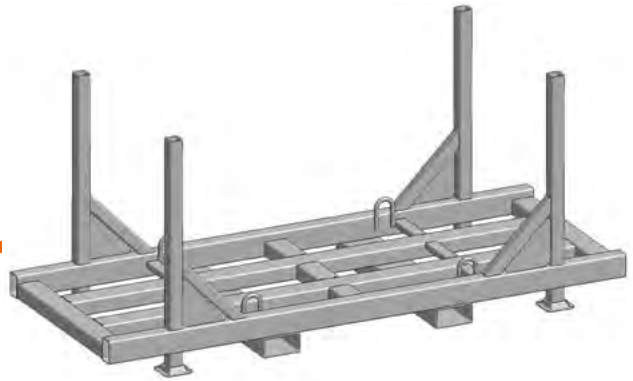
Stackable transport frame narrow The favourable version!

Technical characteristics

Norm: Welded according to DIN ISO 3834
Material: Steel ST37, galvanised

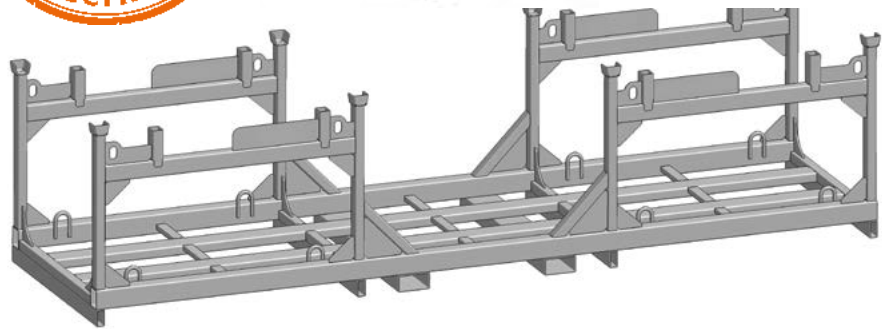
2800 mm wide

Article no.: 84000-41-0053
Weight: 325 kg
Payload: 1500 kg
Type plate: Payload, Year of construction



5000 mm wide

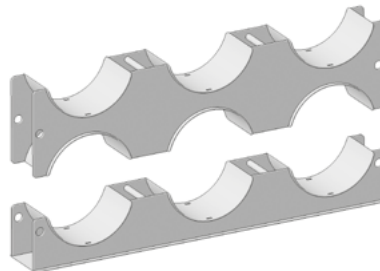
Article no.: 84000-41-0054
Weight: 635 kg
Payload: 2200 kg
Type plate: Payload, Year of construction



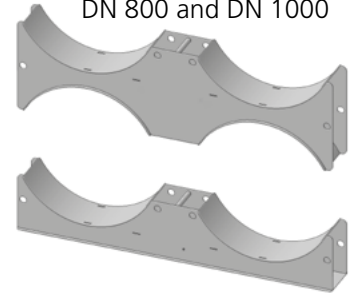
Pipe supports

Material: S235 JR
Construction: Step-welded, hot-dip galvanised, rubberised with anti-slip mat

DN 500 and DN 600

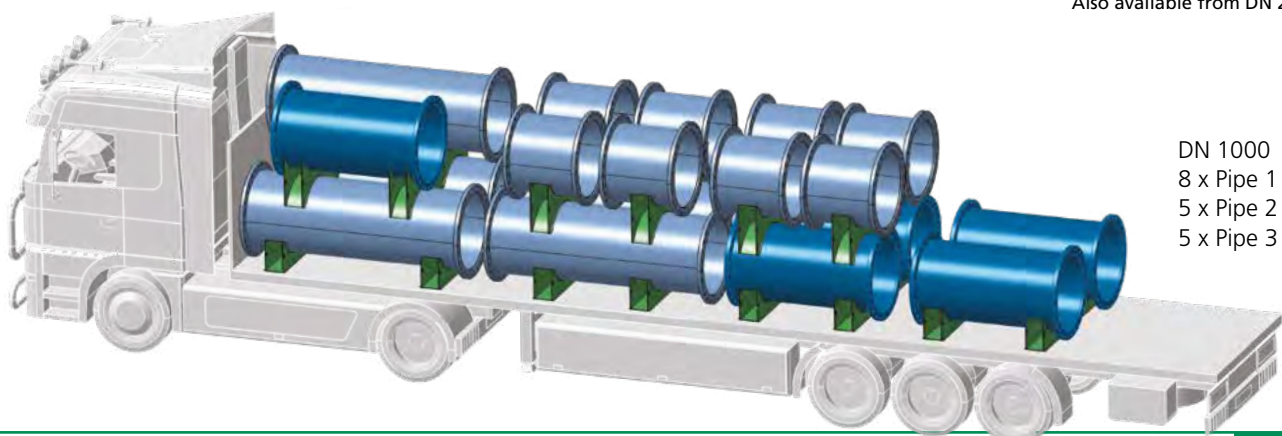


DN 800 and DN 1000



DN mm	Description	Weight/piece kg	Article no.
500	Pipe support DN 500	120	84000-GL-41-0055-DN500
	Pipe support / Centre console DN 500	158	84000-GL-41-0056-DN500
600	Pipe support DN 600	138	84000-GL-41-0057-DN600
	Pipe support / Centre console DN 600	163	84000-GL-41-0058-DN600
800	Pipe support DN 800	142	84000-GL-41-0044-DN800
	Pipe support / Centre console DN 800	189	84000-GL-41-0045-DN800
1000	Pipe support DN 1000	156	84000-GL-41-0046-DN1000
	Pipe support / Centre console DN 1000	189	84000-GL-41-0047-DN1000

Also available from DN 250.



DN 1000
8 x Pipe 1 m
5 x Pipe 2 m
5 x Pipe 3 m

STEEL WIRE SAFETY ROPES

in various designs and sizes

Steel wire safety ropes are used as arrester ropes to prevent couplings from being ejected from the hose under pressure, which can cause serious or fatal injuries. They also prevent hose whipping - a violent whipping of the hose line caused by the rapid release of air. The use of safety ropes is particularly important when hose assemblies are under high pressure and/or carry aggressive or other hazardous media. Several factors must be taken into consideration when selecting them, including the maximum tensile strength of the rope, the correct length and diameter of the rope, and the environment in which it will be used. Depending on the application, special coatings or corrosion protection may be required to ensure the durability of the rope. Contact us and we will be happy to advise.



Work safely with the restraining strap

Ideal for intercepting material conveying hoses, with spring, loop on one side, karabiner on the other side.

Total breaking load 1,800 kg

Hose inner Ø mm	Article no.
0 - 50	14002-000-050
50 - 120	14002-000-120
120 - 260	14002-000-260



The hose **lifter**[®]

Handles for hoses and pipes from 2" bis 6"

The **HoseLifter** enables to work with hoses and pipes safer and more efficient. The simple mechanism allows the hose to be clamped in one fluid movement and without effort. The HoseLifter is made of highly durable and wear-resistant nylon and has good thermal insulating properties.



Advantages:

- Increases safety and efficiency
- Reduces contact with hazardous substances
- Easy to maintain and use
- Solid, safe handle
- Clips easily to hoses and pipes without damage
- Can be used in all climates and locations
- Works in mud, cold, rain or wet snow



ABRASION AND CORROSION

The problem! - Abrasion

In numerous industries, such as the raw and building materials industry, transportation and waste water disposal, various influences lead to wear and corrosion. Heavy abrasion, hard shocks or aggressive liquids and chemicals cause huge damages and thus high repair costs, considerable downtimes and enormous economic damage.



The Solution! - GrüloCOAT Systeme

GrüloCoat Systeme is a newly developed technology for coating, sealing, grouting and repair of almost all surfaces.

Use our lead in knowledge and experience to protect your surfaces long-term against numerous negative influences as mechanical abrasion, chemical destruction and corrosion.

Successful coatings result from an interaction of many factors. Experienced staff out of our application technology as well as research and development ensure constant alignment of critical parameters. So the best solution for your wear problem can be achieved.

As a specialist company in high-quality wear protection for various loads we offer you high resistant and high-quality coating systems in **rubber**, **ceramics** and **liquid plastic**.



Application areas:

- Inner pipes
- Bends and suction pipes
- Cyclones
- Impellers
- Pump casing from inside and outside

Characteristics

- | | | |
|-------------------------------|---------------------|-------------------------------------|
| Food safe | Crack bridging | Corrosion free |
| Fire retardant | Sea water resistant | Chemical resistant |
| Abrasion resistant | Cut resistant | Approvals for Different areas |
| UV resistant | Impact resistant | Seamless and joint-free Applicable |
| Flexible | Antistatic | Stretchable 400 % |
| Slip resistant | Noise absorbing | Fast reaction times |
| Temperature resistant | Microbe stable | Applicable in different thicknesses |
| Waterproof and root resistant | Wear resistant | Available in all RAL colours |



Silos and containers

Silos and containers - We save your old silo!

Whether silos or containers made of concrete, steel or plastic - whether for cement, granulates, food or animal feed, water or oil - our **GrüloCOAT coating** has the right solution for every application. Containers, like pipes, are the most important storage and transport systems in industry. They must be manufactured in such a way that the substances stored in them do not chemically or mechanically attack these systems. Corrosion can have fatal consequences for the end product and the environment. Containers must therefore be protected against damage in such a way that no chemical substances are released into the environment. Our **GrüloCOAT coating** is seamless and extremely resistant to chemical and physical attack. It is waterproof, food safe, protects against abrasion and corrosion and is temperature and ageing resistant.



Pipes

Internal pipe coatings for long service life

The internal coating of pipes is often required to protect the pipe material from harmful influences such as corrosion. In particular, pipes carrying aggressive media must either be made of a corrosion-resistant material or have a corrosion-protective internal coating. Our pipe coating plant can coat pipes with internal diameters from 150 mm to 800 mm and lengths up to 12 metres. Pipe bends, e.g. 90°, and other dimensions are also no problem for us.



Containers and transport boxes

Containers and Transport boxes

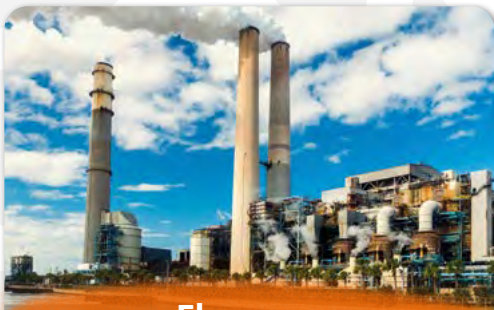
We professionally refurbish your site containers, freight containers, sanitary containers, roll-off containers, skips, roll-off skips, tippers and other transport containers, both inside and out. Our experienced repair and refurbishment teams use the latest technology and quality materials. Depending on the application, containers are painted, polyurea coated or rubber lined. Containers are first sanded down and any repairs are carried out. They are then primed, painted and, if required, your company details and logo are applied.



Pump impellers
and casing

Pump impellers and casings

Machine parts, such as those in mass finishing systems and deburrers, which are subjected to high stresses in production processes, can be kept in service longer with **GrüloCOAT coating**. Here too, you can save on plant downtime and economic losses.



Flue gas
desulphurisation systems

Flue gas desulphurisation systems

Flue gas desulphurisation (FGD) systems have been installed in power plants around the world since the early 1980s to meet increasingly stringent environmental regulations. The technology predominantly used is based on wet scrubbing, which creates a variety of corrosive conditions in the absorbers, tanks and flue gas ducts. **GrüloCoat systems** protect your plant against aggressive, acidic and alkaline media.

The question is not where to use
GrüloCOAT systems, but where not to!
GrüloCOAT coatings are so versatile - there are hardly any
limits. Just ask our team for the suitable system.

What Polyurea can do?
See for yourself:





OUR PRODUCT RANGE AT A GLANCE

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