

## Selection, installation and handling of steam hoses

This manual refers to selection, installation and handling of steam rubber hoses. It includes safety guidelines that should be strictly obeyed by the user.

### HOSE SELECTION

To select an appropriate hose for steam application we have to determine its working conditions at first:

- maximum working pressure of steam,
- steam temperature,
- kind of steam: wet saturated steam (with water particles), dry saturated steam, superheated steam,
- whether sudden increase of pressure occurs in the hose,
- whether the hose is bent during its work under pressure,
- whether the hose is used continuously or occasionally,
- whether the hose requires manual handling,
- external working conditions of the site where the hose is to work (possibility of mechanical abuse, presence of spilled or condensing aggressive chemicals or oils that may have an effect on the external layer of the hose).

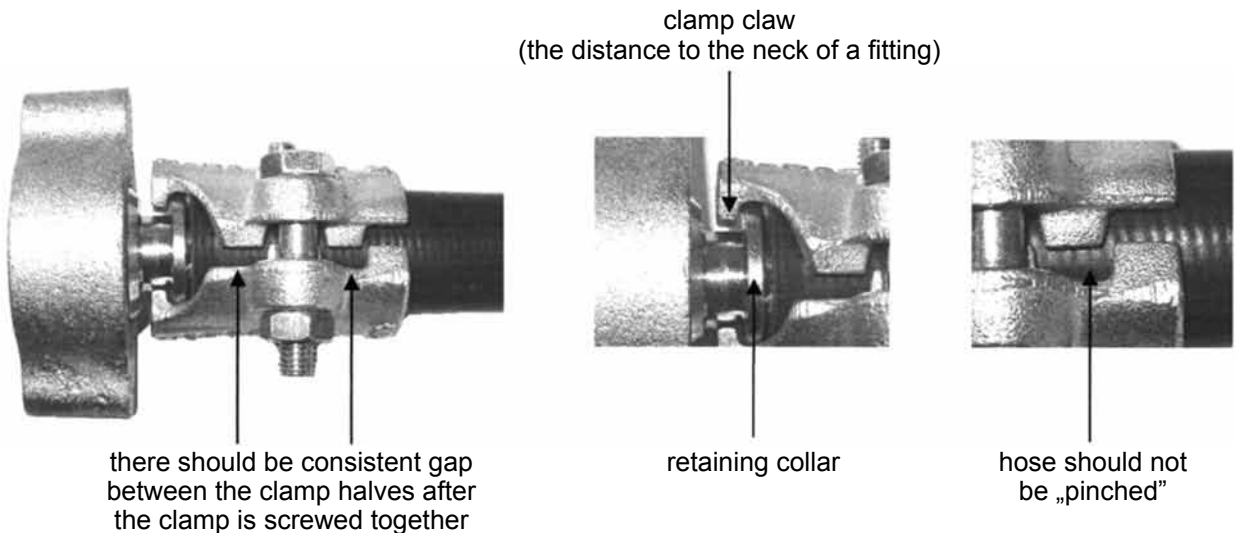
### Dependence of saturated steam temperature on its pressure (overpressure - indicated by pressure gauge)

press. [bar]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24
temp. [°C]	120	134	144	152	159	165	171	175	180	184	188	192	195	198	201	207	207	210	213	215	220	224

Hose designed for steam transfer should be properly marked on its cover. To match the hose with its working conditions, contact Sales or Technical Department of TUBES INTERNATIONAL®.

### HOSE MOUNTING

It is vital to obey general rules concerning flexible hose installation (check Technical Information chapter). Make sure that fittings (hose couplings) are designed for steam. TUBES INTERNATIONAL® advises to use only fittings specially designed for steam that are fitted on a hose with the use of bolt screw clamps. This type of clamp allows the connection to be tightened. Selection and installation guidelines provided by a supplier must be obeyed while installing the fittings. Clamp bolts must be tightened during operation. Tightening of the bolts should always be checked before the hose is used. It is important to avoid excessive bending of the hose next to hose fittings.



## INDUSTRIAL HOSES - steam



**TUBES INTERNATIONAL® warns against using steam hoses with fittings assembled on a hose with a crimped ferrule. Such an assembly method does not allow to tighten it during operation. It is very important as during operation the elastic quality of hose material (rubber) is gradually decreasing. When a clamp cannot be tightened a leakage or even a catastrophic burst from the fitting of a hose can occur !**

### STORAGE

A hose that is not used should be stored in a proper way on a suitable stand or a pallet. Appropriate storage reduces the danger of hose damage. We must not hang a hose on a hook, nail or other rail that may cause puncture or damage.

### REGULAR MAINTENANCE AND INSPECTION OF STEAM HOSES

All rubber steam hoses wear away during their working life. For safety reasons regular maintenance and inspection of steam hoses is of primary importance. Staff handling the hose should pay special attention to:

- rubber pellets or blisters occurring on the hose cover,
- cracks that expose the hose braid,
- leakage of steam occurring near hose fittings or in other hose parts,
- flattening or kinks that may cause hose damage in the future,
- decrease in steam flow indicating swelling of internal layer.

If any of the above occurs, the hose must be shut down from operation immediately. The hose must be thoroughly inspected before next use.

Hose damage usually happens on its ends, as they are excessively exposed to bending and deformation (near hose fittings). If such damage occurs, we have to cut off the damaged end and mount the fitting once again.

Hoses regularly used at high temperature should undergo routine inspection every now and then to check if the internal layer gets tough. In most cases removing the clamps to perform the inspection is required.

### SAFETY REGULATION

- Staff must wear suitable working clothes, gloves, rubber shoes and eye safety protection. Working clothes prevent the body from burns in case of steam or hot water burst.
- Staff must make sure that working area is danger free and tidy.
- Staff must check tightening of all connections before turning on an installation.
- One must not leave the hose under pressure when an installation is shut down as it gradually shortens the working life of a hose.

### NOTE !!!

**Steam is dangerous. It can cause destruction of equipment, serious injury or even death. In order to prevent such accidents we have to select a correct hose and put all safety guidelines concerning installation, maintenance, service and storage into use.**

## INDUSTRIAL HOSES - steam



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### STEAM STAR / 6

**Internal layer:** Black EPDM rubber  
**Reinforcement:** Synthetic braid  
**External layer:** Black EPDM rubber  
**Working temp.:** From -40°C up to +170°C

Delivery hose designed to transfer hot water and saturated steam. External layer resistant to weather conditions, high temperature and ozone.

code	I.D. [mm]	O.D. [mm]	working pressure [bar]	bursting pressure [bar]	weight [kg/m]	standard length [m]
SO-STEAMSTAR6-13	13	21	6	60	0.26	61
SO-STEAMSTAR6-16	16	25	6	60	0.35	61
SO-STEAMSTAR6-19	19	29	6	60	0.46	61
SO-STEAMSTAR6-25	25	36	6	60	0.55	61
SO-STEAMSTAR6-32	32	44	6	60	0.87	61
SO-STEAMSTAR6-38	38	50	6	60	1.00	61
SO-STEAMSTAR6-51	51	67	6	60	1.77	61



### MANITOBA®

**Internal layer:** Black EPDM rubber  
**Reinforcement:** Synthetic braid  
**External layer:** Black EPDM rubber  
**Working temp.:** From -40°C up to +163°C

Delivery hose designed to transfer saturated steam. Good resistance to high temperature, ozone and abrasion. Available manufactured according to EN ISO 6134/05 type 1 class A.

code	I.D. [mm]	O.D. [mm]	working pressure [bar]	bursting pressure [bar]	weight [kg/m]	standard length [m]
IV-MANITOBA-010X20	10	20	6	60	0.24	120
IV-MANITOBA-013X21,5	13	21.5	6	60	0.23	120
IV-MANITOBA-013X23	13	23	6	60	0.29	120
IV-MANITOBA-016X25	16	25	6	60	0.31	120
IV-MANITOBA-019X29	19	29	6	60	0.39	120
IV-MANITOBA-019X32	19	32	6	60	0.54	120
IV-MANITOBA-025X35	25	35	6	60	0.49	120
IV-MANITOBA-025X38	25	38	6	60	0.67	120
IV-MANITOBA-032X44	32	44	6	60	0.71	120
IV-MANITOBA-032X46,5	32	46.5	6	60	0.90	120
IV-MANITOBA-038X50	38	50	6	60	0.82	120
IV-MANITOBA-038X54	38	54	6	60	1.18	120
IV-MANITOBA-051X67	51	67	6	60	1.52	120
IV-MANITOBA-063X80,5	63.5	80.5	6	60	2.17	120
IV-MANITOBA-076X94	76	94	6	60	2.75	120
IV-MANITOBA-076X96,5	76	96.5	6	60	2.78	120
IV-MANITOBA-102X122	102	122	6	60	4.10	120

## INDUSTRIAL HOSES - steam



### PATOS®

**Internal layer:** White butyl rubber  
**Reinforcement:** Synthetic braid  
**External layer:** Blue NBR/PVC rubber  
**Working temp.:** From -30°C up to +95°C - water  
 From -30°C up to +165°C - steam

Delivery hose designed for cleaning and rinsing with hot water and steam of installations and machines used in food industry. Internal layer meets the requirements of FDA 21 CFR 177.2600 and BfR XXI cat.2. External layer is resistant to vegetable and animal fats.

code	I.D. [mm]	O.D. [mm]	working pressure water/steam [bar]	safety factor water/steam	weight [kg/m]	standard length [m]
IV-PATOS-013	13	23	10 / 6	3 / 10	0.38	120
IV-PATOS-016	16	26	10 / 6	3 / 10	0.45	120
IV-PATOS-019	19	31	10 / 6	3 / 10	0.63	120
IV-PATOS-025	25	35	10 / 6	3 / 10	0.64	120
IV-PATOS-032	32	48	10 / 6	3 / 10	1.35	120
IV-PATOS-038	38	54	10 / 6	3 / 10	1.55	120
IV-PATOS-051	51	69.5	10 / 6	3 / 10	2.32	120
IV-PATOS-065	65	79	10 / 6	3 / 10	2.01	120



### VICTORIA®

**Internal layer:** Black EPDM rubber  
**Reinforcement:** Plies of steel wire braid  
**External layer:** Black (red) EPDM rubber (pin-pricked)  
**Working temp.:** From -40°C up to +210°C (with peaks up to +232°C)

High pressure delivery hose designed for superheated steam. External layer resistant to high temperature and weather conditions. A version with red external layer has a thicker wall.

code	I.D. [mm]	O.D. [mm]	working pressure [bar]	bursting pressure [bar]	weight [kg/m]	standard length [m]
IV-VICTORIA-008	8	20	18	180	0.37	120
IV-VICTORIA-010	10	22	18	180	0.42	120
IV-VICTORIA-013	13	25	18	180	0.50	120
IV-VICTORIA-016	16	27	18	180	0.58	120
IV-VICTORIA-019	19	30	18	180	0.66	120
IV-VICTORIA-025	25	37	18	180	0.89	120
IV-VICTORIA-032	32	44.5	18	180	1.13	120
IV-VICTORIA-038	38	52	18	180	1.46	120
IV-VICTORIA-051	51	65.5	18	180	2.11	120
IV-VICTORIA-063	63.5	81.5	18	180	3.33	120
IV-VICTORIA-076	76	96.5	18	180	4.35	120
IV-VICTORIA-102	102	124	18	180	6.73	120

An exemplary code of the hose with red external layer: IV-VICTORIA-025R.

## INDUSTRIAL HOSES - steam



### VICTORIA EN ISO 6134®

**Internal layer:** Black EPDM rubber  
**Reinforcement:** Plies of steel wire braid  
**External layer:** Black (red) EPDM rubber (pin-pricked)  
**Working temp.:** From -40°C up to +210°C (with peaks up to +232°C)

High pressure delivery hose designed for superheated steam. External layer resistant to high temperature and weather conditions. Antistatic - R <10<sup>6</sup> Ω. According to EN ISO 6134/05 type 2 class A (Ω) standards.

code	I.D. [mm]	O.D. [mm]	working pressure [bar]	bursting pressure [bar]	weight [kg/m]	standard length [m]
IV-VICTORIA-EN-19	19	33	18	180	0.77	60
IV-VICTORIA-EN-25	25	39.5	18	180	1.06	60
IV-VICTORIA-EN-32	32	48	18	180	1.40	60
IV-VICTORIA-EN-38	38	54	18	180	1.60	60
IV-VICTORIA-EN-51	51	69	18	180	2.57	60



### VAPOFER®

**Internal layer:** Black EPDM rubber  
**Reinforcement:** Plies of steel wire braid  
**External layer:** Black (red) EPDM rubber (pin-pricked)  
**Working temp.:** From -40°C up to +210°C

High pressure delivery hose designed for superheated steam. External layer resistant to oil, high temperature and weather conditions. Available manufactured according to EN ISO 6134/05 type 2 class B (Ω).

code	I.D. [mm]	O.D. [mm]	working pressure [bar]	bursting pressure [bar]	weight [kg/m]	standard length [m]
IV-VAPOFER-013	13	27	18	180	0.60	60
IV-VAPOFER-019	19	33.5	18	180	0.86	60
IV-VAPOFER-025	25	40	18	180	1.18	60
IV-VAPOFER-032	32	48	18	180	1.40	60
IV-VAPOFER-038	38	54	18	180	1.60	60
IV-VAPOFER-051	51	69	18	180	2.56	60
IV-VAPOFER-063	63.5	84	18	180	3.72	60
IV-VAPOFER-076	76	101	18	180	5.24	60
IV-VAPOFER-102	102	128	18	180	6.95	60

# INDUSTRIAL HOSES - steam

## Fittings for steam hoses

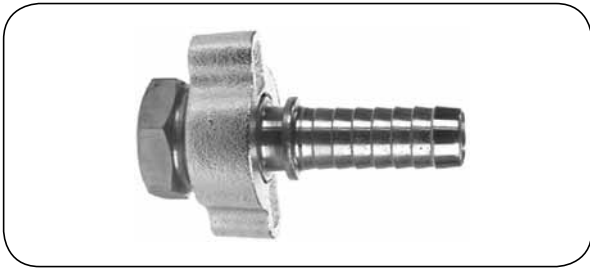


### MS fitting

**Material:** Steel, malleable iron, stainless steel, brass

Male BSPT thread fitting that provides a safe connection between a hose and an installation. Assembled on the hose with a SBC clamp.

code (steel)	code (malleable iron)	code (stainless steel)	code (brass)	thread [inch]	hose I.D. [inch]
DX-MS-04-04	-	-	-	1/4	1/4
DX-MS-04-06	-	-	-	3/8	1/4
DX-MS-06-06	-	-	-	3/8	3/8
DX-MS-08-08	-	DX-MS-08-08-SS	-	1/2	1/2
DX-MS-12-12	-	DX-MS-12-12-SS	DX-MS-12-12-B	3/4	3/4
DX-MS-12-16	-	-	-	1	3/4
DX-MS-16-12	-	-	-	3/4	1
DX-MS-16-16	-	DX-MS-16-16-SS	DX-MS-16-16-B	1	1
-	DX-MS-20-20	DX-MS-20-20-SS	DX-MS-20-20-B	1.1/4	1.1/4
-	DX-MS-24-24	DX-MS-24-24-SS	DX-MS-24-24-B	1.1/2	1.1/2
-	DX-MS-32-32	DX-MS-32-32-SS	DX-MS-32-32-B	2	2
-	DX-MS-40-40	DX-MS-40-40-SS	-	2.1/2	2.1/2
-	DX-MS-48-48	DX-MS-48-48-SS	DX-MS-48-48-B	3	3
-	DX-MS-64-64	-	-	4	4



### GF fitting

**Material:** Steel/malleable iron, stainless steel, brass

Female BSP thread fitting that provides a safe connection between a hose and an installation. Assembled on the hose with a SBC clamp.

code (steel/malleable iron)	code (stainless steel)	code (brass)	thread [inch]	hose I.D. [inch]
DX-GF-04-04	-	-	1/4	1/4
DX-GF-06-06	-	-	3/8	3/8
DX-GF-08-08	-	-	1/2	1/2
DX-GF-12-12	DX-GF-12-12-SS	DX-GF-12-12-B	3/4	3/4
DX-GF-16-16	DX-GF-16-16-SS	DX-GF-16-16-B	1	1
DX-GF-20-20	DX-GF-20-20-SS	DX-GF-20-20-B	1.1/4	1.1/4
DX-GF-24-24	DX-GF-24-24-SS	DX-GF-24-24-B	1.1/2	1.1/2
DX-GF-32-32	DX-GF-32-32-SS	DX-GF-32-32-B	2	2
DX-GF-40-40	-	-	2.1/2	2.1/2
DX-GF-48-48	-	-	3	3
DX-GF-64-64	-	-	4	4
DX-GF-80-80	-	-	6	6

# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### SBC clamp for MS, GF fittings

**Material:** Malleable iron, stainless steel, brass

Clamp designed to assemble MS and GF fittings on a hose.

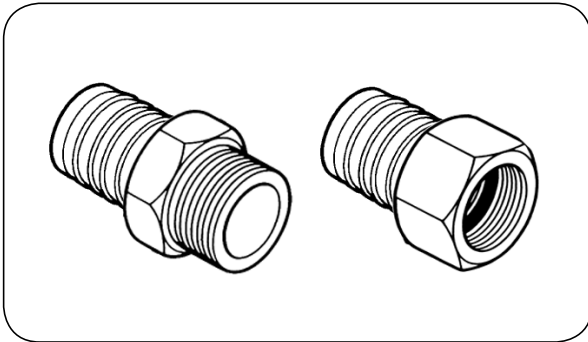
Minimum and maximum diameters listed in the table, are only an indication for a clamp choice. Structure of the hose may vary so it is essential to check if the actual size of a clamp matches. Clamps should be regularly checked and tightened during operation.

code (malleable iron)	code (stainless steel)	code (brass)	hose I.D. [inch]	hose O.D. [mm]		number of bolts
				min.	max.	
DX-SBC2-04-14-17	-	-	1/4	14	17	2
DX-SBC2-06-17-22	-	-	3/8	17.5	22	
DX-SBC2-08-20-24	-	-	1/2	20.5	24	
DX-SBC2-08-24-27	DX-SBC2-08-24/27-SS	DX-SBC2-08-24/27-B	1/2	24	27	
DX-SBC2-12-27-30	-	-	1/2	27	30	
DX-SBC2-12-30-33	DX-SBC2-12-30/33-SS	DX-SBC2-12-30/33-B	3/4	30	33	
DX-SBC2-12-33-38	DX-SBC2-12-33/38-SS	DX-SBC2-12-33/38-B	3/4	33	38	
DX-SBC2-12-38-43	-	-	3/4	38	43	
DX-SBC4-08-23-26	-	-	1/2	23	26	4
DX-SBC4-16-35-40	-	-	1	35.5	40	
DX-SBC4-16-39-43	DX-SBC4-16-39/43-SS	DX-SBC4-16-39/43-B	1	39	43.5	
DX-SBC4-16-43-49	DX-SBC4-16-43/49-SS	DX-SBC4-16-43/49-B	1	43	49	
DX-SBC4-16-49-54	-	-	1	49	54	
DX-SBC4-20-38-45	-	-	1.1/4	38	45.5	
DX-SBC4-20-45-53	-	-	1.1/4	45.5	53	
DX-SBC4-20-54-60	DX-SBC4-20-54/60-SS	DX-SBC4-20-54/60-B	1.1/4	54	60	
DX-SBC4-24-46-51	-	-	1.1/2	46	51	
DX-SBC4-24-51-56	-	-	1.1/2	51	56	
DX-SBC4-24-55-60	DX-SBC4-24-55/60-SS	DX-SBC4-24-55/60-B	1.1/2	55.5	60	
DX-SBC4-24-60-65	DX-SBC4-24-60/65-SS	DX-SBC4-24-60/65-B	1.1/2	60	65	
DX-SBC4-24-65-70	-	-	1.1/2	65	70	
DX-SBC4-32-57-63	-	-	2	57	63.5	
DX-SBC4-32-59-64	-	-	2	59.5	64	
DX-SBC4-32-63-71	DX-SBC4-32-63/71-SS	DX-SBC4-32-63/71-B	2	63.5	71	
DX-SBC4-32-70-78	DX-SBC4-32-70/78-SS	DX-SBC4-32-70/78-B	2	70	78	
DX-SBC4-32-78-87	-	-	2	78.8	87.5	
DX-SBC4-40-78-87	-	-	2.1/2	78.5	87.5	
DX-SBC4-40-89-100	-	-	2.1/2	89	100	
DX-SBC4-48-89-100	-	-	3	89	100	
DX-SBC4-48-96-103	-	-	3	96.5	103	
DX-SBC4-48-103-113	-	-	3	103	113	
DX-SBC6-48-108-122	-	-	3	108	122	6
DX-SBC6-64-117-127	-	-	4	117.5	127	
DX-SBC6-64-123-133	-	-	4	123.5	133.5	
DX-SBC6-64-133-142	-	-	4	133.5	142	
DX-SBC6-64-140-151	-	-	4	140.5	151	
DX-SBC6-80-174-187	-	-	6	174.5	187	
DX-SBC6-80-190-203	-	-	6	190	203	



# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### VSS, MSS fittings

**Material:** St (carbon steel),  
SS (AISI 316Ti stainless steel)  
Ms (brass)

**Working press.:** 18 bar (+210°C) - saturated steam, for  
other application at ambient temp. up  
to 160 bar,  
brass - 64 bar (contact Technical De-  
partment for advice)

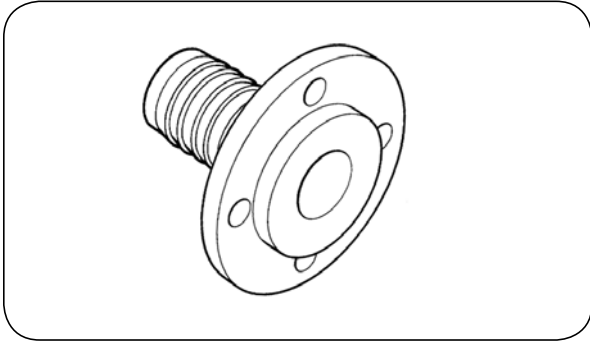
Fittings designed for steam rubber hoses. Assembled on the hose using clamps according to EN 14423 (DIN 2826).

VSS fitting with a male thread					MSS fitting with a female thread						
code	DN	thread	seal-face	material	code	DN	thread	seal-face	material		
RS-321130050110	DN 15 (1/2")	1/2" BSPT	thread/flat	St	RS-121130050111	DN 15 (1/2")	1/2" BSP	flat	St		
RS-321130050120			thread/flat	SS	RS-131130050111			cone	St		
RS-321130050130			thread/flat	Ms	RS-121130050122			flat	SS		
RS-321130050310		1/2" NPT	1/2" NPT	thread	St		RS-121130050133	M22x1.5	flat	Ms	
RS-321130050320				thread	SS		RS-131130221433		cone	Ms	
RS-321130050330				thread	Ms		RS-121130075111		flat	St	
RS-321130075110		DN 20 (3/4")	3/4" BSPT	thread/flat	St		RS-121130075122	DN 20 (3/4")	3/4" BSP	flat	SS
RS-321130075120				thread/flat	SS		RS-121130075133			flat	Ms
RS-321190075110	3/4" BSPT		3/4" BSPT	thread/flat	St	RS-121190075111	3/4" BSP		flat	St	
RS-321190075120				thread/flat	SS	RS-131190075111			cone	St	
RS-321190075130				thread/flat	Ms	RS-121190075122			flat	SS	
RS-321190075310				thread	St	RS-121190075133			flat	Ms	
RS-321190075320	3/4" NPT	3/4" NPT	thread	SS	RS-131190301433	M30x1.5	cone	Ms			
RS-321190075330			thread	Ms	RS-121190100111		flat	St			
RS-321190100110	DN 25 (1")	1" BSPT	thread/flat	St	RS-121190100122	DN 25 (1")	1" BSP	flat	SS		
RS-321190100120			thread/flat	SS	RS-121190100133			flat	Ms		
RS-321250100110		1" BSPT	1" BSPT	thread/flat	St		RS-121250100111	1" BSP	flat	St	
RS-321250100120				thread/flat	SS		RS-131250100111		cone	St	
RS-321250100130				thread/flat	Ms		RS-121250100122		flat	SS	
RS-321250100310				thread	St		RS-121250100133		flat	Ms	
RS-321250100320	1" NPT	1" NPT	thread	SS	RS-131250381433	M38x1.5	cone	Ms			
RS-321250100330			thread	Ms	RS-121250125111		flat	St			
RS-321320125110	DN 32 (1.1/4")	1.1/4" BSPT	thread/flat	St	RS-121250125122	DN 32 (1.1/4")	1.1/4" BSP	flat	SS		
RS-321320125120			thread/flat	SS	RS-121250125133			flat	Ms		
RS-321320125130			thread/flat	Ms	RS-121320125111			flat	St		
RS-321320125310		1.1/4" NPT	1.1/4" NPT	thread	St		RS-131320125111	1.1/4" BSP	cone	St	
RS-321320125320				thread	SS		RS-121320125122		flat	SS	
RS-321320125330				thread	Ms		RS-121320125133		flat	Ms	
RS-321380150110	DN 40 (1.1/2")	1.1/2" BSPT	thread/flat	St	RS-131320451433	DN 40 (1.1/2")	1.1/2" BSP	M45x1.5	cone	Ms	
RS-321380150120			thread/flat	SS	RS-121380150111			flat	St		
RS-321380150130			thread/flat	Ms	RS-131380150111			cone	St		
RS-321380150310		1.1/2" NPT	1.1/2" NPT	thread	St		RS-121380150122	1.1/2" BSP	flat	SS	
RS-321380150320				thread	SS		RS-121380150133		flat	Ms	
RS-321380150330				thread	Ms		RS-131380521433		M52x1.5	cone	Ms
RS-321500200110	DN 50 (2")	2" BSPT	thread/flat	St	RS-121500200111	DN 50 (2")	2" BSP	flat	St		
RS-321500200120			thread/flat	SS	RS-131500200111			cone	St		
RS-321500200130			thread/flat	Ms	RS-121500200122			flat	SS		
RS-321500200310		2" NPT	2" NPT	thread	St		RS-121500200133	2" BSP	flat	Ms	
RS-321500200320				thread	SS		RS-131500652433		flat	Ms	
RS-321500200330				thread	Ms				M65x2	cone	Ms



# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### Swivel flange FSS

**Material:** St (carbon steel),  
SS (AISI 316Ti stainless steel)

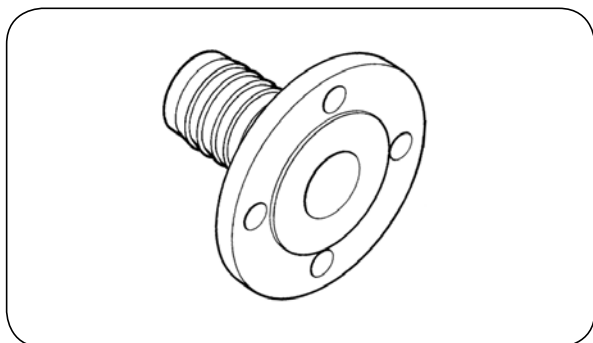
**Working press.:** 18 bar (+210°C) - saturated steam, for other application at ambient temp. up to 160 bar,  
From DN 65 - 64 bar (contact Technical Department for advice)

Swivel flange designed for steam rubber hoses. Assembled on the hose using clamps according to EN 14423 (DIN 2826).

code	size	flange	material	code	size	flange	material
RS-970013000211	DN 15 (1/2")	PN 10/16	St	RS-970038000211	DN 40 (1.1/2")	PN 10/16	St
RS-970013000221			SS/St	RS-970038000221			SS/St
RS-970013000222			SS	RS-970038000222			SS
RS-970013000411		PN 25/40	St	RS-970038000411		PN 25/40	St
RS-970013000421			SS/St	RS-970038000421			SS/St
RS-970013000422			SS	RS-970038000422			SS
RS-970013000711			ASA 150	RS-970038000711			ASA 150
RS-970013000811			ASA 300	RS-970038000811			ASA 300
RS-970019000211	DN 20 (3/4")	PN 10/16	St	RS-970050000211	DN 50 (2")	PN 10/16	St
RS-970019000221			SS/St	RS-970050000221			SS/St
RS-970019000222			SS	RS-970050000222			SS
RS-970019000411		PN 25/40	St	RS-970050000411		PN 25/40	St
RS-970019000421			SS/St	RS-970050000421			SS/St
RS-970019000422			SS	RS-970050000422			SS
RS-970019000711			ASA 150	RS-970050000711			ASA 150
RS-970019000811			ASA 300	RS-970050000811			ASA 300
RS-970025000211	DN 25 (1")	PN 10/16	St	RS-970065000211	DN 65 (2.1/2")	PN 10/16	St
RS-970025000221			SS/St	RS-970065000411		PN 25/40	St
RS-970025000222			SS	RS-970065000711		ASA 150	St
RS-970025000411		PN 25/40	St	RS-970065000811		ASA 300	St
RS-970025000421			SS/St	RS-970075000021	DN80 (3")	PN 10/16	St
RS-970025000422			SS	RS-970075000411		PN 25/40	St
RS-970025000711			ASA 150	RS-970075000711		ASA 150	St
RS-970025000811			ASA 300	RS-970075000811	ASA 300	St	
RS-970032000211	DN 32 (1.1/4")	PN 10/16	St	RS-970100000211	DN 100 (4")	PN 10/16	St
RS-970032000221			SS/St	RS-970100000411		PN 25/40	St
RS-970032000222			SS	RS-970100000711		ASA 150	St
RS-970032000411		PN 25/40	St	RS-970100000811		ASA 300	St
RS-970032000421			SS/St				
RS-970032000422			SS				
RS-970032000711			ASA 150				
RS-970032000811			ASA 300				

# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### Fixed flange FSS

**Material:** St (carbon steel),  
SS (AISI 316Ti stainless steel)

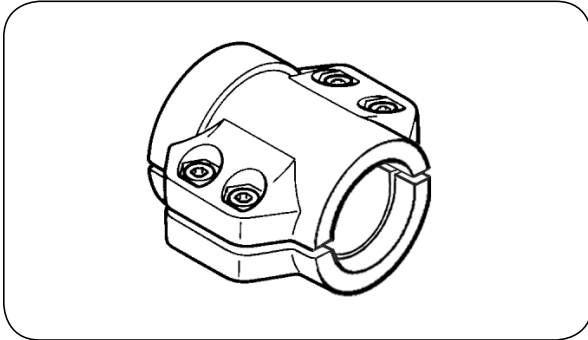
**Working press.:** 18 bar (+210°C) - saturated steam, for other application at ambient temp. up to 160 bar,  
From DN 65 - 64 bar (contact Technical Department for advice)

Fixed flange designed for steam rubber hoses. Assembled on the hose using clamps according to EN 14423 (DIN 2826).

code	size	flange	material	code	size	flange	material
RS-980013000210	DN 15 (1/2")	PN 10/16	St	RS-980038000210	DN 40 (1.1/2")	PN 10/16	St
RS-980013000220			SS	RS-980038000220			SS
RS-980013000410		PN 25/40	St	RS-980038000410		ASA 150	St
RS-980013000420			SS	RS-980038000420			SS
RS-980013000710			St	RS-980038000710			St
RS-980013000810			St	RS-980038000810			St
RS-980019000210	DN 20 (3/4")	PN 10/16	St	RS-980050000210	DN 50 (2")	PN 10/16	St
RS-980019000220			SS	RS-980050000220			SS
RS-980019000410		PN 25/40	St	RS-980050000410		ASA 150	St
RS-980019000420			SS	RS-980050000420			SS
RS-980019000710			St	RS-980050000710			St
RS-980019000810			St	RS-980050000810			St
RS-980025000210	DN 25 (1")	PN 10/16	St	RS-980065000210	DN 65 (2.1/2")	PN 10/16	St
RS-980025000220			SS	RS-980065000410			St
RS-980025000410		PN 25/40	St	RS-980065000710		ASA 150	St
RS-980025000420			SS	RS-980065000810			SS
RS-980025000710			St	RS-980075000210			St
RS-980025000810			St	RS-980075000410			St
RS-980032000210	DN32 (1.1/4")	PN 10/16	St	RS-980075000710	DN80 (3")	PN 10/16	St
RS-980032000220			SS	RS-980075000810			SS
RS-980032000410		PN 25/40	St	RS-980100000210		ASA 150	St
RS-980032000420			SS	RS-980100000410			SS
RS-980032000710			St	RS-980100000710			St
RS-980032000810			St	RS-980100000810			St
					DN 100 (4")	PN 10/16	St
						PN 25/40	St
						ASA 150	St
						ASA 300	St

# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### Safety clamps EN 14423 (DIN 2826) for VSS, MSS, FSS

**Material:** Ms (cast brass)  
Ms\* (forged brass)  
SS (AISI 316Ti stainless steel)

**Working press.:** 18 bar (+210°C) - saturated steam, for other application at ambient temperature up to 160 bar (contact Technical Department for advice)

Safety clamps are used for assembling VSS, MSS and FSS fittings on hoses. They are designed especially for rubber steam hoses.

code	hose I.D x W.T. [mm]	D min ÷ max [mm]	material	bolts	code	hose I.D x W.T. [mm]	D min ÷ max [mm]	material	bolts
RS-635013005030	13 x 5	22 ÷ 24	Ms*	M6x20	RS-635050009020	50 x 9	67 ÷ 69	SS	M10x40
RS-635013006020	13 x 6	24 ÷ 26	SS		RS-635050009030			Ms*	
RS-635013006030			Ms*		RS-635050010030	Ms*			
RS-635013007030	13 x 7	26 ÷ 28	Ms*		RS-635050012030	50 x 12	73 ÷ 76	Ms	
RS-635019006030	19 x 6	30 ÷ 33	Ms*		RS-635065010030	65 x 10	84 ÷ 87	Ms	
RS-635019007020	19 x 7	32 ÷ 34	SS	RS-635065012030	65 x 12	88 ÷ 91	Ms		
RS-635019007030			Ms*	RS-635075010030	75 x 10	94 ÷ 97	Ms		
RS-635019008030	19 x 8	34 ÷ 36	Ms*	RS-635075012030	75 x 12	98 ÷ 101	Ms		
RS-635025007030	25 x 6.5	37 ÷ 39	Ms*	RS-635075014030	75 x 14	102 ÷ 105	Ms		
RS-635025008020	25 x 7.5	39 ÷ 41	SS	RS-637100008020	100 x 8	114 ÷ 119	SS		
RS-635025008030			Ms*	RS-637100008030			Ms*		
RS-635025009030	25 x 8.5	41 ÷ 43	Ms*	RS-637100010030	100 x 10	118 ÷ 122	Ms		
RS-635032006030	32 x 6	43 ÷ 46	Ms*	RS-637100012030	100 x 12	122 ÷ 126	Ms		
RS-635032008020	32 x 8	47 ÷ 50	SS	RS-637100014030	100 x 14	126 ÷ 130	Ms		
RS-635032008030			Ms*	RS-637100016030	100 x 16	130 ÷ 134	Ms		
RS-635038008020	38 x 8	53 ÷ 56	SS						
RS-635038008030			Ms*	M10x40					
RS-635038010030	38 x 10	57 ÷ 60	Ms*						

# INDUSTRIAL HOSES - steam

## Fittings for steam hoses



### SSF fittings

**Material:** SS (AISI 304 stainless steel)  
Brass

**Working press.:** 18 bar (+210°C)

Economical version of fittings intended for rubber steam hoses. Assembled in the hose using EN 14423 (DIN 2826) clamps.

Female thread fittings					
code	size	thread [inch]	diameter [mm]	seal	material
TI-SSF-FB-08-08MS	DN15	1/2 BSP	15	flat	Ms
TI-SSF-FB-08-08SS					SS
TI-SSF-FB-12-12MS	DN20	3/4 BSP	21	flat	Ms
TI-SSF-FB-12-12SS					SS
TI-SSF-FB-16-16MS	DN25	1 BSP	27	flat	Ms
TI-SSF-FB-16-16SS					SS
TI-SSF-FB-20-20MS	DN32	1.1/4 BSP	34	flat	Ms
TI-SSF-FB-20-20SS					SS
TI-SSF-FB-24-24MS	DN38	1.1/2 BSP	40.5	flat	Ms
TI-SSF-FB-24-24SS					SS
TI-SSF-FB-32-32MS	DN50	2 BSP	52.5	flat	Ms
TI-SSF-FB-32-32SS					SS

Male thread fittings					
code	size	thread [inch]	diameter [mm]	seal	material
TI-SSF-MB-08-08MS	DN15	1/2 BSPT	15	thread / flat	Ms
TI-SSF-MB-08-08SS					SS
TI-SSF-MB-12-12MS	DN20	3/4 BSPT	21	thread / flat	Ms
TI-SSF-MB-12-12SS					SS
TI-SSF-MB-16-16MS	DN25	1 BSPT	27	thread / flat	Ms
TI-SSF-MB-16-16SS					SS
TI-SSF-MB-20-20MS	DN32	1.1/4 BSPT	34	thread / flat	Ms
TI-SSF-MB-20-20SS					SS
TI-SSF-MB-24-24MS	DN38	1.1/2 BSPT	40.5	thread / flat	Ms
TI-SSF-MB-24-24SS					SS
TI-SSF-MB-32-32MS	DN50	2 BSPT	52.5	thread / flat	Ms
TI-SSF-MB-32-32SS					SS

## INDUSTRIAL HOSES - steam

### Fittings for steam hoses



### Safety clamps SSC (EN 14423)

**Material:** SS (AISI 316 stainless steel)  
Brass

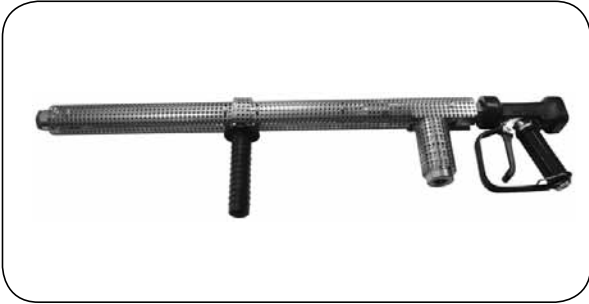
**Working press.:** 18 bar (+210°C)

Economical version of safety clamps intended for steam rubber hoses mainly.

code	hose I.D x W.T. [mm]	D min ÷ max [mm]	material
TI-SSC-013-060MS	13 x 6	24 ÷ 26	Ms
TI-SSC-013-060SS			SS
TI-SSC-019-050SS	19 x 5	28 ÷ 30	SS
TI-SSC-019-070MS	19 x 7	32 ÷ 34	Ms
TI-SSC-019-070SS			SS
TI-SSC-025-075MS	25 x 7.5	39 ÷ 41	Ms
TI-SSC-025-075SS			SS
TI-SSC-032-080MS	32 x 8	47 ÷ 50	Ms
TI-SSC-032-080SS			SS
TI-SSC-038-080MS	38 x 8	53 ÷ 56	Ms
TI-SSC-038-080SS			SS
TI-SSC-050-090MS	50 x 9	67 ÷ 69	Ms
TI-SSC-050-090SS			SS

# INDUSTRIAL HOSES - steam

## Accessories



### DSG - gun steam

**Material:** AISI 304 steel

**Seals:** O-rings: EPDM,  
Novapress flat seal

**Working press.:** To 10 bar (steam), to 15 bar (water)

**Working temp.:** +180°C (steam), +120°C (water)

**Ambient temp.:** From 0°C up to +40°C

A jet cleaner designed for steam and hot water. An insulated handle and perforated housing prevent accidental contact with hot metal parts. Widely used for cleaning equipment in pharmaceutical, food, cosmetic and chemical industry. Meets the requirements of ATEX Directive for operation in zone 1 and 2.

picture	code	connection	description
	RS-27407500016109	3/4" BSP female 3/4" BSP male - nozzle, jet extension connection	DSG steam and hot wa- ter gun.
	RS-27407500016001	3/4" BSP female	Fan nozzle. Flow rate: 26 l/min (at 10 bar pressure), Angle of spray: 25°.
	RS-27407500016002	3/4" BSP female	Spot nozzle. Flow rate: 43.3 l/min (at 10 bar pressure), Angle of spray: 0°.
	RS-27407500016003	3/4" BSP female	Cone nozzle. Flow rate: 31.7 l/min (at 8 bar pressure), Angle of spray: 45°.
	RS-27307500016029	3/4" BSP female 3/4" BSP male - nozzle connection	Jet extension - facilitates access to troublesome areas. Length: 600 mm.
	RS-27307500016042	fitted with screws at the front of the gun, where the jet nozzle is connected	Additional handle - used with jet extension.
	RS-5950750751160901	3/4" BSP female 3/4" BSP male	Swivel coupling - pro- tects the connected hose against twisting.
	RS-274075000101	-	Seal set for steam gun.