

LINEA PHARMA

italprotec
critical fluids solutions



Features:

White FEP-lined smooth flexible hose for universal use and severe applications.

Odourless and chemically inert.

Can be cleaned in place and in autoclave up to +135°C.

Corrosion-resistant, it is non-stick and can be assembled in place.

Standards:

F.D.A. compliant Par. 21-177.1550

U.S. Pharmacopeia Cl. VI

TLCT design:

FEP tube

Multiple textile reinforcement

No. 2 helix wire supports

Green EPDM or F.D.A. compliant white external cover; it withstands ozone and abrasive products.

Temperature rating:

-40°C to +177°C

Availability:

From stock, in coils of up to 30 meters (up to size 2")

Applications:

Chemical, pharmaceutical, electronic, dairy, food, petrochemical industries

New:

SPEED-LOCK®, Autelok™, DIN or ANSI flanged, Clamp fittings are available with a zero-entrapment flare-thru design.



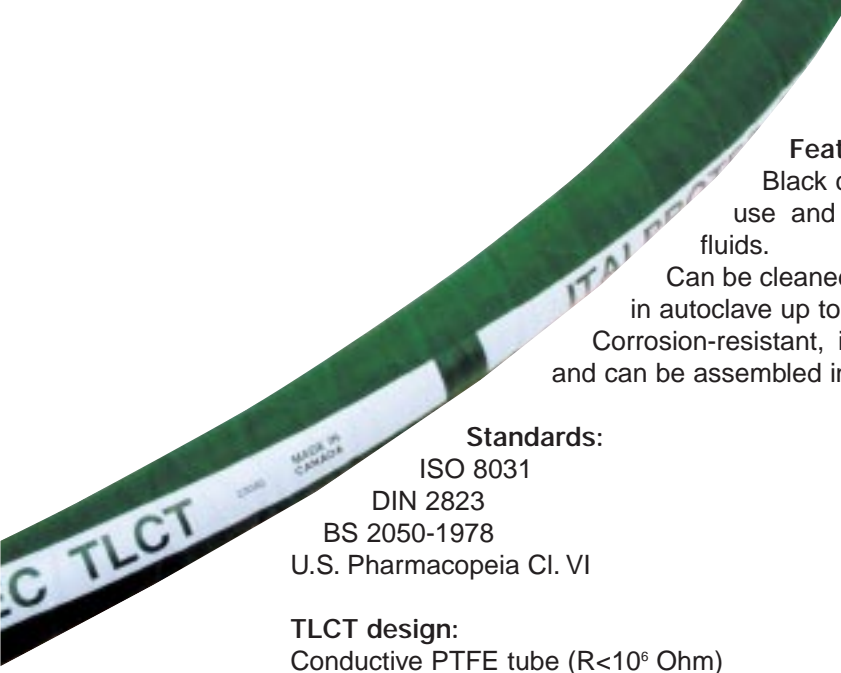
DN	ID	OD	Bend radius	WP@20°C ¹	BP@20°C	Vacuum ²	Weight
	mm	mm	mm	bar	bar	Torr	Kg/mt
15	12,7	23,1	65	35	147	10	0,52
20	19,0	31,7	85	35	140	10	0,92
25	25,4	38,1	121	32	126	10	1,12
32	31,8	44,5	178	22	112	10	1,46
40	38,1	52,1	229	20	94	10	1,78
50	50,8	67,3	294	17	84	10	2,23
65	63,5	81,3	457	13	63	20	3,50
80	76,2	94,0	559	10	49	35	3,72
100	101,6	119,4	864	10	42	50	5,36

1) WP will decrease by 1% for every 1°C temperature rise over 100°C.

2) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 100°C.

Vacuum resistance is measured by bending the hose twice its minimum bend radius at +20°C.

TLCT



Features:

Black conductive PTFE-lined smooth flexible hose for universal use and severe applications, when handling highly flammable fluids.

Can be cleaned in place and in autoclave up to +135°C.

Corrosion-resistant, it is non-stick and can be assembled in place.

Standards:

- ISO 8031
- DIN 2823
- BS 2050-1978
- U.S. Pharmacopeia Cl. VI

TLCT design:

- Conductive PTFE tube ($R < 10^6$ Ohm)
- Multiple textile reinforcement
- No. 2 helix wire supports
- Green EPDM external braid withstands ozone and abrasive products.

Temperature rating:

-40°C to +177°C

Availability:

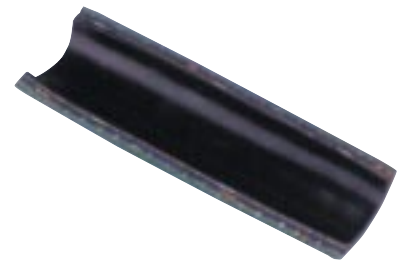
In coils of up to 30 meters.

Applications:

Chemical, petrochemical, textile industries.

New:

SPEED-LOCK®, Autolok™, DIN or ANSI flanged fittings are available with a zero-entrapment flare-thru design.



TLCT AS

DN	ID	OD	Bend radius	WP@20°C ¹	BP@20°C	Vacuum ²	Weight
	mm	mm	mm	bar	bar	Torr	Kg/mt
20	19,0	31,7	115	34	136	10	0,92
25	25,4	38,1	155	31	124	10	1,12
40	38,1	52,1	280	20	80	10	1,78
50	50,8	67,3	345	17	68	10	2,23

1) WP will decrease by 1% for every 1°C temperature rise over 100°C.

2) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 100°C.

Vacuum resistance is measured by bending the hose twice its minimum bend radius at +20°C.

Features:

Multi-purpose hose for the delivery or inlet of several chemicals (acids, bases, solvents, paints, ink) and foodstuff (fat, oil, wine, beer, drinking water, milk, etc.).

Standards:

F.D.A. compliant Par. 21-177.1520
D.M. dated 21/03/1973 and amendments thereof.
BGA and KTW.

CHEMFLEX design:

UPE tube (high molecular weight Polyethylene).
Multiple textile reinforcement.
No. 1 helix wire support.
Black external cover in antistatic rubber ($R < 10^6$ Ohm).

Temperature rating:

From -35°C to $+100^{\circ}\text{C}$.
Resistant to saturated steam up to 130°C for 30 minutes maximum.

Availability:

From stock, in coils of 10, 20 or 40 meters.

Applications:

Chemical, petrochemical, pharmaceutical, food, electronic industries.

Special executions:

External cover with frets or corrugated profile to increase flexibility.

CHEMFLEX AS

UPE tube with a helically shaped black antistatic stripe ($R < 10^6$ Ohm, in accordance with DIN 2823 to help dissipating electrostatic charges.



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum ¹	Weight
	mm	mm	mm	bar	bar	Torr	Kg/mt
15	13,0	23,0	80	10	30	75	0,39
20	19,0	31,0	120	10	30	75	0,64
25	25,0	38,0	180	10	30	75	0,86
32	32,0	45,0	230	10	30	75	1,04
40	38,0	51,0	280	10	30	75	1,32
50	51,0	66,0	360	10	30	75	1,93
65	63,5	80,0	480	10	30	75	2,74
80	76,0	94,0	580	10	30	75	3,60
100	102,0	120,0	800	10	30	75	4,50

1) Vacuum resistance is measured by bending the hose twice its minimum bend radius at $+20^{\circ}\text{C}$.

Features:

White FEP-lined smooth flexible hose for universal use and severe applications. Odourless and chemically inert. Can be cleaned in place. And in autoclave up to + 135°C. Corrosion-resistant, it is non-stick and can be assembled in place.

Standards:

F.D.A. compliant Par. 21-177.1550
U.S. Pharmacopeia Cl. VI

PharmaSmooth design:

Inner liner in FEP. Multiple textile reinforcement. Nr. 2 helix wire supports. Grey EPDM extra smooth outer surface, enabling You to quickly and easily remove dirt on the over all cleanliness of Your operation.

Temperature rating:

Da -40°C a +177°C .

Availability:

From stock, in coils up to 30 meters (till size DN 2”).



Applications:

Pharmaceutical, chemical, cosmetic, electronic, food industries.

Standard fittings:

Tri-Clamp®, DIN 11851, SMS, IDF-ISS, Cam-lock, DIN-ANSI flanged , GAS-NPT threaded.

New:

Tri-Clamp®, DIN 11851, SMS, Cam-lock, flanged DIN - ANSI fittings are available with a zero-entrapment flare-thru design, Autolok® fitting available with a zero-entrapment flare-thru design prevent accidental unlocking.

Special execution:

SS304 or blu polypropylene external braid.

DN	iD mm	eD mm	Bend radius mm	WP@20°C ¹ bar	BP@20°C bar	Vacuum ² Torr	Weight Kg/mt
15	12,7	23,1	64	35	147	10	0,52
20	19,0	31,7	83	35	140	10	0,92
25	25,4	38,1	121	32	126	10	1,12
32	31,8	44,5	178	22	112	10	1,46
40	38,1	52,1	229	21	94	10	1,78
50	50,8	67,3	293	18	84	10	2,23
65	63,5	81,3	458	14	63	10	3,50
80	76,2	94,0	559	10	49	10	3,72
100	101,6	119,4	865	10	42	10	5,36

- 1) WP will decrease by 1% for every 1°C temperature rise over 100°C.
- 2) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 100°C; vacuum resistance is measured by bending the hose twice its minimum bend radius at + 20°C. WP, BP and vacuum ratings at 21°C.

Features:

Flexible hose with smooth white tube.
 The high-quality rubber it is composed of make it ideally resistant to all detergents.
 Flexible, handy, it accepts the smallest bend radius without kinking.

Standards:

F.D.A. compliant Par. 21-177.2600
 D.M. dated 21/03/1973 and amendments thereof.
 BgVV.
 Food grade RAL.

FOODFLEX design:

White NBR tube.
 Multiple highly resistant textile braids.
 No. 2 helix embedded wire support.
 External cover in corrosion resistant blue CR rubber; with-stands atmospheric agents and animal and vegetable fat.



Temperature rating:

From -20°C to +90°C.
 (resistant to saturated steam up to +130°C for 30 minutes maximum).

Availability:

From stock, in coils of up to 40 meters.

Applications:

Foodstuff and fat products, such as milk, dairy products, cheese, oil; in cosmetic and pharmaceutical industries in non-critical applications.

Special executions:

External cover in different colours and with frets or corrugated profile to increase flexibility.

FOODFLEX

DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum ¹	Weight
	mm	mm	mm	bar	bar	Torr	Kg/mt
15	13,0	23,0	35	10	30	100	0,40
20	19,0	30,0	50	10	30	100	0,60
25	25,0	36,0	75	10	30	100	0,74
32	32,0	43,0	80	10	30	100	0,90
40	38,0	50,0	110	10	30	100	1,30
50	51,0	63,0	150	10	30	100	1,70
65	63,5	76,0	190	10	30	100	2,20
80	76,0	90,0	220	10	30	100	2,80
100	102,0	117,0	500	10	30	100	4,10

1) Vacuum resistance is measured by bending the hose twice its minimum bend radius at +20°C.

Features:

Flexible hose with smooth white tube.
The high-quality rubber it is composed of make it ideally resistant to all detergents.
Flexible, handy, it accepts the smallest bend radius without kinking.

Standards:

F.D.A. compliant Par. 21-177.2600
D.M. dated 21/03/1973 and amendments thereof.
BgVV Ctg. II

ALIFLEX design:

Non-toxic white EPDM tube.
Multiple textile supports.
Nr. 1 helix embedded wire support.
External cover in corrosion resistant red rubber; withstands atmospheric agents and animal and vegetable fat.



Temperature rating:

From -40°C to +120°C.
(resistant to saturated steam up to +140°C for 30 minutes maximum).

Availability:

In coils of up to 40 meters.

Applications:

Foodstuff and non-fat products, such as drinks, fruit juice, wine and beer. Cosmetic and pharmaceutical industries in non-critical applications.

Special executions:

External cover in different colours and with frets or corrugated profile to increase flexibility.

ALIFLEX

DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum ¹	Weight
	mm	mm	mm	bar	bar	Torr	Kg/mt
15	13,0	23,0	65	10	30	75	0,38
20	19,0	31,0	95	10	30	75	0,65
25	25,0	38,0	125	10	30	75	0,92
32	32,0	45,0	160	10	30	75	1,10
40	38,0	51,0	190	10	30	75	1,45
50	51,0	66,0	255	10	30	75	2,10
65	63,5	80,0	350	10	30	75	2,95
80	76,0	93,0	420	10	30	75	3,60
100	102,0	119,0	550	10	30	75	4,80

1) Vacuum resistance is measured by bending the hose twice its minimum bend radius at +20°C.

Features:

Smooth flexible hose lined in PTFE.
 It is generally used in any application.
 Odourless, colourless and chemically inert.
 For demanding applications, with pulsating pressures or extreme bend radii, the hose is supplied with a stainless steel double braid.

Standards:

Virgin PTFE tube F.D.A. compliant Par. 21-177.1550
 Conductive PTFE tube BS 2050:1978 compliant.

PROLINE design:

Virgin PTFE tube.
 Conductive PTFE tube ($R < 10^6$ Ohm).
 AISI 304 stainless steel single or double external braid.

Temperature rating:

From -30°C to +200°C.

Availability:

Maximum length:
 DN 1/8" and DN 1/4" 100 meters
 DN 3/8" and DN 1/2" 75 meters
 DN 3/4" and DN 1" 30 meters

Applications:

Chemical, pharmaceutical, electronic, dairy, food, petrochemical, motor, textile, mechanical industries, etc.

Special executions:

External braid covered in transparent silicone.
 Antifriction and anti-spark rubber rings.



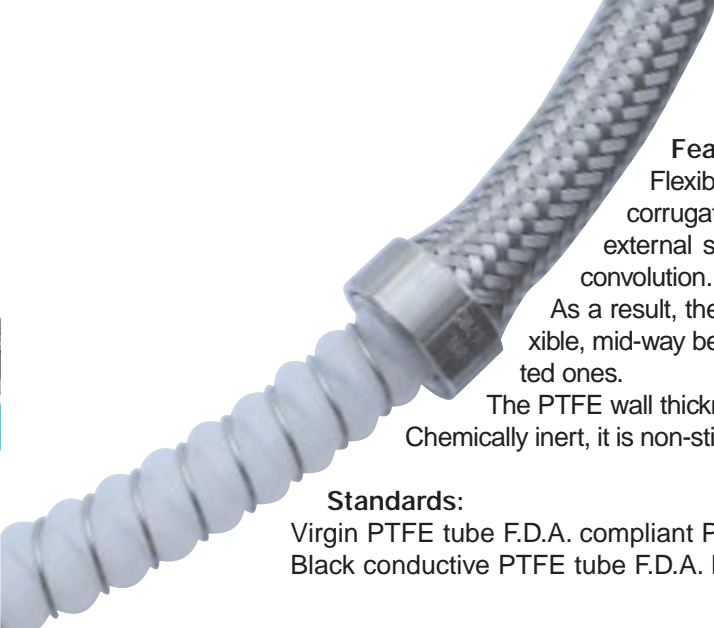
PROLINE

DN	ID	OD	PTFE thickness	Bend radius	WP@20°C ¹	BP@20°C	Vacuum ²	Weight
	mm	mm	mm	mm	bar	bar	Torr	Kg/mt
1/4"	6,5	9,2	0,76	76	220	670	10	0,09
3/8"	9,8	13,2	0,89	127	180	550	10	0,15
1/2"	13,1	16,7	0,89	153	160	480	10	0,25
3/4"	19,3	22,7	0,89	204	100	300	10	0,34
1"	25,6	29,5	0,89	305	80	240	30	0,46

1) WP will decrease by 1% for every 1°C temperature rise over 176°C.

2) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 176°C.

Vacuum resistance is measured by bending the hose twice its minimum bend radius at +20°C.

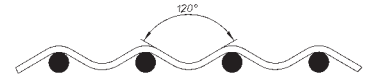


Features:

Flexible hose with low profile helically corrugated PTFE tube, 120° spread and external stainless steel helix between each convolution.

As a result, the hose is easier to clean, more flexible, mid-way between smooth tubes and convoluted ones.

The PTFE wall thickness allows both flaring and crimping on most types of fittings. Chemically inert, it is non-stick and can be easily cleaned in place (CIP) and steamed in place (SIP).



Standards:

Virgin PTFE tube F.D.A. compliant Par. 21-177.1550

Black conductive PTFE tube F.D.A. Par. 21-178.3297 and BS 2050:1978 compliant.

PROCHEM BP design:

Type	Tube	Braid
PROCHEM BP	Virgin PTFE	AISI 304
PROCHEM BP PP	Virgin PTFE	Polypropylene
PROCHEM BP AS	Conductive PTFE (R<10 ⁷ Ohm)	AISI 304
PROCHEM BP AS PP	Conductive PTFE (R<10 ⁷ Ohm)	Polypropylene

Temperature rating:

From -30°C to +200°C with stainless steel braid.

From -30°C to +120°C with Polypropylene braid.

Availability:

Maximum length:

DN 15 and 65	15 meters	DN 100	7 meters
DN 80	11 meters		

Special executions:

External braid covered in transparent silicone.

Antifriction and anti-spark rubber rings.

PROCHEM BP

DN	ID mm	OD mm	PTFE thickness ¹ mm	Bend radius mm	WP@20°C ² bar	Vacuum ³ Torr	Weight Kg/mt
15	9,5	19,0	1,00	38	41	10	0,33
20	14,3	25,0	1,25	51	35	10	0,45
25	20,6	32,0	1,65	70	31	10	0,70
32	25,4	38,0	1,65	82	27	10	0,82
40	31,7	48,0	1,65	100	23	10	1,50
50	44,4	60,0	1,65	140	20	10	2,10
65	50,8	73,0	1,65	178	16	60	2,58
80	63,5	89,0	1,65	230	14	60	3,30
100	89,0	114,0	2,00	300	10	60	5,30

1) Wall thickness on the convolution.

2) WP will decrease by 1% for every 1°C temperature rise over 121°C.

3) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 130°C.

Vacuum resistance measured by bending the hose twice its minimum bend radius at 20°C.

Features:

Flexible hose with low profile helically convoluted and highly flexible PTFE tube.
Specially designed for the simple and safe crimping of hose shank fittings, both in stainless steel and lined in PFA or other materials, such as PTFE, PVDF, Polypropylene.

Standards:

Virgin PTFE tube F.D.A. compliant Par. 21-177.1550
Conductive PTFE tube BS 2050:1978 compliant.

ULTRAFLEX design:

Virgin PTFE tube.
Conductive PTFE tube ($R < 10^6$ Ohm).
AISI 304 external braid.

Temperature rating:

From -30°C to +180°C.

Availability:

Maximum length:

DN 15	24 meters
DN 20 and 25	18 meters
DN 32 and 40	14 meters
DN 50	11 meters

Applications:

Chemical, pharmaceutical, electronic, dairy, food, petrochemical industries.

Special executions:

External braid covered in transparent silicone.
Antifriction and anti-spark rubber rings.



ULTRAFLEX

DN	ID mm	OD mm	PTFE thickness ¹ mm	Bend radius mm	WP@20°C ² bar	BP@20°C bar	Vacuum ³ Torr	Weight Kg/mt
15	12,7	19,0	0,90	25	103	310	400	0,31
20	19,0	25,0	0,90	65	69	207	400	0,43
25	25,4	33,0	1,00	90	46	138	450	0,65
32	31,8	41,0	1,00	125	34	103	550	0,75
40	38,1	48,0	1,00	150	30	90	550	0,80
50	50,8	59,0	1,10	200	23	69	600	1,00

1) Wall thickness on the convolution.

2) WP will decrease by 1% for every 1°C temperature rise over 100°C.

3) Vacuum resistance will decrease by 1% for every 1°C temperature rise over 100°C.

Vacuum resistance measured by bending the hose twice its minimum bend radius at 20°C.

Features:

Internally and externally smooth flexible hose in “**Platinum Cured**” Silicone of high-purity bio-pharmaceutical grade.

It is generally used in biotechnology, in very critical medical and pharmaceutical applications.

Autoclavable, it can be cleaned in place (CIP) and steamed in place (SIP) up to +135°C.

Due to the permeation and diffusion of the silicone during cleaning and steaming of the hose, the mechanical and volumetric features of the silicone naturally degenerate. It is therefore advisable to check the hoses every total 150 hours’ cleaning and steaming.

Conformity:

Type	F.D.A. Par. 21 177.2600	U.S.P. Class VI	E.P. 3.1.9	ISO 10993	U.S.D.A.
STHT-C	✓	✓	✓	✓	✓
STHT-R	✓	✓	✓	✓	✓
STHT-W	✓	✓	✓	✓	✓

STHT design:

Type	Silicone	No. of plies	Wire support
STHT-C	Platinum Cured	-	no
STHT-R	Platinum Cured	1 in Nomex	no
STHT-W	Platinum Cured	4 in Nomex	yes

Temperature rating:

From -60°C to +260°C.

Availability:

STHT-C Coils of 7,62 – 15,24 and 30,48 meters.

STHT-R Coils of 15,24 meters.

STHT-W Pipes of 3,6 meters.

Special executions:

Coloured tape identification.

Only for STHT-C and R available with vulcanised or re-usable clamp.

STHT





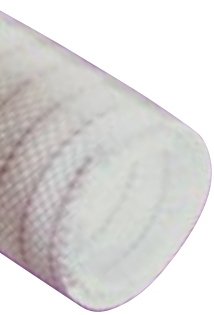
STHT-C

Code ¹	ID mm	OD mm	Thk mm	Code ¹	ID mm	OD mm	Thk mm	Code ¹	ID mm	OD mm	Thk mm
STHT-C-012-0	0,30	0,61	0,15	STHT-C-156-1	4,00	5,50	0,79	STHT-C-500-1	12,70	14,30	0,79
STHT-C-020-0	0,51	0,91	0,20	STHT-C-156-2	4,00	7,10	1,58	STHT-C-500-2	12,70	15,90	1,58
STHT-C-025-0	0,64	1,20	0,28	STHT-C-156-3	4,00	8,70	2,38	STHT-C-500-3	12,70	17,40	2,38
STHT-C-030-0	0,76	1,70	0,45	STHT-C-156-4	4,00	10,30	3,17	STHT-C-500-4	12,70	19,10	3,17
STHT-C-030-2	0,76	4,10	1,57	STHT-C-156-5	4,00	13,50	4,76	STHT-C-500-5	12,70	22,20	4,76
STHT-C-040-0	1,00	2,20	0,58	STHT-C-156-6	4,00	16,70	6,35	STHT-C-500-6	12,70	25,40	6,35
STHT-C-058-0	1,50	1,90	0,23	STHT-C-187-1	4,70	6,40	0,79	STHT-C-625-1	15,90	17,40	0,79
STHT-C-062-1	1,60	3,20	0,79	STHT-C-187-2	4,70	7,90	1,58	STHT-C-625-2	15,90	19,10	1,58
STHT-C-062-2	1,60	4,70	1,58	STHT-C-187-3	4,70	9,50	2,38	STHT-C-625-3	15,90	20,60	2,38
STHT-C-062-3	1,60	6,40	2,38	STHT-C-187-4	4,70	11,10	3,17	STHT-C-625-4	15,90	22,20	3,17
STHT-C-062-4	1,60	7,90	3,17	STHT-C-187-5	4,70	14,20	4,76	STHT-C-625-5	15,90	25,40	4,76
STHT-C-062-5	1,60	7,90	4,76	STHT-C-187-6	4,70	17,40	6,35	STHT-C-625-6	15,90	28,50	6,35
STHT-C-062-6	1,60	14,20	6,35	STHT-C-250-1	6,40	7,90	0,79	STHT-C-750-1	19,10	20,60	0,79
STHT-C-078-1	2,00	3,60	0,79	STHT-C-250-2	6,40	9,50	1,58	STHT-C-750-2	19,10	22,20	1,58
STHT-C-078-2	2,00	5,20	1,58	STHT-C-250-3	6,40	11,10	2,38	STHT-C-750-3	19,10	23,80	2,38
STHT-C-078-3	2,00	6,70	2,38	STHT-C-250-4	6,40	12,70	3,17	STHT-C-750-4	19,10	25,40	3,17
STHT-C-078-4	2,00	8,30	3,17	STHT-C-250-5	6,40	15,80	4,76	STHT-C-750-5	19,10	28,50	4,76
STHT-C-078-5	2,00	11,50	4,76	STHT-C-250-6	6,40	19,00	6,35	STHT-C-750-6	19,10	31,70	6,35
STHT-C-078-6	2,00	14,70	6,35	STHT-C-312-1	7,90	9,50	0,79	STHT-C-875-1	22,20	23,80	0,79
STHT-C-093-1	2,40	4,00	0,79	STHT-C-312-2	7,90	11,10	1,58	STHT-C-875-2	22,20	25,40	1,58
STHT-C-093-2	2,40	5,50	1,58	STHT-C-312-3	7,90	12,70	2,38	STHT-C-875-3	22,20	26,90	2,38
STHT-C-093-3	2,40	7,10	2,38	STHT-C-312-4	7,90	14,30	3,17	STHT-C-875-4	22,20	28,50	3,17
STHT-C-093-4	2,40	8,70	3,17	STHT-C-312-5	7,90	17,40	4,76	STHT-C-875-5	22,20	31,70	4,76
STHT-C-093-5	2,40	11,90	4,76	STHT-C-312-6	7,90	20,60	6,35	STHT-C-875-6	22,20	34,90	6,35
STHT-C-093-6	2,40	15,10	6,35	STHT-C-375-1	9,50	11,10	0,79	STHT-C-1000-1	25,40	26,90	0,79
STHT-C-125-1	3,20	4,70	0,79	STHT-C-375-2	9,50	12,70	1,58	STHT-C-1000-2	25,40	28,50	1,58
STHT-C-125-2	3,20	6,40	1,58	STHT-C-375-3	9,50	14,30	2,38	STHT-C-1000-3	25,40	30,10	2,38
STHT-C-125-3	3,20	7,90	2,38	STHT-C-375-4	9,50	15,80	3,17	STHT-C-1000-4	25,40	31,70	3,17
STHT-C-125-4	3,20	9,50	3,17	STHT-C-375-5	9,50	19,00	4,76	STHT-C-1000-5	25,40	34,90	4,76
STHT-C-125-5	3,20	12,70	4,76	STHT-C-375-6	9,50	22,20	6,35	STHT-C-1000-6	25,40	38,10	6,35
STHT-C-125-6	3,20	15,80	6,35								



STHT-R

DN	ID mm	OD mm	Thickness mm	Bend radius mm	WP@20°C ² bar	BP@20°C bar
1/16"	1,60	7,90	3,15	On request	13,30	51,60
1/8"	3,20	9,50	3,15	On request	11,60	46,60
3/16"	4,70	11,40	3,35	On request	10,60	43,30
1/4"	6,40	12,70	3,40	25,40	11,30	38,30
3/8"	9,50	15,80	3,55	50,80	10,00	43,30
1/2"	12,70	22,20	3,80	76,20	9,30	33,30
5/8"	15,90	25,40	4,30	101,60	7,60	26,60
3/4"	19,10	28,60	4,40	101,60	6,60	23,30
7/8"	22,20	31,70	4,60	127,00	6,60	23,30
1"	25,40	34,90	4,60	152,40	4,30	15,00



STHT-W

DN	ID mm	OD mm	Bend radius mm	WP@20°C ³ bar	BP@20°C bar	Vacuum Torr
1/2"	12,7	21,1	76	10	34	10
3/4"	19,0	28,7	102	8	34	10
1"	25,4	35,0	152	8	34	10
1 1/2"	38,1	47,7	190	8	34	10
2"	50,8	60,4	203	7	24	10
2 1/2"	63,5	65,5	230	5	24	10
3"	76,2	85,8	254	5	24	10
4"	101,6	110,0	On request	On request	On request	On request

- 1) It can be assembled with crimping, re-usable or vulcanised fittings.
- 2) WP will decrease by 10% for every 93°C temperature rise.
- 3) WP will decrease by 5% for every 93°C temperature rise.

Features:

Propharm silicone hoses are used in various services. **Peroxide Cured** ones are generally used for food, beverage and non-critical pharmaceutical applications. **Platinum Cured** ones are the right choice when less contamination is required.

Propharm hoses are autoclavable, can be cleaned in place (CIP) and steamed in place (SIP) up to +135°C for about 60 minutes.

Due to the permeation and diffusion of the silicone during cleaning and steaming of the hose, the mechanical and volumetric features of the silicone naturally degenerate. It is therefore advisable to check the hoses every total 150 hours' cleaning and steaming.

Standards:

Type	FDA Par.21 177.2600	U.S.P. Class VI	E.P. 3.1.9	D.M. 21/03/73	BGA Class XVA	French Official Journal 25/11/92
AF	✓	-	-	✓	✓	✓
AF-HP	✓	✓	✓	✓	✓	✓
CF	✓	-	-	✓	✓	✓
CF-HP	✓	✓	✓	✓	✓	✓
EF	✓	-	-	✓	✓	✓
EF-HP	✓	✓	✓	✓	✓	✓
VS	✓	-	-	-	✓	-
VX	✓	-	-	-	✓	-
VD	✓	-	-	-	✓	-

Propharm design:

Type	Silicone	No. of plies	Wire support
AF	Peroxide Cured	4 in Polyester	no
AF-HP	Platinum Cured	4 in Polyester	no
CF	Peroxide Cured	4 in Polyester	yes
CF-HP	Platinum Cured	4 in Polyester	yes
EF	Peroxide Cured	4 in Polyester	yes
EF-HP	Platinum Cured	4 in Polyester	yes
VS	Peroxide Cured	1 in Polyester	no
VX	Peroxide Cured	4 in Polyester	yes
VD	Peroxide Cured	4 in Polyester	yes

Temperature rating:

From -60°C to +180°C.

Availability:

From stock.

4 meters long for AF, AF-HP, CF, CF-HP, EF, EF-HP, VX, VD.

Coils of 10 and 20 meters for VS.

PROPHARM

AF



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum
	mm	mm	mm	bar	bar	Torr
1/2"	12,7	22,5	205	8	32	200
3/4"	19,0	28,8	255	7	28	300
1"	25,4	35,2	305	6	24	400
1¼"	31,8	41,6	-	5	20	450
1½"	38,1	47,8	-	5	20	550
2"	50,8	60,6	-	4	16	550
2½"	63,5	73,3	-	3	12	700
3"	76,2	86,0	-	3	12	700
4"	101,6	114,0	-	2	8	700

WP will decrease by 1% for every 1°C temperature rise over 100°C.

CF



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum
	mm	mm	mm	bar	bar	Torr
1/2"	12,7	25,1	75	10	40	120
3/4"	19,0	31,4	85	10	40	120
1"	25,4	37,8	105	10	40	120
1¼"	31,8	44,2	120	10	40	120
1½"	38,1	50,5	140	10	40	120
2"	50,8	63,2	250	9	36	120
2½"	63,5	75,9	300	6	24	175
3"	76,2	88,6	390	5	20	175
4"	101,6	114,0	880	4	10	215

WP will decrease by 1% for every 1°C temperature rise over 100°C.

EF



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum
	mm	mm	mm	bar	bar	Torr
1/2"	12,7	25,1	60	10	40	120
3/4"	19,0	31,4	70	10	40	120
1"	25,4	37,8	85	10	40	120
1¼"	31,8	44,2	95	10	40	120
1½"	38,1	50,5	120	10	40	120
2"	50,8	63,2	190	9	9	120
2½"	63,5	75,9	235	6	6	175
3"	76,2	88,6	315	5	5	175
4"	101,6	114,0	705	4	4	215

WP will decrease by 1% for every 1°C temperature rise over 100°C.

VS



DN	ID	OD	Bend radius	WP@20°C	BP@20°C
	mm	mm	mm	bar	bar
1/4"	6,3	13,2	40	9,0	27
5/16"	7,9	15,0	45	7,5	21
3/8"	9,5	16,6	55	7,0	21
1/2"	12,7	20,3	70	5,0	15
5/8"	15,8	24,5	85	4,0	12
3/4"	19,0	27,9	95	3,5	10
7/8"	22,2	31,3	110	3,0	9
1"	25,4	34,5	135	3,0	9
1 1/4"	31,8	40,8	160	2,0	6

WP will decrease by 1% for every 1°C temperature rise over 100°C.

VX



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum
	mm	mm	mm	bar	bar	Torr
1/2"	12,7	22,2	75	11	33	120
3/4"	19,0	28,2	90	9	27	120
1"	25,4	34,2	105	8	24	120
1 1/4"	31,8	41,2	130	7	21	120
1 1/2"	38,1	47,2	155	6	18	120
2"	50,8	61,2	280	5	15	120
2 1/2"	63,5	72,2	320	5	15	175
3"	76,2	85,2	470	4	12	175
4"	101,6	111,2	945	2	6	215

WP will decrease by 1% for every 1°C temperature rise over 100°C.

VD



DN	ID	OD	Bend radius	WP@20°C	BP@20°C	Vacuum
	mm	mm	mm	bar	bar	Torr
1/2"	12,7	23,6	65	16	48	80
3/4"	19,0	30,6	80	13	39	80
1"	25,4	36,6	90	12	36	80
1 1/4"	31,8	43,6	110	11	33	80
1 1/2"	38,1	49,6	130	10	30	80
2"	50,8	62,6	210	9	27	80
2 1/2"	63,5	74,6	265	7	21	150
3"	76,2	87,6	380	6	18	150
4"	101,6	113,6	800	4	12	180

WP will decrease by 1% for every 1°C temperature rise over 100°C.

Proflex fittings have a “two-piece” design (hose shank + crimping ferrule). The hose shank is attached to the hose through the swaging of the ferrule. This system, along with a correct installation of the hose and the respect of its working conditions, allow the flexible hoses to be used in the most severe applications without the fittings “slipping” out of the hose.

Fittings are made in AISI 316 stainless steel to convey most fluids. Fittings for pharmaceutical and food applications are supplied in AISI 316L or AISI 304L stainless steel for their low level of Carbon ($\leq 0.03\%$).

Sanitary fittings, after being lathed, are mechanically finished at $\leq 0.4 \mu\text{m}$ and then electro-polished on demand. Electro-polishing improves their roughness, removes superficial impurities and reduces particle pollution from 10 to 40 times. The finishing of the contact surfaces is of capital importance in pharmaceutical industry, since it is necessary to prevent stagnation and remove any micro-roughness where germs and bacteria could proliferate.

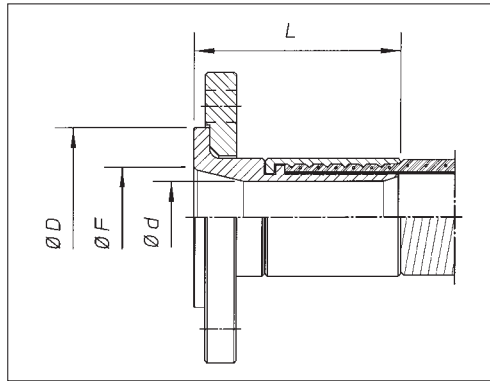


Superior metal fittings such as Hastelloy, Titanium, Monel can be supplied on request.

CRIMPING FITTINGS

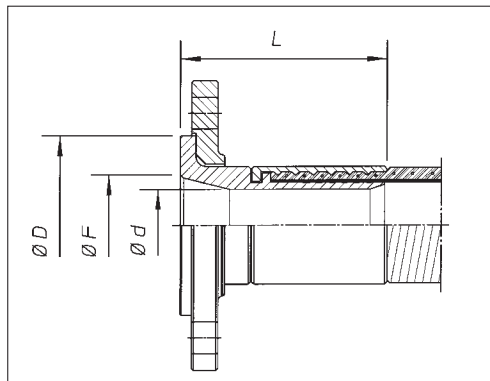
	TLCT	TLCT-AS	CHEMFLEX	PHARMAFLEX	FOODFLEX	ALIFLEX	PROLINE	PROWELL	PROCHEM	PROCHEM BP	ULTRAFLEX	STHT R and W	PROPHARM
DIN flanged	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
ANSI flanged	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
AUTOLOK “D”	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
AUTOLOK “C”	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SPEED-LOCK “D”	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SPEED-LOCK “C”	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SPEED-LOCK “E”	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Buttweld	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Clamp	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
45° Clamp	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
90° Clamp	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Reducing clamp	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
DIN 11851 with round nut	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Threaded DIN 11851	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
SMS with round nut	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Threaded SMS	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Female threaded	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Male threaded	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Female DIN 28450	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓
Sight glass	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓

Fitting in 316 SS with UNI-DIN flange¹



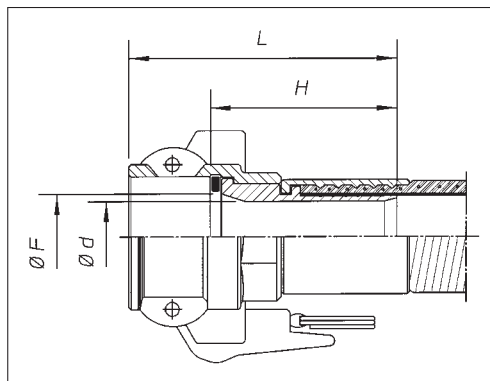
DN	L	F	D	d
15	52	12	35	9
20	67	20	47	15
25	67	26	58	21
32	69	32	64	28
40	75	40	75	33
50	85	50	92	45
65	105	65	105	58
80	130	80	127	69
100	140	100	158	96

Fitting in 316 SS with ANSI flange¹



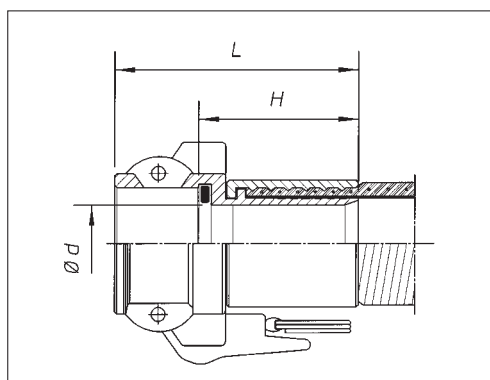
DN	L	F	D	d
15	52	12	35	9
20	67	20	47	15
25	67	26	58	21
32	69	32	64	28
40	75	40	75	33
50	85	50	92	45
65	105	65	105	58
80	130	80	127	69
100	140	100	158	96

Loose AUTOLOK "D" in 316 SS with PTFE/Viton gasket



DN	L	H	F	d
20	88	64	20	15
25	105	76	26	21
32	110	75	32	28
40	115	79	38	33
50	131	88	45	45
65	150	106	58	58
80	172	126	73	69
100	175	126	101	96

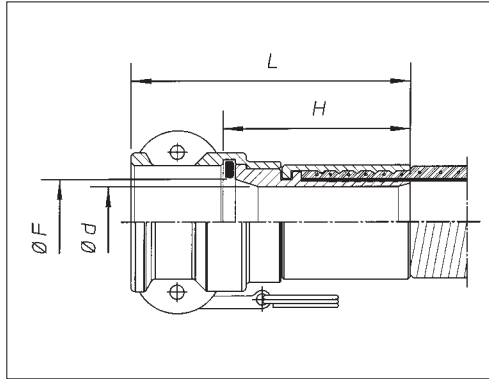
Fixed AUTOLOK "C" in 316 SS with PTFE/Viton gasket



DN	L	H	d
20	76	51	14
25	82	53	20
32	88	53	26
40	90	54	32
50	103	60	45
65	119	75	55
80	125	79	67
100	169	120	90

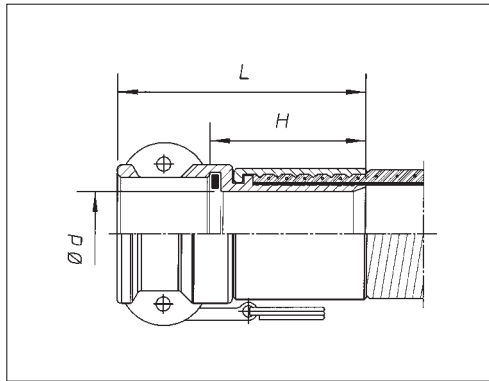
1) See page 46 for flange type and dimensions.

Loose SPEED-LOCK "D" in 316 SS with PTFE/Viton gasket



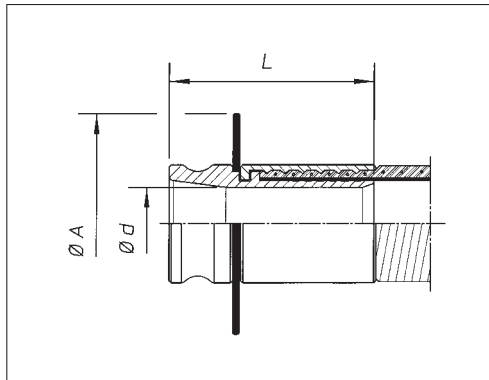
DN	L	H	F	d
20	88	64	20	15
25	105	76	26	21
32	110	75	32	28
40	115	79	38	33
50	131	88	45	45
65	150	106	58	58
80	172	126	73	69
100	175	126	101	96

Fixed SPEED-LOCK "C" in 316 SS with PTFE/Viton gasket



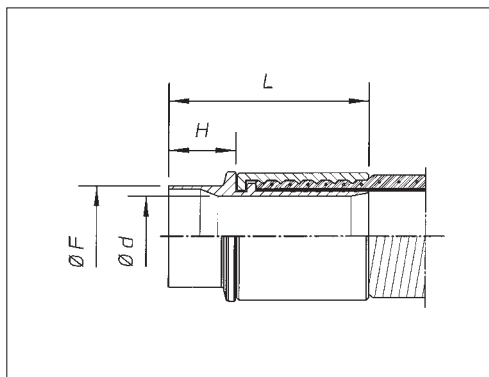
DN	L	H	d
15	65	52	10
20	80	56	14
25	85	56	20
32	91	57	26
40	95	59	32
50	107	64	45
65	121	77	55
80	140	94	67
100	180	130	90

Fixed SPEED-LOCK "E" in 316 SS with guard



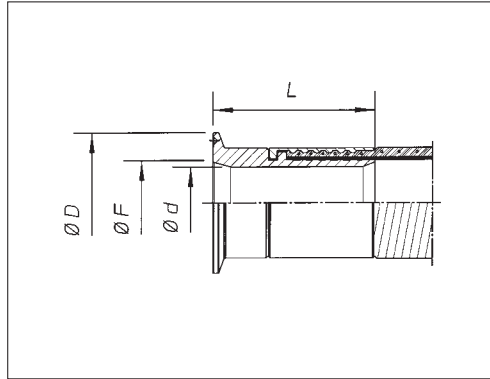
DN	L	d	A
15	66	15	70
20	86	19	70
25	92	24	80
32	99	31	90
40	101	37	90
50	120	46	110
65	132	56	130
80	155	73	130
100	158	102	170

Buttweld in 316L SS



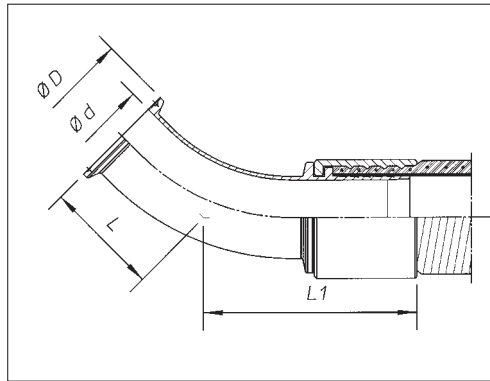
DN	L	H	F	d
15	52	20	12,7	9
20	65	22	19,0	15
25	65	22	25,4	21
40	65	22	38,1	34
50	75	22	50,8	46
65	93	30	63,5	59
80	110	30	76,2	69
100	158	35	101,6	96

Clamp in 316L SS



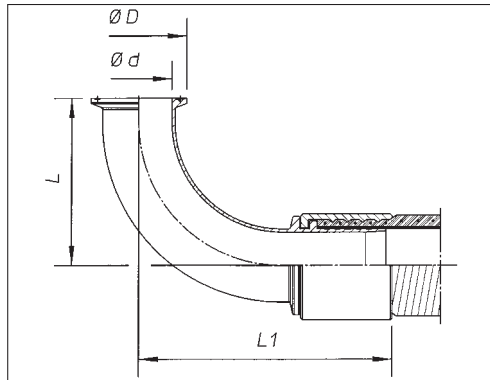
DN	L	D	F	d
15	42	25,4	9	9
20	58	25,4	15	15
25	58	50,4	22	20
32	58	50,4	32	28
40	65	50,4	35	33
50	75	63,9	48	46
65	83	77,4	61	59
80	102	90,9	74	71
100	102	118,9	97	96

45° clamp in 316L SS



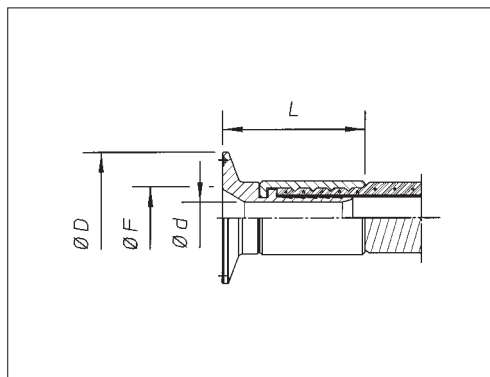
DN	L	L1	D	d
15	27	55	25,4	9
20	27	70	25,4	15
25	43	73	50,4	22
40	54	96	50,4	35
50	71	129	63,9	48

90° clamp in 316L SS



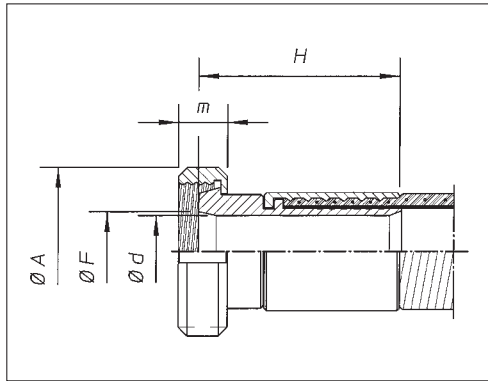
DN	L	L1	D	d
15	53	76	25,4	9
20	53	91	25,4	15
25	65	105	50,4	22
40	87	130	50,4	35
50	116	202	63,9	48

Reducing clamp in 316L SS



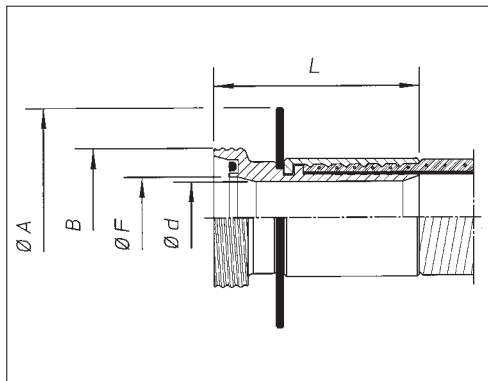
DN	L	D	F	d
25x15	48	50,4	22	9
25x20	58	50,4	22	15
40x20	65	50,4	35	15
40x25	65	50,4	35	20
50x20	65	63,9	48	15
50x25	65	63,9	48	20
50x40	65	63,9	48	33

DIN 11851 fitting in 304L-316L¹ SS with round nut in 304L



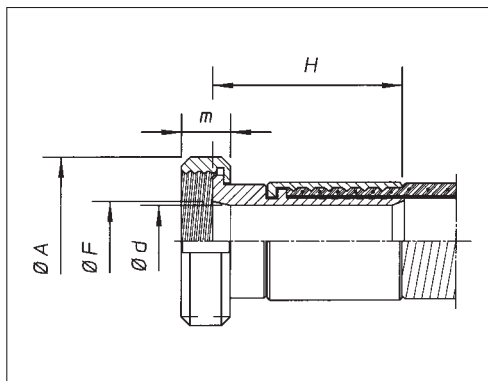
DN	H	A	F	d	m
15	50	44	15	9	15
20	72	54	20	15	17
25	72	63	26	21	18
32	72	70	32	28	18
40	77	78	38	34	18
50	82	92	50	46	19
65	93	112	66	59	21
80	118	127	80	69	25
100	125	148	100	96	26

Threaded DIN 11851 fitting in 304L-316L¹ SS with guard



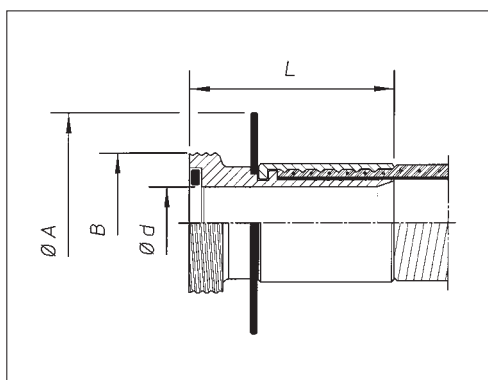
DN	L	A	B	F	d
15	50	70	34-8	15	9
20	72	70	44-8	19	15
25	72	80	52-6	25	21
32	72	90	58-6	32	28
40	77	100	65-6	39	34
50	91	110	78-6	50	46
65	103	130	95-6	65	59
80	125	150	110-4	80	69
100	135	170	130-4	100	96

SMS fitting in 316L SS with round nut in 304L



DN	H	A	F	d	m
25	59	51	22	21	20
40	65	74	35	33	25
50	79	84	48	46	26
65	85	100	60	58	30
80	110	114	72	69	32
100	120	150	98	96	45

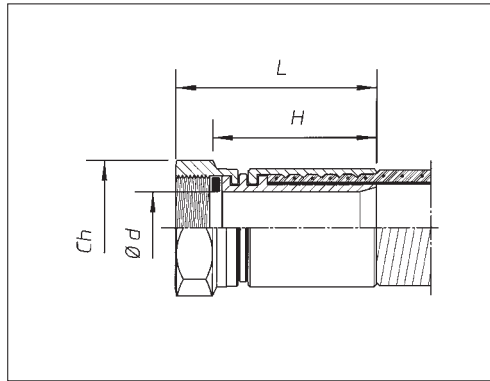
Threaded SMS fitting in 316L SS with guard



DN	L	A	B	d
25	72	70	40-6	21
40	77	90	60-6	34
50	82	100	70-6	46
65	93	130	85-6	59
80	118	130	98-6	69
100	125	170	120-4	96

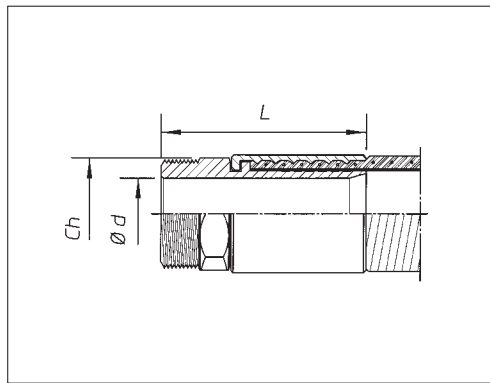
1) Fittings in AISI 304L available from DN 50 on.

BSPP¹ female threaded fitting in 316 SS with swivel nut



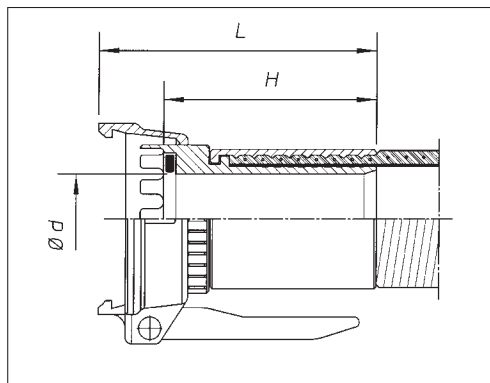
DN	L	H	d	Ch
1/2"	53	36	9	27
3/4"	69	50	15	32
1"	72	50	21	41
1 1/4"	76	52	28	46
1 1/2"	81	54	34	55
2"	94	64	45	65
2 1/2"	114	74	59	85
3"	130	90	69	95
4"	130	90	96	130

BSPT² male threaded fitting in 316 SS



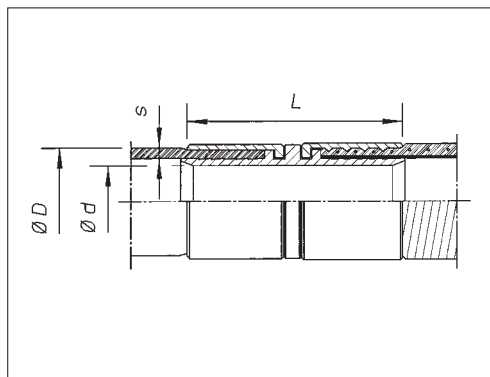
DN	L	d	Ch
1/2"	60	9	24
3/4"	73	15	27
1"	77	21	36
1 1/4"	75	28	46
1 1/2"	82	34	50
2"	97	45	65
2 1/2"	105	59	80
3"	125	69	95
4"	135	96	120

DIN 28450 fitting in 316 SS with loose nut and PTFE gasket



DN	L	H	d
50	115	85	46
80	145	115	69

PFA/FEP sight glass with fitting in 316L SS



DN	L	D	s	d
20	95	25	3,2	15
25	95	28	3,2	21
40	100	41	3,2	34
50	120	53	3,2	46

1) 60° or NPT thread available
2) NPT thread available

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