

PHARMALINE & PHARMALEX

PTFE Lined Hoses

PTFE 翻边软管



- 内表面光滑
- 耐化学药品性能
- 自净性能
- 柔软性
- 防止扭曲

SMOOTHBORE
CHEMICAL RESISTANT
SELF-CLEANING
FLEXIBLE
KINK RESISTANT





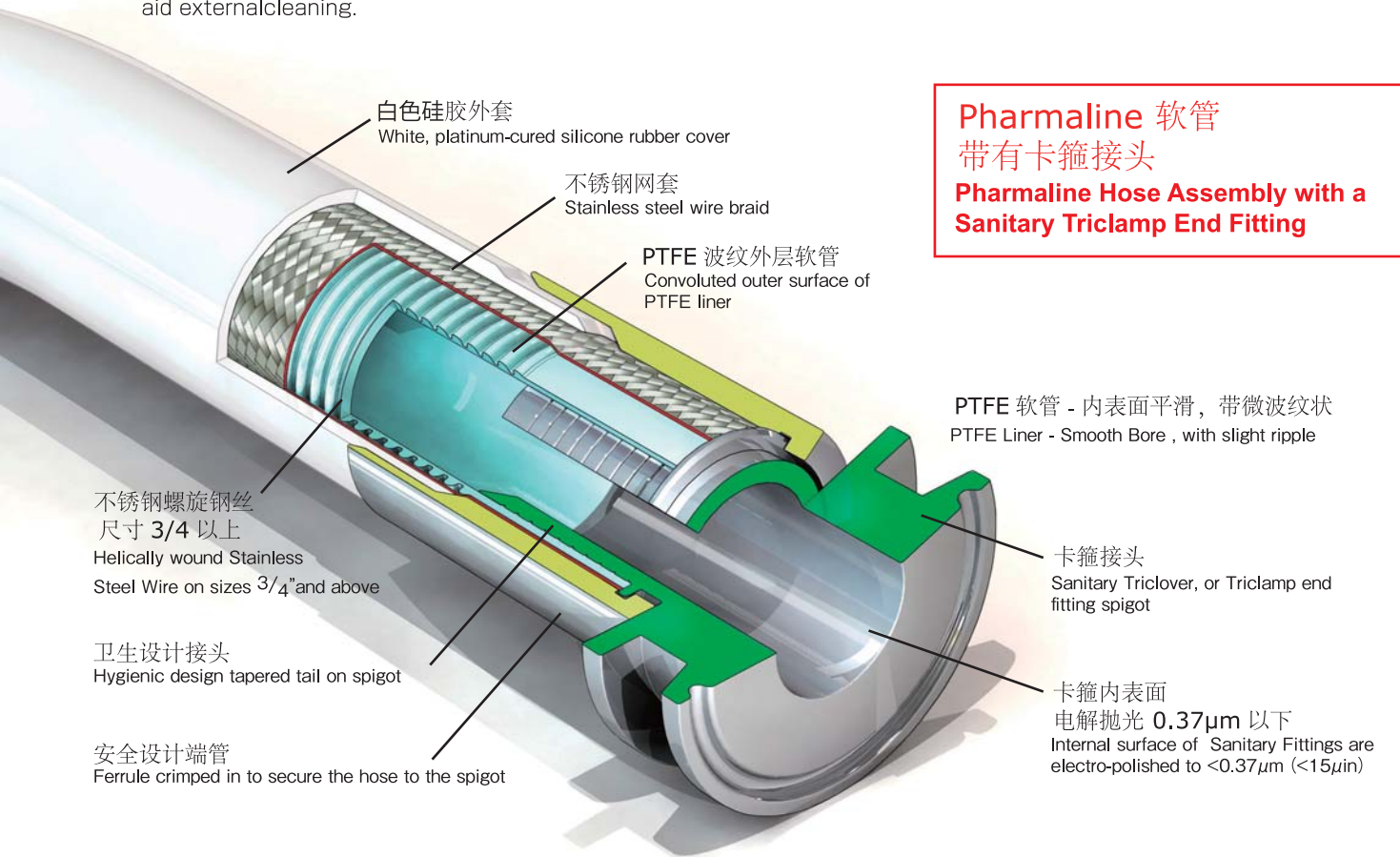
PHARMALINE HOSE

特长 FEATURES

- Pharmaline 被设计，被开发是为了提供客户拥有更高洁净性能的软管产品。适合制药及生物技术用途要求的事项，柔软性很高的软管。
- Pharmaline 不但能代替现在上市的同等产品，而且是改良产品。
- Pharmaline hose was designed and developed to provide customers with an improved high purity hose product which combined all the requirements they had requested for Pharma and Biotech applications, particularly the need for improved flexibility.
- Pharmaline hose not only supercedes but also improves upon the wide variety of alternative products currently available.

构造 CONSTRUCTIONS

- Pharmaline 是专利取得的聚四氟乙烯材质的软管，软管内部的表面平滑，软管外层为螺旋波纹形状形成。具有卓越柔软性能和持有弧形反力。
- 不锈钢网套强化抵抗扭曲，破坏，加压及真空。
3/4" 以上的软管，在波谷部卷有不锈钢螺旋钢丝，用于强化软管。
- 不锈钢网套上有白金加硫硅胶橡胶外部保护。外表面平滑，容易洗涤。
- Pharmaline is built around a patented PTFE hose liner design, which is smooth bore inside but convoluted outside to generate excellent flexibility combined with "hoop strength"
- A stainless wire and stainless steel wire braid reinforcement adds to the kink resistance, crush resistance and the resistance of the hose to both pressure and vacuum. For sizes 3/4" and above, a SS helical wire is wound in to the convolutions to further reinforce the hose design.
- Finally, an outer cover of Platinum Cured Silicone rubber is extruded on to the braid, with a super-smooth surface finish to aid external cleaning.



Pharmaline 软管
带有卡箍接头
Pharmaline Hose Assembly with a Sanitary Triclamp End Fitting

PharmalineGP 及 AS 参数

SPECIFICATIONS FOR PHARMALINE GP AND AS

软管口径 Hose Bore Size		实质内径 Actual Hose Bore Size	外装外径 O/D of Cover	最小弯曲半径 Minimum Bend Radius	最大使用压力 Maximum Working Pressure	破坏压力 Burst Pressure	重量 Weight per Unit Length	最长长度 *Maximum Continuous Length
in	mm	mm	mm	mm	MPa	MPa	kg/m	m
1/4	6.4	6.8	11.6	19	13	52	0.17	18
3/8	9.5	9.5	15.5	25	10	40	0.22	18
1/2	12.7	12.7	19.5	38	7	28	0.37	18
3/4	19.0	19.0	27.3	63	6	24	0.65	18
1	25.4	25.4	34.8	100	5	20	0.88	18
1-1/4	32.0	32.5	45.3	130	4.4	18	1.3	18
1-1/2	38.0	38.8	51.7	170	3.8	15.8	1.698	17
2	50.0	51.5	65.7	210	2.8	12.3	2.355	13

使用用途 APPLICATIONS

- Pharmaline 是纯度要求高的制药，生物技术，化学及食品产业用途设计的。特别适用于软管内表面和外表面都要洗净的生产线用途。
- 上述以外的产业用途也能适用。特别是液体及气体状态的高温流体生产线上，和在接触时会被烧伤可能性的危险地方，比如说高温油及蒸气传送用途。
- The primary application area for Pharmaline is in high purity pharmaceutical, biotech, chemical and foodstuffs plants where ease of cleaning the hose, both internally and externally is required.
- Pharmaline is also very suitable for use in other general industrial applications, particularly those where hot fluids or gases are being passed, if there is any risk of burns due to accidental touching of the hose - for example, hot oil or steam transfer applications.

软管的种类，设计及认证 HOSE TYPE & CERTIFICATION

- Pharmaline GP 用的 PTFE 软管是由依据 FDA, 21CFR177.1550 要求事项的 PTFE 材料制造而成。
- Pharmaline AS 是一种符合电阻介质用途的软管，符合 FDA, 21 CFR 178.3297。
- Pharmaline GP 和 Pharmaline AS 都证实了在溶析试验没有问题，证明 USP 等级 VI，和 ISO10993-6,10 和 11 项，121 C “无反应”等级的试验。
- The Materials used to manufacture the natural PTFE Tube liner conforms to FDA 21 CFR 177.1550, and the antistatic PTFE liner conforms to FDA 21 CFR 178.3297.
- Natural and Antistatic PTFE Hose Liners now also meet the more stringent USP ClassVI and ISO 10993-6,10 and 11 guidelines at 121°C with a “no reaction” classification.

PHARMALEX HOSE

特长 FEATURES

- Pharmalex 是比 Pharmaline 重量更轻，在低压用途上使用。
- Pharmalex hose was designed to provide a lightweight alternative version of Pharmaline hose, for light duty, low pressure applications.

构造 CONSTRUCTIONS

- Pharmalex 没有不锈钢编织网和不锈钢钢丝。白金加硫硅胶橡胶是无色透明的。尺寸能达到 1 英寸。
- The same as Pharmaline hose, except there is no SS wire braid, no helix wire, and the platinum cured silicone rubber is transparent, not white Pharmalex is only available in bore sizes up to 1”

PharmalineGP 及 AS 参数

SPECIFICATIONS FOR PHARMALEX GP AND AS

软管口径 Hose Size		实质内径 Hose Actual I/D	硅胶外套外径 O/D over Silicone Cover	最小弯曲半径 Minimum Bend Radius	最大使用压力 Maximum Working Pressure	破坏压力 Burst Pressure	重量 Weight per Unit Length	最长长度 *Maximum Continuous Length
in	mm	mm	mm	mm	MPa	MPa	kg/m	m
1/4	6.4	6.8	11.6	30	0.75	3	0.09	18
3/8	9.5	9.5	15.5	38	0.60	2.4	0.14	18
1/2	12.7	12.7	19.5	63	0.58	2.3	0.21	18
3/4	19.0	19.0	27.3	100	0.43	1.7	0.32	18
1	25.4	25.4	34.8	150	0.35	1.4	0.49	18

特性 PROPERTIES

温度 TEMPERATURE LIMITATIONS

最高使用温度为200度。

The Silicone cover limits the maximum service temperature to 200°C.

真空 VACUUM LIMITATIONS

全口径都能在真空环境使用。真空用途的使用温度是140度。

Useable at full vacuum up to 140°C.

PHARMALINE & PHARMALEX 活套法兰接头 PHARMALINE & PHARMALEX SWIVEL FLANGE FITTINGS

■ 法兰参数

- ANSI B16.5(=ASME B16.5)150#和300#等级。
- DIN PN10, PN16及PN40
- JIS 10K
- 端管材质普通SUS304, 根据特殊条件SUS316L。
- 其他压力规格及法兰规格也能提供。
- DIN PN10.PN16.PN40法兰尺寸一样, 有互换性。

■ 压力等级

- ANSI 150#=230psi(1.6MPa).
- ANSI 300#=460psi(3.2MPa).
- DIN PN10#=145psi(1.0MPa).
- DIN PN16#=230psi(1.6MPa).

■ 末端接头材质

- 法兰SUS304
- 互搭接头SUS316L
- 端管大半是SUS304。SUS316L材质的尺寸也有。

■ Flange Specifications

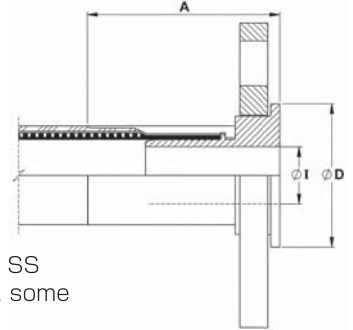
- ANSI B16.5 (also ASME B16.5) Class 150# and 300#
- DIN PN10, PN16 and PN40
- JIS 10K
- Other Pressure Ratings and Flange Specifications are also available.
- Note: DIN PN10, 16 and 40 Flanges all have identical dimensions, and so are fully interchangeable.

■ Pressure Ratings

- ANSI 150#=230psi(1.6MPa).
- ANSI 300#=460psi(3.2MPa).
- DIN PN10#=145psi(1.0MPa).
- DIN PN16#=230psi(1.6MPa).

■ End Fitting Materials

- Flanges in Grade 304 SS
- Flange Retainers in Grade 316L SS
- Ferrules, most in Grade 304 SS, some sizes in Grade.



软管口径 Nominal Hose Size		接头长度 A Fitting Length A	密封面口径 D Flared Diameter D			接头内径 I Fitting Inside Diameter I
in	mm		ANSI 150	PN10/16	JIS10 K	
1/2	13	51	35.0	45.0	51.0	9.53
3/4	20	65	42.9	58.0	56.0	15.88
1	25	67	50.8	68.0	67.0	20.24
*1-1/2	40	95	73.0	88.0	81.0	31.75
*2	50	96	92.0	102.0	96.0	44.45



* Pharmalex 没有上述尺寸。

* These sizes are not available in Pharmalex Hose.

PHARMALINE & PHARMALEX 母/公接头 PHARMALINE & PHARMALEX FEMALE & MALE CAM GROOVE FITTINGS

■ 接头用途

- 一般的A-A-59326(代替MIL-C-27487)和EN14420-7:2004(代替DIN 2828), 都有互换性。

■ 温度和压力等级

- 全尺寸都能达到230psi(1.6MPa)。
- 能达到100度的NBR垫圈, 或能达到200度的FEP垫圈。

■ 末端接头材质

- 母内牙和公内牙为SUS316L
- 内螺纹为SUS316C
- 端管材质大半为SUS304。SUS316L材质的尺寸也有。
- 通用垫圈是NBR材质。
- 外包FEP的硅胶垫圈也能提供。

■ End Fitting Specification

- Generally in accordance with A-A-59326 (replaces MIL-C-27487) and EN 14420-7 : 2004 (replaces DIN 2828), and all are fully interchangeable.

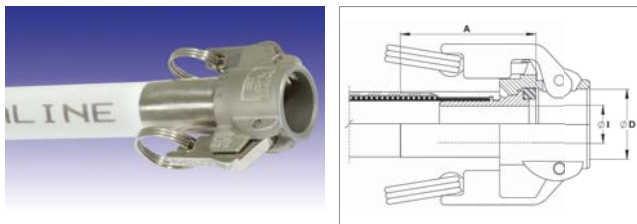
■ Temperature and Pressure Ratings

- All sizes up to 230psi(1.6MPa)
- Up to 100°C Buna N Gasket or 200°C FEP Gasket.

■ End Fitting Materials

- Female Spigot and Male in Grade 316L SS
- Female Body in Grade 316C SS
- Ferrules, most in Grade 304 SS, some sizes in Grade 316L SS
- Standard Gasket is Buna N (Nitrile) Rubber.
- FEP encapsulated Silicone Rubber Gaskets also available.

活套快速接头 SWIVELLING LOCKING

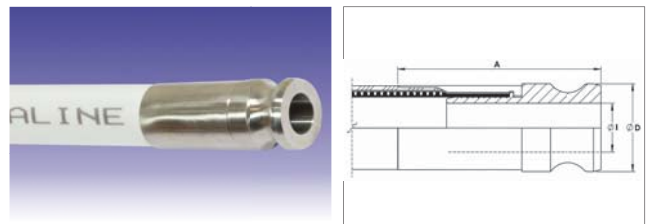


活套快速接头

软管口径 Nominal Hose Size		接头长度 A Fitting Length A	端管口径 D Cam Sleeve Inside Diameter D		接头内径 I Fitting Inside Diameter I
in	mm		mm	mm	
3/4	20	67	32	15.88	
1	25	69	37	19.05	
*1-1/2	40	92	54	31.75	
*2	50	92	64	44.45	

* Pharmalex 没有上述尺寸。

凸轮和沟槽 MALE CAM AND GROOVE



凸轮和沟槽

软管口径 Nominal Hose Size		接头长度 A Fitting Length A	φD	接头内径 I Fitting Inside Diameter I
in	mm			
3/4	20	73	32	15.88
1	25	84	37	19.05
*1-1/2	40	115	54	31.75
*2	50	128	63	44.45

* These sizes are not available in Pharmalex Hose.

PHARMALINE & PHARMALEX 卫生卡箍 / 小型卫生卡箍

PHARMALINE & PHARMALEX SANITARY TRICLAMP (TRICLOVER) FITTINGS



接头型式

一般符合BS4825:Pt3和ASME BPE-a-2007, 或DIN 32676(DN号码)。

End Fitting Specification

· Generally in accordance with BS4825 : Pt 3 and ASME BPE-a-2007, or DIN 32676 (The DN sizes)

温度和压力等级

标准管束和标准EPDM垫圈

- 压力能达到230psi(1.6MPa)
- 温度能达到120°C
- 更加高压和高温用途的特殊卡箍和垫圈

Temperature and Pressure Ratings

For Standard Clamp and Standard (EPDM) Gasket

- Pressures up to 230psi (1.6MPa)
- Temperatures up to 120°C
- Higher pressures and temperatures with special clamps and gaskets.

接头材质

- 接头规格是AISI 316L=EN1.4404=BS316S11。软管内径全部都是<15 μm Ra(<0.375 μmtr) 电解抛光。
- 端管材质一般是SUS304, SUS316L材质的尺寸也有。

End Fitting Materials

- Fittings in AISI 316L = EN 1.4404 = BS 316 S11. Internal Bores all Electropolished to<15 μm Ra (<0.375 μ mtr).
- Ferrules, most in Grade 304 SS, some sizes in Grade 316L SS.

软管出入口径 (只有英寸尺寸)

- 以下软管出入口径是BS4825规格。可是, ASME型式的口径比BS4825规格短0.005" (0.125mm)。
- 应用出入口径公差+0.000 -0.005"适合以上两种型式的接头。

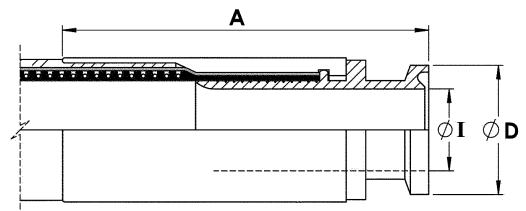
*Out let Diameters (Inch pipe sizes only)

- The outlet diameters as listed are in accordance with BS4825. The ASME specification, however, requires these diameters to be 0.005" (0.125mm) less in each case. An Outlet Diameter tolerance of +0.000 -0.005" has therefore been applied, so that the same fitting satisfies the requirements of both specification.

小型卫生卡箍接头

MINI SANITARY TRICLOVER

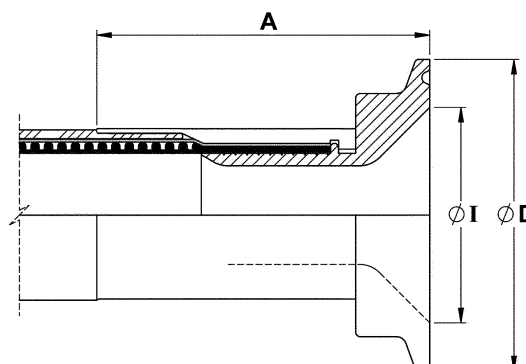
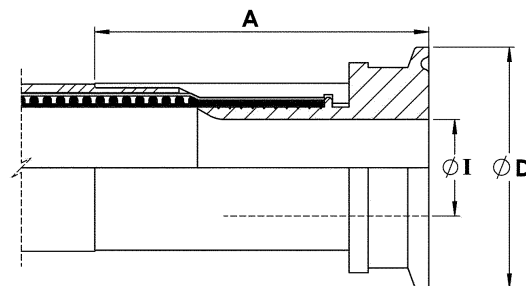
软管口径 Nominal Hose Size	管道口径 Nominal Pipe Size	接头长度 A Fitting Length A	密封端面外径 D Flange Dia. D	接头内径 I Outlet Dia. I
		mm	mm	mm
1/2	1/2 & DN10	51	25	9.5
1/2	3/4	51	25	16.0
3/4	3/4	64	25	16.0



卫生卡箍接头

SANITARY TRICLOVER

软管口径 Nominal Hose Size	管道口径 Nominal Pipe Size	接头长度 A Fitting Length A	密封端面外径 D Flange Dia. D	接头内径 I Outlet Dia. I
		mm	mm	mm
1/2	1	48	34.0	16.0
3/4	DN15	62	34.0	16.0
1	1	67	50.5	22.2
1	DN25	67	50.5	26.0
1	1-1/2	67	50.5	34.9
*1-1/2	1-1/2	89	50.5	34.9
*1-1/2	DN40	89	50.5	38.0
*2	2	92	64.0	47.6
*2	DN50	92	64.0	50.0
*2	2-1/2	89	77.5	60.3
*2	DN65	89	77.5	66.0
*2	3	99	91.0	73.0
*2	DN80	99	106.0	81.0



* Pharmalex 没有上述尺寸。

* These sizes are not available in Pharmalex Hose.

PHARMALINE & PHARMALEX NPT/BSPT固定外螺丝及NPT固定螺帽的接头

PHARMALINE & PHARMALEX NPT and BSPT FIXED MALE AND NPT FIXED FITTINGS

■ 接头型式

- NPT推管螺丝根据ANSI B2.1美国规格。
- BSPT推管螺丝根据 BS21英国规格。
- 其他；还有平行螺丝，公制螺丝

■ End Fitting Specifications

NPT Taper Threads to American National Standard Pipe Taper Thread design to ANSI B2.1
BSPT Threads to British Standard Pipe Taper Thread design to BS21 Alternatives - Parallel Threads, Metric Threads and Others.

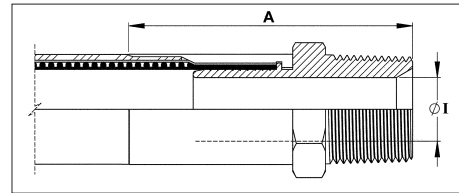
■ 接头材质

- 接头材质是SUS316L。
- 端管大半是SUS304，SUS316L材质的尺寸也有。

■ End Fitting Materials

· Fittings in Grade 316L SS
· Ferrules, most in Grade 304 SS, some sizes in Grade 316L SS
Alternatives - Fittings in Zinc Plated Carbon Steel

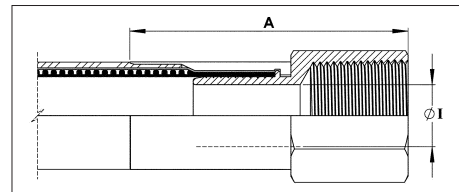
固定外螺纹 FIXED MALE R



固定外螺纹R

软管口径 Nominal Hose Size		R 螺丝尺寸 R Thread Size	接头长度 A Fitting Length A	接头内径 I Fitting Inside Diameter I
in	mm		mm	mm
1/2	13	1/2	63.5	9.53
3/4	20	3/4	80	15.88
1	25	1	88	20.24
*1-1/2	40	1-1/2	123	31.75
*2	50	2	131	44.45

固定螺帽 FIXED FEMALE Rc



固定螺帽Rc

软管口径 Nominal Hose Size		Rc 螺丝尺寸 Rc Thread Size	接头长度 A Fitting Length A	接头内径 I Fitting Inside Diameter I
in	mm		mm	mm
1/2	13	1/2	66.5	9.53
3/4	20	3/4	78	15.88
1	25	1	88	20.24
*1-1/2	40	1-1/2	113	31.75
*2	50	2	115	44.45

* Pharmalex 没有上述尺寸。

* These sizes are not available in Pharmalex Hose.

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