

# RENOX

- Beer Industry
- Food & Beverage Industry
- Pharmaceutical Industry
- Dairy Industry

## RENOX STAINLESS STEEL COMPANY LIMITED

จัดจำหน่าย ผลิตภัณฑ์อุตสาหกรรมในรายการ อาหาร เครื่องดื่ม  
และอุตสาหกรรมยา ครบวงจร ก่อขึ้น ก่อสแตนเลส ขึ้น ฟิลเตอร์  
ฆ่าเชื้อสแตนเลส โคมไฟแสงเกอร์ ข้อต่อ ข้อต่อสามทาง

Food Grade Hose



Sanitary Valves



Sanitary Installation  
Materials



Sight Glasses



Sanitary Centrifugal  
Pumps



Sanitary Filters



Spray Balls



Sanitary Union Parts



Manhole Covers



## ลีน็อกซ์ สแตนเลส สตีล บจก.

2760, 2762 Ladphrao 130, Ladphrao Rd., Khlong Chan,  
Bangkapi, Bangkok 10240  
2760, 2762 ลาดพร้าว 130 ลาดพร้าว แขวงคลองจั่น  
เขตบางกะปิ กรุงเทพมหานคร 10240  
Tel. : +662 769 8440, +662 769 8441 Fax : +662 731 0224  
E-mail : renoxbkk@renoxss.com



**CONTACT : +668 1556 4623**

[www.renoxss.com](http://www.renoxss.com) [www.renoxss.co.th](http://www.renoxss.co.th)  
[www.renoxssthailand.com](http://www.renoxssthailand.com)



# ***Content***

COMPANY PROFILE	3-5
PROPERTIES OF IPL PHARMACEUTICAL HOSES	6
CERTIFICATIONS	7
INDUSTRIE PLASTICHE LOMBRAD	8-15
RENOX	16-18
BACKCOVER	19





INDUSTRIE PLASTICHE LOMBARDE

**RENOX**

Renox Stainless Steel Co., Ltd.  
2760, 2762 Soi Lat Phrao 130, Lat Phrao Road, Klongjui,  
Bangkapi, Bangkok, 10240, Thailand.  
Tel : +662 769 8440 / 8441, Fax : +662 731 0224  
Email : renobkk@renoxss.com

Renox Stainless Steel Sdn Bhd  
30, Jalan Kuchai Maju 6, Kuchai Entrepreneur's Park,  
Off Jalan Kuchai Lama, 58200 Kuala Lumpur, Malaysia.  
Tel : +603 7983 1087, +603 7971 1815, Fax : +603 7983 1079  
Email : renomsia@renoxss.com

PT Renox Indonesia  
Ruko Mega Interkan, Blok W 4/No. 14, Jl Raya Jaglo, Srengseng,  
Jakarta Barat, 11630 Indonesia.  
Tel : +6221 5890 8333, Fax : +6221 586 6241  
Email : indonesia@renoxss.com

*Natural philosophy*



IPL-PHARMA LINE

IPL-PHARMA LINE

[www.renoxss.com](http://www.renoxss.com)





*In 35 anni abbiamo plasmato una nuova identità di produzione sulle materie plastiche, fatta di anima e mente, tecnologia e passione. Tutti i risultati raggiunti nel corso degli anni sono sempre stati in linea con quanto prefissato, grazie a una serie di interventi quali importanti piani di investimento, ammodernamento di tutti gli impianti produttivi, e una significativa implementazione dei sistemi informatici. Siamo una squadra collaudata il cui principale obiettivo è*

*In 35 years we have moulded a totally new concept of plastic materials manufacturing, made of soul and mind, technology and passion. Our dreams of yesterday led us to a reality with ambitious objectives, ready to face global market's challenges. All the results achieved during the past years have always been aligned with what stated before, thanks to substantial investments, the modernization of all production plants and a significant implementation of computerized*

*rispondere in modo sempre più tempestivo ed efficace alle richieste e problematiche di ogni cliente: per questo al centro di ogni nostro planning non possono mancare un'accurata selezione e formazione del personale, un aggiornamento costante sulla ricerca progettuale e sulle metodologie di produzione, e lo sviluppo di un dettagliato programma di informazione a fianco di ogni nostro prodotto, per garantire sempre la migliore tecnologia con la massima fruibilità.*

*systems. We're a proven team whose main purpose is to respond to our customers' requirements and problem-solving needs quickly and effectively: therefore, each one of our development plans always include accurate recruiting and training programmes, a continuous update on research, development and production methods, and the issue of detailed information along with every single product, in order to ensure always the best technology with maximum usability.*

*In 35 Jahre hat IPL ein neues Konzept der Kunststoffverarbeitung entwickelt, geprägt aus Herz und Kopf, Technologie und Leidenschaft.*

*Alle in diesen Jahre erreichten Erfolge sind dank wichtiger und gezielter Investitionen im Produktions- und EDV Bereich verwirklicht worden. Hauptziel eines bewährten Teams ist eine immer pünktliche und genaue*

*Lösung aller Kundenanfragen. Unsere Kernvorgabe ist eine sorgfältige Auswahl, Schulung und Weiterbildung kompetenter Mitarbeiter, ständige Forschung und Entwicklung neuer Herstellverfahren und Entwerfen detaillierter Informationen für jedes Produkt um somit immer die fortgeschrittenste Technologie mit bester Anwendbarkeit zu gewähren.*





INDUSTRIE

PLASTICHE

LOMBARDE

INDICE INDEX INHALT

COMPANY PROFILE	2
CERTIFICATES	4
ARIANNA BIO	6
PHARMASTEEL	7
PHARMASTEEL PRESS HT	8
VULCANO PU HD5 15 ET	9
PLUTONE PU PRESS RS	10
PHARMAPRESS HT	11
SMOOTHFLEX	12
SILPRESS W	13
SAFEFLEX REUSABLE	14
SAFEFLEX S.R.S.	15



Nel settore farmaceutico le certificazioni sono tanto importanti quanto il tubo in sé. L'idoneità del componente è infatti subordinata alla conformità con i requisiti riconosciuti a livello internazionale. L'intera gamma IPL-Pharmaline è certificata perché possa essere impiegata sia in ambito farmaceutico e alimentare. Le certificazioni USP classe VI Pharmacopeia, 2002/72/CE e FDA Regulations (Title 21 CFR 177.2600) sono rinnovate costantemente e messe a disposizione dei clienti.

In the pharmaceutical sector certifications are as important as the hose itself. The suitability of the component is in fact subordinated to the compliance with the international recognised requirements. All the products of IPL-Pharmaline are certified in order to be matched both in the pharmaceutical and in the food applications. The certifications USP class VI Pharmacopeia, 2002/72/CE and FDA Regulations (Title 21 CFR 177.2600) are renewed constantly and put to the clients disposal.

Die Zertifizierungen im Pharmabereich sind so wichtig wie der Schlauch selbst. Die Konformität des Komponenten ist, nämlich von der Übereinstimmung mit den internationalen Voraussetzungen abhängig. Die ganze IPL-Pharmaline ist zertifiziert, um sowohl in der Pharma- als auch in der Lebensmittelindustrie eingesetzt zu werden. Die Zertifikate USP Klasse VI Pharmacopeia, 2002/72/CE und FDA Regulations (Title 21 CFR 177.2600) werden ständig erneuert und dem Kunden zur Verfügung gestellt.

**neutron**  
INDUSTRIAL PLASTIC LUBRICANT HOSE

Test Report nr. 11A03882-01-0

Customer: ...  
Material: ...  
Test conditions: ...

Material	Test	Result	Unit	Remarks
Polyethylene	...	...	...	...
Polypropylene	...	...	...	...
PTFE	...	...	...	...

## PROPERTIES OF IPL PHARMACEUTICAL HOSES

	PHARMA PRESS HA OI	PHARMA STEEL HS OI
<b>STERILIZABLE WITH</b>		
ETHYLENE OXIDE GAS (ETO)	YES	YES
STEAM AT 121°C <sup>1)</sup>	YES	YES
STEAM AT 134°C <sup>1)</sup>	NO	NO
GAMMA RADIATION <sup>2)</sup>	YES	YES
ELECTRON BEAM	YES	YES
HOT AIR <sup>2)</sup>	NO	NO

## COMPLIANCE WITH REGULATION FOR FOOD CONTACT AND PHARMACEUTICAL PRODUCTS

EUROPEAN DIRECTIVE 2002/72/CEE AS EMENDED, CE REGULATION N° 1831/2004	YES	YES
FOR-CFR 21 PARTS 170-199	YES	YES
USP XXXII ED. 2009 PAR. 88 CLASS VI	YES	YES
ISO 10993-10:2002/RMO 1:2006	YES	YES
ISO 10993-11:2006	YES	YES

### Note

- 1) The standard method in autoclave is: 121°C (1,1 bar) for 15-20 min or 134°C (2,1 bar) for 5-7 min (see also EN 285, EN 554, EN 556). The number of cycles is 1.
- 2) As a rule, a radiation dose of < 25 KGy (< 2,5 Mrad) is sufficient for sterilization. In the SI System the Unit is Gray (1 Gy = 100 rad). Rad is a old unit (Radian).



**Certis** LABORATORIO PER LA CERTIFICAZIONE E RICERCA SU SISTEMI ELASTOMERICI con il patrocinio del C.A.B.

**Certis** To: **INDUSTRIE PLASTICHE LOMBARDE S.p.A.**  
Via Leonardo Da Vinci, 13C

Date: 27<sup>th</sup> July, 2010 TR n° 455/2010  
Ref. Your Ord. without number dated 07.07.10 [21023 BESOGNO VIA]  
Received: 06.07.2010 Start tests: 15.07.2010 End tests: 26.07.2010 Page 1 of 1

### TEST REPORT

**Subject:** DETERMINATION OF THE TOTAL EXTRACTIVES IN THE SIMULATOR OF FOODS, ACCORDING TO PHA ON A LINED OF A THERMOPLASTIC RUBBER HOSE

Line	PHARMASIL/TPU	Test methods	Requirements
<b>Line</b> <b>Thermoplastic Rubber Hose</b>			
<b>AQUEOUS FOODS</b>			
Distilled water at reflux temperature		FDA Title 21 Parts 170 to 199 Item 177.2600 (c)	
Total extractives during the first 7 hours of extraction	mg/L <sup>1</sup> 0,48		max 20
Total extractives during the succeeding 2 hours of extraction	mg/L <sup>1</sup> 0,29		max 1
<b>FATTY FOODS</b>			
n-Hexane at reflux temperature		FDA Title 21 Parts 170 to 199 Item 177.2600 (f)	
Total extractives during the first 7 hours of extraction	mg/L <sup>2</sup> 8,61		max 175
Total extractives during the succeeding 2 hours of extraction	mg/L <sup>2</sup> 1,01		max 4

**STATEMENT:** The total extractives in the simulator of foods meet the FDA Specifications CFR 21 - Parts 170 to 199 - Item 177.2600, therefore the hose is suitable to come into contact with aqueous and fatty foods only if the lining has been manufactured using in the quality and quantity only the ingredients catalogued in the positive lists of the mentioned FDA.

We certify that the results are for the Customer.  
We certify that the results are for the Customer only.  
We certify that the results are for the Customer only.

*E. Saloner, Operator* *F. Magni, Director*

20090 San Donato Milanese - Via private Dantesca 12 - Tel. (02) 49.80.400 - Fax (02) 49.80.470 - E-Mail: C.A.B. 000000000000

**biochem** ANALISIBIOPACIFICHE MICROBIOLOGICHE BIOCOMPATIBILITA' CONSULENZA TECNICA BIOTECNOLOGIE

Receives: **Industrie Plastiche Lombard S.p.A.**  
Via S. da Vinci 13C  
20143 20143 20143

Sole Provider, 21/01/2010  
Ref. Your Order N.209/PM/2010 of the 21/09/10  
REPORT N°1741-A/10

CONFORMITY TO USP XXXII 54.2009 CLASS VI AND OTHER NORMATIVE REFERENCES

**Test Substances**  
Description: PHARMA STEEL PRESS HT  
Code: 24 80 422-1 204-3  
Lot: 05 7545/01 del 21/09/2010  
Sterilization:  
Remain number: 1797-2  
Remain date: 27/09/2010  
Sampling carried out by: Industrie Plastiche Lombard S.p.A.

**Scope**  
The samples above described were submitted to the tests listed in Table in order to demonstrate their biocompatibility according to USP XXXII 54, 2009 Class VI and other normative references.

**Table**

Test	Test Report	Normative references
Cellulose ester solubility test in the rabbit	1797-1/10	USP XXXII 54, 2009 209 10950-10: 2045/10: 2045/10
Acute systemic toxicity test in the mouse	1797-2/10	ACTM P 710-02 USP XXXII 54, 2009 209 10950-11: 2045/10
Implantation test in the rabbit	1797-3/10	USP XXXII 54, 2009

**CONCLUSIONS**  
Referring to the above listed Test Reports the Test Substances meet the requirements of USP Class VI and considered normative references.

Study Director: **Giuseppe Bazzoli, Ch. Sup.** *Giuseppe Bazzoli*

Report N°1741-A/10 Page 1/1

biochem - Via private Dantesca 12 - Tel. (02) 49.80.400 - Fax (02) 49.80.470 - E-Mail: C.A.B. 000000000000  
www.biochem.com - E-Mail: info@biochem.com

PHARMA PRESS HT HH 01	PHARMASTEEL PRESS HT HT	PHARMA SIL/TPU HT	PLUTONE PU PRESS PH 01 <sup>4)</sup>	PHARMASIL/TPU PI 01
YES	YES	YES	YES	YES
YES	YES	NO	NO	NO
YES	YES	NO	NO	NO
YES	YES	YES	YES	YES
YES	YES	YES	YES	YES
NO	NO	NO	NO	NO
YES	YES	YES	YES	YES
YES	YES	YES	YES	YES
YES	YES	YES	YES	YES
YES	YES	YES	YES	YES
YES	YES	YES	YES	YES

of sterilization cycles which a pharmaceutical hose can withstand depends on various factors, such as service conditions, presence of mechanical stresses etc.  
 3) It is normally made at 160°C for one hour or 180 °C for 30 min 4) It is also available in antistatic version, info on request.



## FOOD AND PHARMACEUTICAL ARIANNA BIO



### ARIANNA BIO

**Colour:** transparent with polyester reinforcement

**Temperature:** -10°C + 60°C

**Technical features:** flexible hose produced with Biovinyl® and high tenacity polyester reinforcement. Completely free of phthalates. Resistant to several chemicals and to weather conditions.

**Biovinyl®:** revolutionary bio-based compound, obtained from natural energy sources, which production and dismantling allow to save CO2 emissions.

**Standards:** suitable to deliver foodstuffs according to Reg. EU 10/2011 (classes A,B, C) and to FDA Regulations.

**Application:** ideal solution for suction and delivery of food liquids, beverages, fruit juices, wine and liquors with up to 20% alcohol concentration. It is often used for filling machines and dispensers.

See recommendations for technical suitability

IPL products are manufactured under GMP - Good Manufacturing Practice - according to Regulation (CE) N. 2023/2006 regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

Date: 8th June 2012 - Revision 05 replacing previous editions.

**Connection Systems:** REUSABLE SYSTEM , S.R.S / CRIMPED

## Technical Data

Part number	inside Ø	outside Ø	wieght	working pressure	bursting pressure	bending radius	coil length	Volume
	mm	mm	g/m	bar	bar	mm	m	m <sup>3</sup>
B1 01 006.0 012.0	6	12	105	20	60	30	100	0,025
B1 01 008.0 014.0	8	14	125	20	60	40	100	0,032
B1 01 010.0 016.0	10	16	150	16	48	50	100	0,041
B1 01 012.0 018.0	12	18	175	12	36	60	100	0,050
B1 01 013.0 019.0	13	19	185	11	33	70	100	0,058
B1 01 016.0 022.0	16	22	220	10	30	80	50	0,041
B1 01 019.0 026.0	19	26	300	9	27	100	50	0,075
B1 01 025.0 033.0	25	33	445	8	24	130	50	0,107
B1 01 030.0 038.0	30	38	520	6	18	150	50	0,135
B1 01 032.0 042.0	32	42	705	5	15	160	50	0,146
B1 01 038.0 048.0	38	48	820	4	12	190	50	0,271
B1 01 040.0 050.0	40	50	855	4	12	200	50	0,303
B1 01 050.0 062.0	50	62	1280	4	12	250	50	0,391





## FOOD AND PHARMACEUTICAL PHARMASTEEL



### PHARMASTEEL

**Color:** transparent with stainless steel spiral to facilitate flow controls.

**Temperature range:** -30°C + 125°C. For cleaning and disinfecting, consult IPL's cleaning instructions. We do not recommend the use of SIP cleaning, which can severely impair the hose life.

**Technical features:** flexible hose made from TPE hygienic rubber reinforced by stainless steel spiral. Inside and outside completely smooth to enhance flow properties and allow easy cleaning and sterilization processes.

**Tube features:** the extruded, low porosity TPE tube reduces permeation problems. Highly neutral in taste and odor, it preserves the organoleptic properties of the medium. Good chemical resistance to acids and alkaline solutions and good impermeability. Versatile rubber resistant also to oils and fats under common use conditions.

**Cover features:** excellent resistance to ozone, ageing and weather condition.

**Standards:** Food grade according to the EU Regulation n° 10/2011, FDA regulations (Title 21 CFR 177.2600, aqueous foods (e)). Compliant with the pharmaceutical standards USP CLASS VI. Resistant to hydrolysis and proliferation of bacteria.

**Curing-free material:** PharmaSteel does not need any vulcanization process, therefore it prevents the risk of leaching of curing agent residues into the end product (peroxide or platinum volatile rests). It allows to save energy sources and limit CO2 emissions.

**Application:** versatile suction and delivery hose designed to convey food, cosmetic, health care and pharmaceutical products. Suitable for a manifold range of media such as premium wines, fruit juices, vinegar, spirits with alcoholic content up to 50%, creams, soaps, milk and by-products; also resistant to products containing oils and fats in accordance with EU Regulation n° 10/2011.

See recommendations for technical suitability.

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

Date: 8th March 2012 - Revision 02 replacing previous editions.

**Connection Systems:** REUSABLE SYSTEM, S.R.S / CRIMPED

## Technical Data

Part number	Inside Ø	Outside Ø	Weight	Working pressure	Bursting pressure	Vacuum	Bending radius	Roll length	Volume
	mm	mm	g/m	bar	bar	mH2O	mm	m	m <sup>3</sup>
HS 01 013.0 019.0	13	19	175	2.7	13.5	8.5	60	60	0.038
HS 01 016.0 022.4	16	22.4	220	2.3	11.5	8.5	70	60	0.048
HS 01 019.0 026.0	19	26	265	2.3	11.5	8.5	90	60	0.071
HS 01 025.0 033.0	25	33	400	1.5	7.6	8.5	110	60	0.111
HS 01 032.0 040.4	32	40.4	520	1.5	7.6	8.5	140	60	0.171
HS 01 013.0 019.0	38	47	635	1.2	6.2	8.5	170	30	0.114
HS 01 051.0 061.0	51	61	1035	1.0	4.8	8	230	30	0.213



## FOOD AND PHARMACEUTICAL ARIANNA BIO



### ARIANNA BIO

**Colour:** transparent with polyester reinforcement

**Temperature:** -10°C + 60°C

**Technical features:** flexible hose produced with Biovinyl® and high tenacity polyester reinforcement. Completely free of phthalates. Resistant to several chemicals and to weather conditions.

**Biovinyl®:** revolutionary bio-based compound, obtained from natural energy sources, which production and dismantling allow to save CO2 emissions.

**Standards:** suitable to deliver foodstuffs according to Reg. EU 10/2011 (classes A,B, C) and to FDA Regulations.

**Application:** ideal solution for suction and delivery of food liquids, beverages, fruit juices, wine and liquors with up to 20% alcohol concentration. It is often used for filling machines and dispensers.

See recommendations for technical suitability

IPL products are manufactured under GMP - Good Manufacturing Practice - according to Regulation (CE) N. 2023/2006 regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

Date: 8th June 2012 - Revision 05 replacing previous editions.

**Connection Systems:** REUSABLE SYSTEM , S.R.S / CRIMPED

## Technical Data

Part number	inside Ø	outside Ø	wieght	working pressure	bursting pressure	bending radius	coil length	Volume
	mm	mm	g/m	bar	bar	mm	m	m <sup>3</sup>
B1 01 006.0 012.0	6	12	105	20	60	30	100	0,025
B1 01 008.0 014.0	8	14	125	20	60	40	100	0,032
B1 01 010.0 016.0	10	16	150	16	48	50	100	0,041
B1 01 012.0 018.0	12	18	175	12	36	60	100	0,050
B1 01 013.0 019.0	13	19	185	11	33	70	100	0,058
B1 01 016.0 022.0	16	22	220	10	30	80	50	0,041
B1 01 019.0 026.0	19	26	300	9	27	100	50	0,075
B1 01 025.0 033.0	25	33	445	8	24	130	50	0,107
B1 01 030.0 038.0	30	38	520	6	18	150	50	0,135
B1 01 032.0 042.0	32	42	705	5	15	160	50	0,146
B1 01 038.0 048.0	38	48	820	4	12	190	50	0,271
B1 01 040.0 050.0	40	50	855	4	12	200	50	0,303
B1 01 050.0 062.0	50	62	1280	4	12	250	50	0,391





## FOOD AND PHARMACEUTICAL VULCANO PU HDS 15 ET



### VULCANO HDS 15 ET

**Color:** translucent with zinc colored steel spiral.

**Temperature Range:** - 40°C+90°C, (+125°C short time).

**Features:** ether based polyurethane hose reinforced with a high adhesion coppered steel wire. Smooth inside to ensure optimization of flow properties. Resistant to microbes and Hydrolysis. Good resistance to mineral oils and chemicals, excellent resistance to ozone and weather. Suitable to deliver dry food stuffs in accordance with EU Regulation 10/2011 and FDA Regulations (title 21 CFR 177.2600) regulations. Very flexible even at low temperatures, better than a comparable ester based hose. Halogen free and conform to RoHS regulations. Antistatic by grounding the spiral in conformity with TRB S 2153 regulations. Flame retardant according with UL 94 HB.

**Application:** suction and transport hose in the Food and Pharmaceutical Industry. For street cleaning vehicles, in the chemical industry, and for all applications where microbes resistance is required.

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

**Connection Systems:** UNIVERSAL CONNECTION SYSTEM, BRIDGE W2, DOUBLE BRIDGE W4

## Technical Data

Part Number	Inside ø	Min. wall thickness	Weight	Vacuum	Bending radius	Roll length	Volume
	mm	mm	g/m	mH <sub>2</sub> O	mm	m	m <sup>3</sup>
VI 01 038.0 000.0	38	1,50	465	9,5	40	20	0,074
VI 01 040.0 000.0	40	1,50	485	9,5	50	20	0,077
VI 01 045.0 000.0	45	1,50	545	9,0	50	20	0,090
VI 01 050.0 000.0	50	1,50	600	9,0	60	20	0,099
VI 01 051.0 000.0	51	1,50	610	9,0	60	20	0,106
VI 01 060.0 000.0	60	1,50	710	8,5	70	20	0,122
VI 01 063.0 000.0	63	1,50	745	8,0	70	20	0,148
VI 01 065.0 000.0	65	1,50	765	7,5	70	20	0,152
VI 01 070.0 000.0	70	1,50	925	7,5	80	20	0,165
VI 01 075.0 000.0	75	1,50	985	7,0	80	20	0,176
VI 01 076.0 000.0	76	1,50	995	7,0	90	20	0,232
VI 01 080.0 000.0	80	1,50	1045	6,0	90	20	0,254
VI 01 090.0 000.0	90	1,50	1170	5,0	100	20	0,294
VI 01 100.0 000.0	100	1,50	1295	4,0	120	15	0,281
VI 01 102.0 000.0	102	1,50	1320	3,5	120	15	0,286
VI 01 110.0 000.0	110	1,50	1420	3,2	130	15	0,307
VI 01 120.0 000.0	120	1,50	1545	3,0	140	15	0,333

## FOOD AND PHARMACEUTICAL PLUTONE PU PRESS AS



### PLUTONE PU PRESS AS

**Colour:** translucent with stainless steel spiral.

**Temperature Range:** - 40°C +90°C (+125°C peaks).

**Features:** either based polyurethane hose reinforced with stainless steel helix. the material is antistatic according to TRB S 2153, conductivity 10 ext 8 Ohm/meter. By earthing of the spiral the hose is electrical conductive. Completely smooth inside and outside to ensure optimization of flow properties and for a easy and effective cleaning before and after using. It can be used in the pharmaceutical industry according Pharma USP CLASSE VI regulation. Food grade in accordance with EU Regulation 10/2011 (for further details see the Information Sheet). Odorless, it doesn't change the organoleptical properties of the delivered materials. Very good hydrolysis and microbes resistance. Flexible and not heavy though its wall thickness. Good resistance to mineral oils and chemicals, excellent resistance to ozone, weather and aging. Halogen free and conform to RoHS regulations.

**Applications:** suction and transport hose for the pharmaceutical and the food industry pulvers( pills and other granules, pharmaceutical solutions, food flours, drinks, wine, vinegar and spirits with max 20% alcohol content). High speed delivery of pulvers with generation of electrical charges. Wherever a microbes resistance is required.

Plutone PU Press AS does not need any vulcanization process nor any risk of outgassing of peroxide or platinum volatiles components is possible, should it be used at high temperatures and low pressures.

Unlike silicone hoses, it does not need post curing treatment.

Plutone PU Press offers a higher level of hygiene than those silicone hoses that are not subjected to this process. For further information see post curing & post vulcanization ( in &ldquo;cleaning & sterilization procedures for pharma hoses - further information &rdquo; section).

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

**Connection Systems:** REUSABLE SYSTEM , S.R.S / CRIMPED

## Technical Data

Part number	Inside Ø	Outside Ø	Weight	Working pressure	Bursting pressure	Vacuum	Bending radius	Roll length	Volume
	mm	mm	g/m	bar	bar	mH <sub>2</sub> O	mm	m	m <sup>3</sup>
PN 02 013.0 023.5	13	23.5	365	19	57	10	65	60	0.085
PN 02 020.0 032.0	20	32	585	19	57	10	100	60	0.127
PN 02 025.0 037.5	25	37.5	750	12	36	10	125	60	0.159
PN 02 032.0 044.0	32	44	880	11	33	9	160	60	0.218
PN 02 038.0 051.0	38	51	1110	10	30	9	190	30	0.233
PN 02 050.0 065.0	50	65	1695	10	30	8	250	30	0.291



FOOD AND PHARMACEUTICAL  
PHARMAPRESS HT

## PHARMAPRESS HT

**Color:** translucent with yarn to facilitate flow controls.

**Temperature range:** -30°C + 135°C. For cleaning and disinfecting, consult IPL's cleaning instructions. We do not recommend the use of SIP cleaning, which can severely impair the hose life.

**Technical features:** flexible, lightweight hose made from TPE hygienic rubber reinforced by high tenacity polyester plies. Inside and outside completely smooth to enhance flow properties and allow easy cleaning and sterilization processes.

**Tube features:** the extruded, low porosity TPE tube reduces permeation problems. Highly neutral in taste and odor, it preserves the organoleptic properties of the medium. Good chemical resistance to acids and alkaline solutions, good degree of abrasion resistance and impermeability.

**Cover features:** excellent resistance to ozone, ageing and weather with built-in marking to prevent easy removal and ensure traceability also after repeated use.

**Standards:** Food grade according to the EU Regulation 10/2011, FDA regulations (Title 21 CFR 177.2600). Compliant with the pharmaceutical standards USP CLASS VI. Resistant to hydrolysis and proliferation of bacteria.

**Curing-free material:** Pharmapress HT does not need any vulcanization process, therefore it prevents the risk of leaching of curing agent residues into the end product (peroxide or platinum volatile rests). It also allows to save energy sources and limit CO2 emissions.

**Application:** ideal solution to deliver cosmetic, health care, food and pharmaceutical products. For premium wines, fruit juices, vinegar, spirits with max. 50% alcohol content, creams, soaps, aromas, pigments. Not for fatty foods.

See recommendations for technical suitability

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

Date: 8th March 2012 - Revision 02 replacing previous editions.

**Connection Systems:** REUSABLE SYSTEM, S.R.S / CRIMPED

## Technical Data

Codice	Ø inside	Ø outside	Weight	Work. Pressure	Bending R.	Coil length	Volume
	mm	mm	g/m	bar	mm	m	m <sup>3</sup>
HH 01 006.4 012.6	6.4	12.6	85	12	40	100	0.028
HH 01 007.9 014.6	7.9	14.6	110	15	60	100	0.036
HH 01 009.5 016.3	9.5	16.3	125	14	70	100	0.042
HH 01 012.7 020.1	12.7	20.1	175	10	90	100	0.061
HH 01 015.9 024.4	15.9	24.4	245	9	110	50	0.051
HH 01 019.0 027.9	19	27.9	295	9	130	50	0.087
HH 01 025.4 024.5	25.4	34.5	390	7	180	50	0.110

FOOD AND PHARMACEUTICAL  
SMOOTHFLEX

## SMOOTHFLEX

**Colour:** white, totally smooth.

**Temperature range:** -54°C +135°C. Suitable for intermittent SiP cycles. For cleaning and disinfecting, consult IPL's cleaning instructions for pharmaceutical hoses. Not for continuous steam transfer.

**Technical features:** virgin PTFE-lined flexible hose, smooth version, with stainless steel 316L braid and thermoplastic hygienic cover. The hose is designed to withstand long and stressing services in manifold applications where working conditions (pressure, temperature and chemicals) can reach demanding levels. Smoothflex retains a good degree of flexibility in spite of the PTFE tubing which is, for hygienic reasons, not convoluted.

**Tube features:** extruded, non-stick PTFE liner, smooth, to facilitate the flow of the product under high purity conditions. The added values of low porosity and impermeability make Smoothflex ideal for pharmaceutical processing, since the inner surface does not trap any bacteria.

**Cover features:** TPE cover, pharma - grade to USP, totally smooth to prevent the release of particles which can pollute the working area. High resistance to ageing, weather, ozone, detergents; the "curing-free" outer material is a benefit for pharmaceutical applications.

**Standards:** the hose is suitable for the installation in pharmaceutical and food sectors according to Pharmacopoeia USP Class VI, FDA Regulations and to EU Regulation 10/2011 (for further details see the Information Sheet).

**Application:** for severe services in the pharmaceutical, food and chemical sectors. Also suitable to deliver viscous fluids such as paintings and adhesives. Available in sizes ranging from ID 6 mm to ID 25mm.

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

See recommendations for technical suitability

Date: 22nd March 2012 - Revision 01 replacing previous editions.

**Connection Systems:** SAFEFLUOR

## Technical Data

Part number	inside Ø	outside Ø	Weight	WP	BP	Vacuum	Bending R.
	mm	mm	g/m	bar	bar	mH <sub>2</sub> O	mm
FW ST 006.4 000.0	6.4	12.5	160	207	827	10	76
FW ST 009.5 000.0	9.5	17.5	275	155	621	10	114
FW ST 012.7 000.0	12.7	20.3	320	103	414	10	165
FW ST 019.1 000.0	19.1	28.6	545	76	303	7	208
FW ST 025.4 000.0	25.4	36.5	820	62	248	4.9	254





## FOOD AND PHARMACEUTICAL SILPRESS W



### SILPRESS W

**Colour:** clear, low volatile grade silicone.

**Temperature range:** -60°C +180°C. Suitable for intermittent Steam-in-Place and autoclaving. For cleaning and disinfecting, consult IPL's cleaning instructions for pharmaceutical hoses. Not for continuous steam transfer.

**Technical features:** Platinum-cured silicone hose with a versatile and robust design, reinforced by polyester plies and stainless steel Aisi 316L spiral. Engineered to offer high pressure and vacuum capability.

**Tube features:** the ultra-smooth extruded tube made of high purity silicone compound reduces the risk of bacteria buildup and permeation of residues and make Silpress W the ideal solution for hygienic contact with the medium while being transferred. The internal surface does not impart odor or taste and preserves the organoleptic properties of the product.

**Cover features:** the inert cover withstands atmospheric attack, ozone, temperature variations, chemical substances. The hose undergoes certified post-curing treatment which guarantees no release of volatile polluting particles and safeguards the hygiene of the processing environment. Glossy finish with ink marking meeting food regulations.

**Standards:** compliant with American Pharmacopoeia USP CLASS VI and European Pharmacopoeia 3.1.9.; non- cytotoxic according to ISO 10993-5 ; for food delivery, it meets FDA Regulations (Title 21 CFR 177.2600 aqueous (e) and fatty (f) foods )) as well as the EU Regulation 1935/2004 and DM 21.3.73 (for further details see the Information Sheet).

**Application:** ideal for critical product transfer in the pharmaceutical, cosmetic, biotech and food industry where high purity, resilience and good flexibility are demanded. Not for implantation.

\*\*In case of constant temperature exceeding +100C°, the pressure resistance decreases by 1% every additional 1°C. For support consult IPL.

Date: 22nd March 2012 - Revision 01 replacing previous editions.

See recommendations for technical suitability

IPL products are manufactured under GMP - Good Manufacturing Practice according to Regulation (CE) N. 2023/2006, regarding manufacturing good practice of materials and goods intended to come into contact with foodstuff.

## Technical Data

Part number	Ø inside	Ø inside	Wall thckn.	Ø outside	Weight	W. pressure	Burst. pressure	Vacuum	B.radius	Length	Volume
	inch	mm	mm	mm	g/m	Bar	Bar	mH2O	mm	m	m3
WK 01 012.5 000.0	1/2"	12.7	6.2	25.1	530	10	40	10	45	4	0.003
WK 01 019.0 000.0	3/4"	19.05	6.2	31.4	700	10	40	10	65	4	0.004
WK 01 025.0 000.0	1"	25.4	6.2	37.8	970	10	40	10	80	4	0.006
WK 01 032.0 000.0	1-1/4"	31.8	6.2	44.2	1050	10	40	10	120	4	0.008
WK 01 038.0 000.0	1-1/2"	38.1	6.2	50.5	1410	10	40	10	150	4	0.010
WK 01 051.0 000.0	2"	50.8	6.2	63.2	1660	10	40	10	180	4	0.016
WK 01 063.0 000.0	2-1/2"	63.5	6.2	75.9	2000	7	28	10	220	4	0.023
WK 01 076.0 000.0	3"	76.2	6.2	88.6	2430	4	16	10	250	4	0.031
WK 01 102.0 000.0	4"	101.6	6.2	114	3000	3	12	10	360	4	0.052



*Natural philosophy*



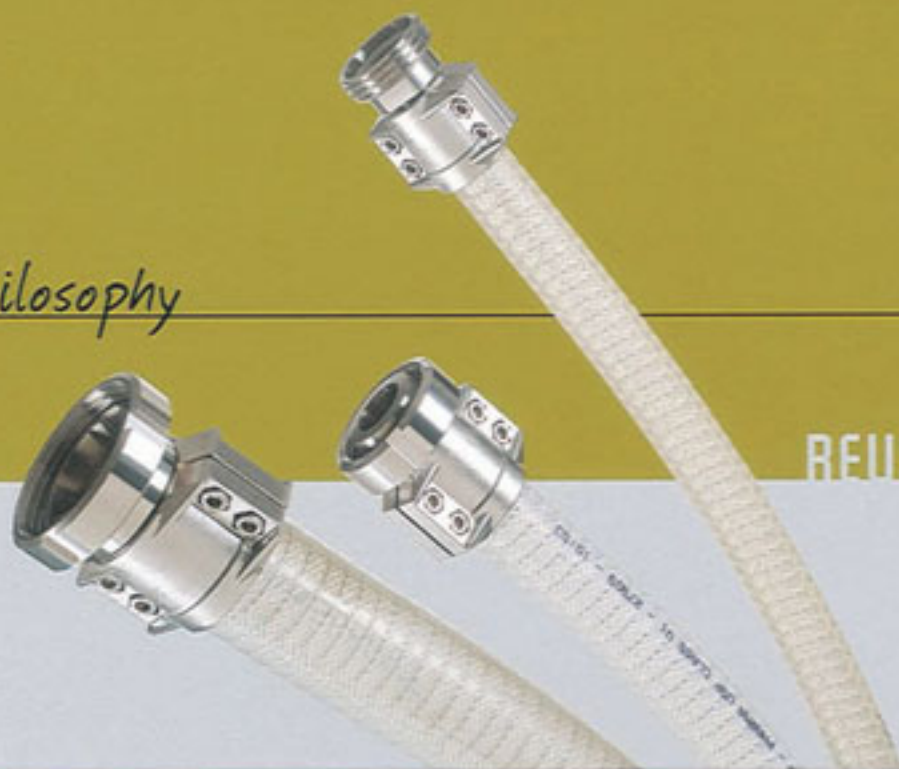
INDUSTRIE PLASTICHE LOMBARDE

*Natural philosophy*



SAFEFLEX

REUSABLE







INDUSTRIE PLASTICHE LOMBARDE

*Natural philosophy*

SAFEFLEX



S.R.S.





*Natural philosophy*





# RENOX

## RENOX STAINLESS STEEL COMPANY LIMITED

รีโนกซ์ สแตนเลส สตีล บจก.

2760, 2762 Ladphrao 130, Ladphrao Rd., Khlong Chan,  
Bangkapi, Bangkok 10240

2760, 2762 ลาดพร้าว 130 ถ.ลาดพร้าว แขวงคลองจั่น  
เขตบางกะปิ กรุงเทพมหานคร 10240

Tel. : +662 769 8440, +662 769 8441 Fax : +662 731 0224

E-mail : [renoxbkk@renoxss.com](mailto:renoxbkk@renoxss.com)

Sanitary Centrifugal  
Pumps



Sanitary Filters



Spray Balls



Sanitary Union Parts



[www.renoxss.com](http://www.renoxss.com) [www.renoxss.co.th](http://www.renoxss.co.th)  
[www.renoxss-thailand.com](http://www.renoxss-thailand.com)