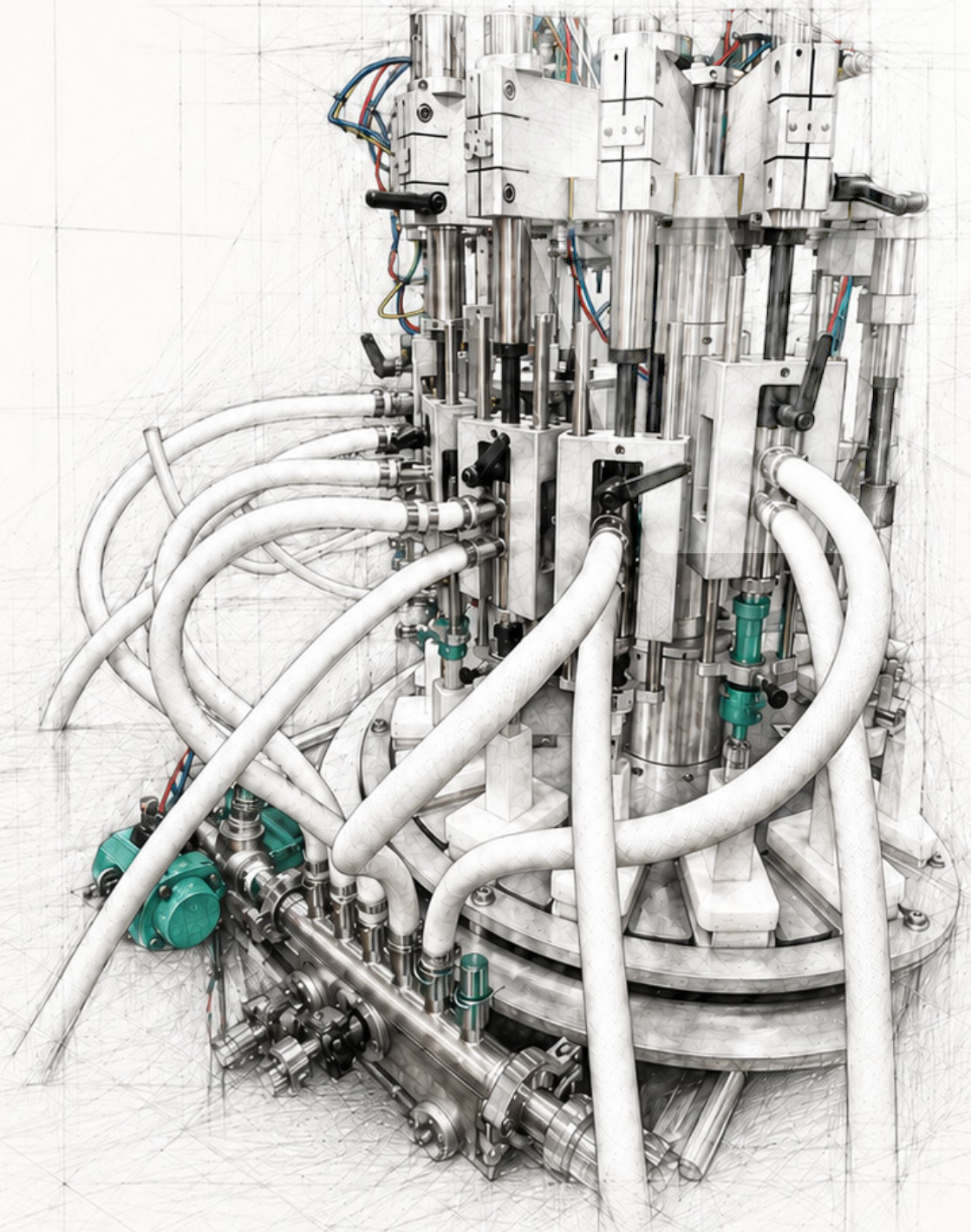
LIFE SCIENCES

Flexible hoses and fluid transfer solutions for life science



venair

Fluid solutions. Solid performance.

ABOUT US

At Venair, we design and manufacture fluid transfer solutions for critical applications across the world's most demanding industries.

With more than 40 years of experience and a presence in 104 countries, we support customers in Biopharma, Food & Beverage, Clean Energy and High Performance sectors through engineered products designed for reliability, safety and performance.

Our commitment to quality is backed by internationally recognized certifications, including ISO 9001, ISO 14001, ISO 13485 and IATF 16949. As a pioneer in hydrogen technologies, Venair became the first company in the world to obtain DNV certification for flexible tubes used in marine fuel cell applications.
Together, we help ensure the continuous operation of critical processes worldwide.

- ISO 9001
- ISO 14001
- ISO 13485
- IATF 16949
- DNV

venair
Fluid solutions. Solid performance.

WHY INDUSTRY LEADERS CHOOSE VENAIR

Innovation & Materials

- Advanced material development
- Hydrogen and clean energy technologies
- Continuous product innovation

Engineering Expertise

- Customized fluid transfer solutions
- Application-specific design
- Technical consulting and support

Quality & Validation

- Product testing and validation
- Industry-specific certifications
- Global quality standards

Manufacturing Excellence

- Custom and series production
- Advanced manufacturing processes
- Reliable global supply

LIFE SCIENCES

Life Sciences industries demand fluid transfer solutions that guarantee product integrity, process reliability and regulatory compliance. From pharmaceutical and biotechnology manufacturing to food, beverage and personal care production, every process requires materials and systems capable of meeting the highest standards of hygiene, safety and performance.

Modern production environments face increasingly demanding requirements regarding contamination control, traceability, cleaning validation and product quality. Whether handling sensitive biological products, pharmaceutical ingredients, food formulations or cosmetic compounds, fluid transfer components play a critical role in maintaining process consistency and protecting the final product.
Venair develops advanced hose and fluid handling solutions engineered for critical applications involving liquid, semi-liquid, powder and steam transfer. Our products support essential operations such as product transfer, dosing, filling, bioprocessing, CIP/SIP cleaning, temperature-controlled systems and contamination-sensitive environments.

Combining high-purity materials, complete validation packages and internationally recognized certifications, Venair helps manufacturers optimize process efficiency, ensure product quality and maintain compliance throughout the production lifecycle.

CONTENT INDEX:

1. BIOTECHNOLOGY 6

1.1 TUBING GUIDE 7

1.2 TUBING 12

1.3 BAGS 19

1.4 GMP – GRADE SINGLE-USE SYSTEM 23

2. PHARMA, FOOD & PERSONAL CARE 27

2.1-2.4 PRODUCTS 29

2.5 STERILIZATION & CLEANING 51

2.6 TRACEABILITY SOLUTIONS 53

2.7 STAINLESS STEEL CONNECTIONS 54

3. SPECIFICATION CHARTS 59

4. CHEMICAL COMPATIBILITY 68

1. PRODUCT INDEX

1. BIOTECHNOLOGY 6
- 1.2 TUBING 12
  - 1.2.1 FLOW RANGE 13
  - 1.2.2 BRAIDED RANGE 14
  - 1.2.3 VENABIO® FLEX 15
  - 1.2.4 VENABIO® PUMP 16
  - 1.2.5 VENABIO® FEP 17
  - 1.2.6 VENABIO® PTFE 18
- 1.3 BAGS 19
  - 1.3.1 NAKED BAGS 21
  - 1.3.2 BAG SYSTEM 22
- 1.4 GMP – GRADE SINGLE-USE SYSTEM 23

2. PHARMA, FOOD & PERSONAL CARE 27
- 2.1 LIQUID TRANSFER SOLUTIONS 29
  - 2.1.1 VENA® FOOD 30
  - 2.1.2 PHARMA RANGE 31
  - 2.1.3 VENA®PROCESS 33
- 2.2 CHEMICAL & FATS 35
  - 2.2.1 VENA® FLEXIP 36
  - 2.2.2 VENA® FLEXPURE 37
  - 2.2.3 VENAFLON® 38
  - 2.2.4 VENA® FLEXHOL 39
- 2.3 SOLID PROCESSING 40
  - 2.3.1 VENA® ABRASIL 41
  - 2.3.2 VENA® PUR 42
  - 2.3.3 SILICONE SLEEVES 43
  - 2.3.4 PHARMALOADER 44
- 2.4 THERMAL MANAGEMENT 45
  - 2.4.1 VENA® STEAMFLOW 46
  - 2.4.2 TELCRA® 47
  - 2.4.3 HEATED 48
  - 2.4.4 HEATED LITE 49
  - 2.4.5 COOLED 50

1.BIOTECHNOLOGY

Biotechnology processes require fluid transfer solutions capable of maintaining the highest levels of purity, consistency and process reliability. From cell culture and fermentation to downstream processing and final product manufacturing, every stage depends on materials designed to protect sensitive biological products and prevent contamination.

Venair develops advanced hose and fluid handling solutions for applications such as media preparation, filtration, chromatography, product transfer and CIP/SIP cleaning processes. Combining high-purity materials, complete validation packages and industry-recognized certifications, our products help manufacturers maintain product integrity, ensure regulatory compliance and optimize process performance.

SERVICES

- Own ISO 14644-1 Class 7 Clean room manufacturing
- Single Use User Requirements implementation
- Change notification process
- Active business continuity policies
- Certificate of Analysis per batch
- Certificate of compliance per product
- Biocompatibility studies
- Extractables studies
- Gamma irradiation (25-45 kGy)
- Sterile claim
- Integrity testing, performed on 100% of the products, in accordance with their respective specifications
- Batch release testing, including:
  - Endotoxin testing, in compliance with USP <85>
  - Subvisible particle testing, in compliance with USP <788>

PRODUCTS

- Medical-Grade Silicone tubing
- Thermoplastic tubing
- Fluoropolymer tubing
- Silicone overmolding
- 50mL to 500mL sampling 2D bags
- 1L to 50L bioprocessing 2D bags
- Pre-designed Single-Use (SU) systems
- Open architecture and customized design SU systems

1.1 TUBING GUIDE

VENABIO® TUBING range comprises all key materials in a broad selection of sizes. To select the right product for your application, check the following guides:

1.1.1 APPLICATION GUIDE

	Non-Reinforced Tubing									Single- Braided	Double-Braided
	Venabio Flow Pumpgrade	Venabio Flow Multipurpose	Venabio Precision 50	Venabio Precision 60	Venabio Flow 70	Venabio Flex	Venabio Pump	Venabio PTFE	Venabio FEP	Venabio Technosil	Venabio Technosil Plus
Material Type	Silicone	Silicone	Silicone	Silicone	Silicone	TPE	TPV	Fluoropolymer	Fluoropolymer	Silicone	Silicone
Hardness	50shA	60shA	50shA	60shA	70shA	70shA	68shA	56shD	56shD	70 shA	70shA
Flexibility	+++	+++	+++	+++	++	++	+++	+	+	++	+++
Appearance	Transparent	Transparent	Transparent	Transparent	Transparent	Translucent	Opaque	Translucid	Transparent	Translucent	Transclucent
Aseptic Sealing and welding	NO	NO	NO	NO	NO	YES	YES	NO	NO	NO	NO
Peristaltic pump life	++	+	++	+	NR	++	+++	NR	NR	NR	NR
Extraction profile	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
High pressure resistant	NO	NO	NO	NO	NO	NO	NO	YES	YES	YES	YES
Autoclave Sterilization	YES	YES	YES	YES	YES	YES	YES*	YES	YES	YES	YES
Gamma Sterilization	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES
Molded assemblies	YES	YES	YES	YES	YES	NO	NO	NO	NO	YES	YES
Max Temp [°C]	220	220	220	220	220	135	135	205	205	180	180
Min Temp [°C]	-60	-60	-60	-60	- 60	- 30	-45	-200	-200	- 60	-60
Chemical compatibility	See Chemical Compatibility Chart										

1.1.2 SIZE GUIDE

Standard size guide, non-reinforced tubing

ID (mm/pulg)	OD (mm/pulg)	Wall Thickness (mm/pulg)	Venabio Flow Pump-Grade	Venabio Flow Multipurpose	Venabio Flow 70shA	Venabio Precision 50	Venabio Precision 60	Venabio FLEX	Venabio PUMP	Venabio FEP	Venabio PTFE
0,80 (1/32")	1,60 (1/16")	0,40 (1/64")								X	X
0,80 (1/32")	2,40 (3/32")	0,80 (1/32")	X	X	X						
0,80 (1/32")	4,00 (5/32")	1,60 (1/16")	X	X	X		X				
1,20 (≈3/64")	4,40 (≈11/64")	1,60 (≈1/16")		X		X	X				
1,60 (1/16")	3,20 (1/8")	0,80 (1/32")	X	X	X				X	X	X
1,60 (1/16")	4,80 (3/16")	1,60 (1/16")	X	X	X		X		X		
1,60 (1/16")	6,40 (1/4")	2,40 (3/32")	X	X					X		
2,40 (3/32")	4,00 (5/32")	0,80 (1/32")	X	X	X						
2,40 (3/32")	5,60 (7/32")	1,60 (1/16")	X	X	X						
3,00 (≈1/8")	5,00 (≈13/64")	1,00 (≈3/64")									X
3,20 (1/8")	4,80 (3/16")	0,80 (1/32")	X	X	X						
3,20 (1/8")	6,40 (1/4")	1,60 (1/16")	X	X	X			X	X	X	

ID (mm/pulg)	OD (mm/ pulg)	Wall Thick-ness (mm/ pulg)	Venabio Flow Pump-Grade	Venabio Flow Multi-purpose	Venabio Flow 70shA	Venabio Precision 50	Venabio Precision 60	Venabio FLEX	Venabio PUMP	Venabio FEP	Venabio PTFE
3,20 (1/8")	7,90 (5/16")	2,35 (3/32")	X	X	X				X		
3,20 (1/8")	9,50 (3/8")	3,15 (1/8")	X	X	X						
4,00 (5/32")	5,60 (7/32")	0,80 (1/32")	X	X	X						
4,00 (5/32")	6,00 (≈15/64")	1,00 (≈3/64")								X	X
4,00 (5/32")	7,10 (9/32")	1,55 (1/16")	X	X	X						
4,00 (5/32")	8,70 (11/32")	2,35 (3/32")	X	X	X						
4,00 (5/32")	10,00 (≈25/64")	3,00 (≈1/8")	X	X							
4,80 (3/16")	6,40 (1/4")	0,80 (1/32")	X	X	X						
4,80 (3/16")	6,80 (≈17/64")	1,00 (≈3/64")		X						X	X
4,80 (3/16")	7,90 (5/16")	1,55 (1/16")	X	X	X			X	X	X	X
4,80 (3/16")	8,80 (≈11/32")	2,00 (≈5/64")	X				X				
4,80 (3/16")	9,50 (3/8")	2,35 (3/32")	X	X	X				X		
4,80 (3/16")	11,10 (7/16")	3,15 (1/8")	X	X	X						
6,00 (≈15/64")	8,00 (≈5/16")	1,00 (≈3/64")								X	X
6,40 (1/4")	7,90 (5/16")	0,75 (1/32")	X	X	X						
6,40 (1/4")	8,40 (≈21/64")	1,00 (≈3/64")								X	X
6,40 (1/4")	9,50 (3/8")	1,55 (1/16")	X	X	X			X	X		
6,40 (1/4")	11,10 (7/16")	2,35 (3/32")	X	X	X			X	X	X	X
6,40 (1/4")	12,70 (1/2")	3,15 (1/8")	X	X	X			X	X		
7,90 (5/16")	11,10 (7/16")	1,60 (1/16")	X	X	X				X		
7,90 (5/16")	12,70 (1/2")	2,40 (3/32")	X	X	X			X	X		
7,90 (5/16")	14,30 (9/16")	3,20 (1/8")	X	X	X						
8,00 (≈5/16")	12,80 (≈1/2")	2,40 (≈3/32")	X								
9,50 (3/8")	12,70 (1/2")	1,60 (1/16")	X	X	X				X		
9,50 (3/8")	14,30 (9/16")	2,40 (3/32")	X	X	X			X	X		
9,50 (3/8")	15,90 (5/8")	3,20 (1/8")	X	X	X			X	X	X	
9,50 (3/8")	19,10 (3/4")	4,80 (3/16")	X								
9,50 (3/8")	22,20 (7/8")	6,35 (1/4")	X								
11,10 (7/16")	14,30 (9/16")	1,60 (1/16")	X	X	X						
11,10 (7/16")	15,90 (5/8")	2,40 (3/32")		X							
12,70 (1/2")	14,70 (≈37/64")	1,00 (≈3/64")								X	X
12,70 (1/2")	15,90 (5/8")	1,60 (1/16")	X	X	X						
12,70 (1/2")	17,50 (11/16")	2,40 (3/32")	X	X	X				X		
12,70 (1/2")	19,10 (3/4")	3,20 (1/8")	X	X	X			X	X		
12,70 (1/2")	22,20 (7/8")	4,75 (3/16")	X	X							
15,90 (5/8")	22,20 (7/8")	3,15 (1/8")	X	X	X				X		
15,90 (5/8")	25,40 (1")	4,75 (3/16")	X	X					X		
19,10 (3/4")	25,40 (1")	3,15 (1/8")	X	X	X			X	X		
19,10 (3/4")	28,60 (1 1/8")	4,75 (3/16")	X	X	X				X		
22,20 (7/8")	28,60 (1 1/8")	3,20 (1/8")	X	X							
22,20 (7/8")	31,80 (1 1/4")	4,80 (3/16")	X	X							
25,40 (1")	31,80 (1 1/4")	3,20 (1/8")	X	X							
25,40 (1")	34,90 (1 3/8")	4,75 (3/16")	X	X							
25,40 (1")	38,10 (1 1/2")	6,35 (1/4")	X	X	X						

*For more diameters consults our sales representatives

ID (mm/pulg)	OD (mm/ pulg)	Wall Thick-ness (mm/ pulg)	Venabio Flow Pump-Grade	Venabio Flow Multi-purpose	Venabio Flow 70shA	Venabio Precision 50	Venabio Precision 60	Venabio FLEX	Venabio PUMP	Venabio FEP	Venabio PTFE
8.0 (5/16)	12.4 (1/2)	2.2 (10/127)				X	X				
9,5 (3/8)	11,5 (29/64)	1 (3/76)								X	X
9,5 (3/8)	12,7 (1/2)	1,6 (1/16)	X	X	X						
9,5 (3/8)	14,3 (9/16)	2,4 (3/32)	X	X	X			X	X		
9,5 (3/8)	15,9 (5/8)	3,2 (1/8)	X	X	X			X	X		
10 (37/94)	12 (43/91)	1 (3/76)								X	X
11,1 (7/16)	14,3 (9/16)	1,6 (1/16)	X	X	X						
12 (43/91)	14 (43/78)	1 (3/76)								X	X
12,7 (1/2)	14,7 (37/64)	1 (3/76)								X	X
12,7 (1/2)	15,9 (5/8)	1,6 (1/16)	X	X	X						
12,7 (1/2)	17,5 (11/16)	2,4 (3/32)	X	X	X						
12,7 (1/2)	19,1 (3/4)	3,2 (1/8)	X	X	X			X	X		
12,7 (1/2)	22,2 (7/8)	4,8 (3/16)	X	X	X						
15,9 (5/8)	22,2 (7/8)	3,2 (1/8)	X	X	X						
19,1 (3/4)	25,4 (1)	3,2 (1/8)	X	X	X						
19,1 (3/4)	28,6 (1 1/8)	4,8 (3/16)	X	X	X						
25,4 (1)	31,8 (1 1/4)	3,2 (1/8)	X	X	X						
25,4 (1)	34,9 (-)	4,8 (3/16)	X	X	X						
25,4 (1)	38,1 (1 1/2)	6,4 (1/4)	X	X	X						

1.1.3 SIZE GUIDE Venabio® Technosil

ID	OD	Wall	Venabio®Technosil
3.2 (1/8)	9.5 (3/8)	3.15 (1/8)	X
4.8 (13/64)	11.1 (7/16)	3.15 (1/8)	X
6.35 (1/4)	12.7 (1/2)	3.18 (1/8)	X
7.93 (5/16)	14.3 (9/16)	3.19 (1/8)	X
9.52 (3/8)	15.9 (5/8)	3.19 (1/8)	X
12.7 (1/2)	22.2 (7/8)	4.75 (3/16)	X
15.87 (5/8)	25.4 (1)	4.77 (3/16)	X
19.05 (3/4)	28.6 (1 1/8)	4.78 (3/16)	X
22.22 (7/8)	31.8 (1 1/4)	4.79 (3/16)	X
25.4 (1)	34.9 (1 3/8)	4.75 (3/16)	X
31.75 (1 1/4)	41.25 (1 5/8)	4.75 (3/16)	X

1.1.4 SIZE GUIDE Double Braided

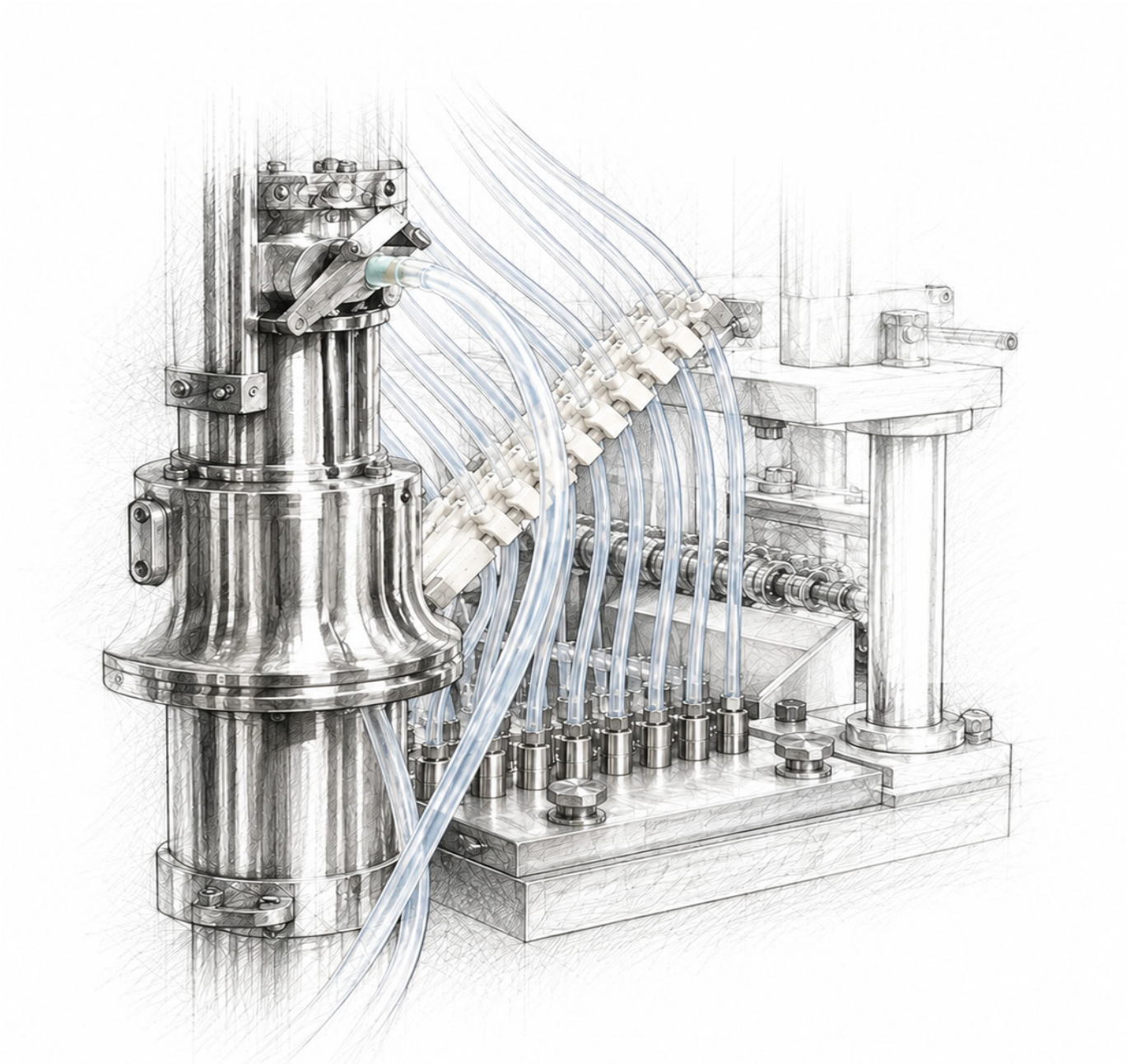
ID	OD	Wall	Venabio® Double Braided
5.10 (1/5)	13.10 (33/64)	4.00 (3/19)	X
6.40 (1/4)	16.10 (45/71)	4.85 (17/89)	X
7.90 (5/16)	18.00 (17/24)	5.05 (1/5)	X
9.50 (3/8)	20.00 (37/47)	5.25 (6/29)	X
12.70 (1/2)	22.70 (42/47)	5.00 (12/61)	X
15.90 (5/8)	27.10 (1 1/15)	5.60 (15/68)	X
19.10 (3/4)	30.60 (1 17/83)	5.75 (12/53)	X
22.20 (7/8)	33.20 (1 4/13)	5.50 (21/97)	X
25.40 (1)	37.00 (1 37/81)	5.80 (8/35)	X
28.00 (1 4/39)	41.60 (1 44/69)	6.80 (15/56)	X
31.80 (1 1/4)	46.10 (1 22/27)	7.15 (9/32)	X

1.1.5 Regulatory guide of the raw material/final products

Contact Layer Material	Vena Silicone Tech 50		Vena Silicone Tech 60		Vena Silicone Tech 70			Vena TPE Flex Tech	Vena TPV Tech 65	Vena PTFE Tech	Vena FEP Tech
Certified information	Flow Pumpgrade	Precision 50	Flow Multipurpose	Precision 60	Venabio Technosil Plus	Flow 70	Venabio Technosil	FLEX	PUMP	PTFE	FEP
Animal derived component free (ADCF)	X	X	X	X	X	X	X	X	X	X	X
GMO free	X	X	X	X	X	X	X	X	X	X	X
Phthalate-free	X	X	X	X	X	X	X	X	X	X	X
Bisphenol free (BPA)	X	X	X	X	X	X	X	X	X	X	X
Nitrosamines free	X	X	X	X	X	X	X	X	X	X	X
BSE/TSE free (BSE/TSE)	X	X	X	X	X	X	X	X	X	X	X
Materials in contact with food EU No 1935/2004 (Eu No 10/2011)	X	X	X	X	X	X	X	X		X	X
BfR recommendation XV (BfR XV)	X	X	X	X	X	X	X				

Contact Layer Material	Vena Silicone Tech 50		Vena Silicone Tech 60			Vena Silicone Tech 70		Vena TPE Flex Tech	Vena TPV Tech 65	Vena PTFE Tech	Vena FEP Tech
Silicone Elastomer for Closures and Tubing (EP 3.1.9.)	X	X	X	X	X	X	X				
Rubber articles intended for repeated use (FDA 21CFR177.2600)	X	X	X	X	X			X			
Rubber articles intended for repeated use (FDA 21CFR177.2600) Section (e) and (f).						X	X				
Perfluorocarbon resins (FDA 21CFR177.1550)										X	X
Bacterial endotoxins (USP 85)	Batch specific testing, conducted according to product specifications										
Biological reactivity, in vitro (USP 87)	X	X	X	X	X	X	X	X			
Biological reactivity, in vivo, Class VI (USP 88)	X	X	X	X	X	X	X	X	X	X	X
Particulate matter in injections (USP 788)	Batch specific testing, conducted according to product specifications										
Hemolysis (ISO 10993-4)	X	X	X	X	X	X	X	X			
Cytotoxicity (ISO 10993-5)	X	X	X	X	X	X	X	X			
Irritation and delayed type hypersensitivity (ISO 10993-10)	X	X	X	X	X	X	X	X			
Systemic toxicity (ISO 10993-11)	X	X	X	X	X	X	X	X			
Biological Evaluation of Medical Devices (ISO 10993-23)						X	X	X			
REACH Compliant	X	X	X	X	X	X	X	X	X	X	X
RoHS Compliant	X	X	X	X	X	X	X	X	X	X	X

1.2 TUBING



Tubing plays a critical role in pharmaceutical, biotechnology and laboratory processes where product purity, flexibility and process reliability are essential. From media transfer and sampling operations to peristaltic pumping and single-use systems, tubing must maintain the integrity of sensitive fluids while meeting stringent regulatory requirements.

Venair develops high-performance tubing solutions designed for bioprocessing, pharmaceutical manufacturing and laboratory applications. Manufactured from high-purity materials and supported by comprehensive validation packages, our tubing products help ensure product quality, process consistency and regulatory compliance throughout the production lifecycle.

1.2.1 FLOW RANGE

Silicone tubing is the basic material upon which any single-use process is built. Its excellent overall performance, resistance to temperature, moisture, ozone and steam, and high biocompatibility make it the product of choice for all stages of bioprocessing.

VENABIO® PUMPGRADE

MATERIAL
Platinum cured silicone. Post-cured, decreasing greatly the number of volatile compounds in the final products.

TEMPERATURE
-60 °C/+220 °C (-76 °F/+428 °F)

HARDNESS
50±5 ShA

STANDARD MANUFACTURING LENGTH
Available in 15.24 m (50 ft).

BIOCOMPATIBILITY
- USP 88 Class VI
- USP 87
- ISO 10993-4,5, 10 & 11
- BfR XV
- EP 3.1.9
- FDA Standards 21 CFR 77.2600
- Extractables USP 665
- RoHS
- REACH (EC 1907/2006)

MORE PRODUCT OPTIONS

VENABIO® MULTIPURPOSE
HARDNESS
60±5 ShA

VENABIO® PRECISION 50
HARDNESS
50±5 ShA

VENABIO® PRECISION 60
HARDNESS
60±5 ShA

VENABIO® FLOW 70
HARDNESS
70±5 ShA

1.2.2 BRAIDED RANGE

Braided silicone tubing consists of a reinforced polyester yarn layer embedded between silicone layers, providing enhanced pressure resistance and mechanical strength while maintaining the flexibility and biocompatibility of silicone.

VENABIO® TECHNOSIL

MATERIAL
Silicone tubing with polyester reinforcement yarn.

TEMPERATURE
-60 °C/+180 °C (-76 °F/+356 °F)
Short peaks up to +200 °C (+392 °F).

HARDNESS
70±5 ShA

STANDARD MANUFACTURING LENGTH
Available in 15.24 m (50 ft).

BIOCOMPATIBILITY

- USP 88 Class VI
- USP 87
- ISO 10993-4,5, 10, 11 & 23
- BfR XV
- EP 3.1.9
- FDA Standards 21 CFR177.2600 Section (e) and (f)
- European Commission Regulation No. 10/2011 and Regulation No. 2016/1416, Regulation No. 2020/1245 and Regulation No. 1935/2004
- Extractables Studies according to USP 665
- RoHS (Restriction of Hazardous Substances) compliant.
- REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals (EC 1907/2006) compliant. None of the compounds used are listed as Substances of Very High Concern (SVHC).

MORE PRODUCT OPTIONS

VENABIO® TECHNOSIL PLUS
Silicone tubing with two polyester reinforcement yarn.

1.2.3 VENABIO® FLEX

VenaBio® Flex is a thermoplastic elastomer tubing engineered for biopharmaceutical single-use systems. Its heat-sealable and aseptic weldable design enables sterile disconnection and reconnection of fluid paths while maintaining process integrity. Combining excellent mechanical performance with reliable weldability, it provides a flexible solution for critical fluid transfer applications.

MATERIAL
Thermoplastic elastomer.

TEMPERATURE
-30 °C / +135 °C(-22 ˚F / +275 ˚F)

HARDNESS
70±5 ShA

STANDARD MANUFACTURING LENGTH
Available in 15.24 m (50 ft).

BIOCOMPATIBILITY
- EU 10/2011
- FDA 21 CFR 177.2600
- USP <87> Biological Reactivity test in Vitro
- USP <88> Class VI Certificate
- ISO 10993-4,5,10,11 & 23
- Extractables according to USP 665

APPLICATIONS
- Single-use fluid transfer systems
- Bioprocessing operations
- Aseptic welding applications
- Pharmaceutical manufacturing
- Biotechnology production processes.

1.2.4 VENABIO® PUMP

Designed for single-use biopharmaceutical applications requiring aseptic welding and extended pump life. Its thermoplastic construction enables sterile disconnection and reconnection while providing superior durability in long-duration peristaltic pump operations.

MATERIAL
Thermoplastic vulcanizate elastomer.

TEMPERATURE
-45 °C / +135 °C (-49 °F / +275 °F)

HARDNESS
68±5 ShA

STANDARD MANUFACTURING LENGTH
Available in 15.24 m (50 ft).

BIOCOMPATIBILITY
- USP <88> Class VI
- Restriction of Hazardous Substances (RoHS)
- REACH Registration, Evaluation, Authorization and Restriction of Chemicals (EC 1907/2006)

APPLICATIONS
- Single-use fluid transfer systems
- Peristaltic pump applications
- Aseptic welding and sealing processes
- Pharmaceutical and biotech manufacturing
- Filling and dosing operations
- Sterile process connections and reconnections

1.2.5 VENABIO® FEP

VenaBio® FEP is a high-performance fluoropolymer tubing designed for pharmaceutical and biopharmaceutical applications involving aggressive chemicals, pressurized gases and demanding process fluids. Its high transparency enables easy visual inspection, while its semi-flexible construction ensures reliable performance and easy installation in critical fluid transfer systems.

MATERIAL
FEP (Fluorinated ethylene propylene)

TEMPERATURE
-200 °C / +205 °C (-328 °F / +421 °F)

STANDARD MANUFACTURING LENGTH
Available in 7.62 m (25ft).

HARDNESS
56±5 ShD

BIOCOMPATIBILITY
- USP 88 (Class VI) – Raw material is compliant.
- Raw material is compliant.
- EC 1935/2004, EU 10/2011 Compliant.
- RoHS (Restriction of Hazardous Substances) Compliant
- TSCA (Toxic Substances Control Act) Compliant
- SVHC (Substances of Very High Concern) Compliant
- REACH (Registration, Evaluation, Authorization and restriction of Chemicals) Compliant
- Extractables according to USP 665

APPLICATIONS
- Aggressive chemical transfer
- Pressurized gas transfer
- Pharmaceutical manufacturing
- Biopharmaceutical processes
- High-purity fluid handling
- Critical fluid transfer systems
- Applications requiring visual flow inspection
- Abrasive fluid transfer applications

1.2.6 VENABIO® PTFE

VenaBio® PTFE is a fluoropolymer tubing specifically designed for pharmaceutical and biopharmaceutical applications involving aggressive chemicals, pressurized gases and abrasive process fluids. Its exceptional chemical resistance ensures safe and reliable fluid transfer in demanding environments, while its high transparency enables easy visual inspection of the product flow. The semi-flexible construction facilitates installation and integration into complex processing systems.

MATERIAL

PTFE (Polytetrafluoroethylene) fluoropolymer.

TEMPERATURE

-200 °C / +205 °C (-328 °F / +421 °F)

STANDARD MANUFACTURING LENGTH

Available in 7.62 m (25 ft).

HARDNESS

56±5 ShD

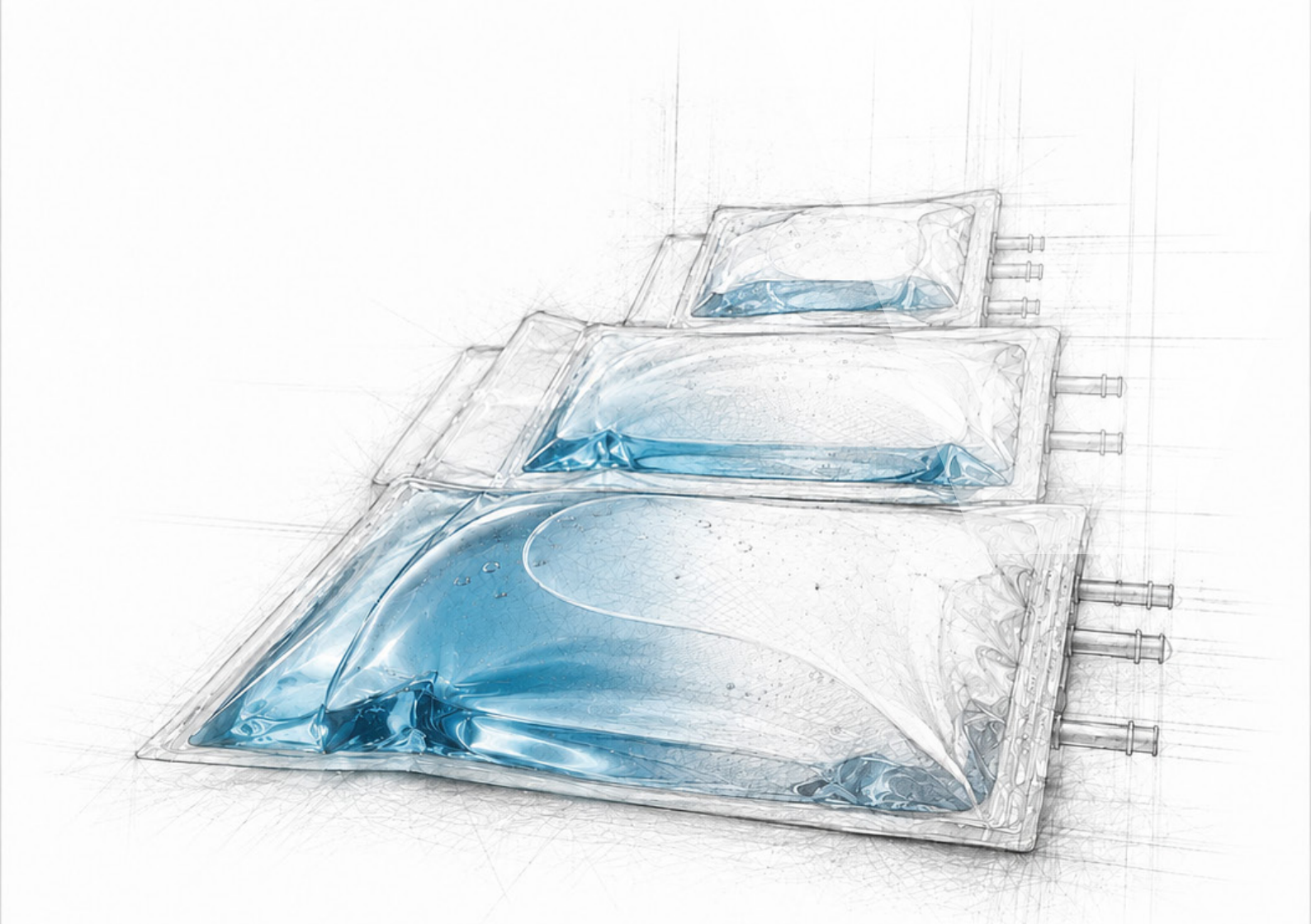
BIOCOMPATIBILITY

- USP 88 (Class VI) – Raw material is compliant
- FDA CFR 21 177.1550 – Raw material is compliant
- EC 1935/2004, EU 10/2011 Compliant
- RoHS (Restriction of Hazardous Substances) Compliant
- TSCA (Toxic Substances Control Act) Compliant
- SVHC (Substances of Very High Concern) Compliant
- REACH (Registration, Evaluation, Authorization and restriction of Chemicals) Compliant
- Extractables according to USP 665

APPLICATIONS

- Aggressive chemical transfer
- Pressurized gas transfer
- Abrasive particle handling
- Pharmaceutical and biopharmaceutical processes
- High-purity fluid transfer
- Process sampling and laboratory systems
- Applications requiring visual flow inspection

1.3 BAGS



Venair single-use bags provide a reliable solution for media and buffer preparation, storage, mixing and transportation in biopharmaceutical processes. Designed to improve productivity by eliminating cleaning validation requirements, they help reduce contamination risks and increase process flexibility.

Manufactured with high-performance multilayer films incorporating an EVOH barrier layer, our bags offer excellent protection against oxygen and moisture permeation. Available in multiple sizes and custom configurations, they can be supplied as standalone bags or integrated into complete single-use assemblies.

Film Material

2D Bags are available:
- Vena® PE RAD STAB-FILM
- FILM PE VENA® 1250

Film Specifications

PROPERTY	TEST PROTOCOL	VALUE
Mechanical properties after 25kGy gamma dose		
Film thickness	-	0,325 mm
Haze	ASTM D-1003	7%
Clarity	ASTM D-1003	97%
Transmittance	ASTM D-1003	93%
Tensile strength at break	ASTM D-882	13 MPa
Elongation at break	ASTM D-882	350%
Elastic modulus	ASTM D-882	270 MPa
Break at cold temperature	ISO 8570	below - 45°C
Density	ASTM D-792	0,9 g/cm3
Water vapour transmission rate at 23°C 100% RH	ASTM F-1249	0,32 g/(m2.day)
Oxygen permeability at 23°C 0% RH	ASTM D-3985	<0.05 cm3 /(m2.day.bar)
Carbon dioxide permeability at 23°C 0% RH	ASTM F-2476	<0.2 cm3 /(m2.day.bar)
Compliance and biocompatibility after 25kGy gamma dose		
	ADCF	Pass
	USP <85>	Pass
	USP <87>	Pass
	ISO 10993-4	Pass
	ISO 10993-5	Pass
	ISO 10993-6	Pass
	ISO 10993-10	Pass
	ISO 10993-10	Pass
	ISO 10993-11	Pass
	EP <3.1.3>	Pass
	EP <3.1.3>	Pass
	EP <3.1.3>	Pass
	EP <3.1.3>	Pass
	EP <3.1.3>	Pass

1.3.1 NAKED BAGS

We manufacture our sampling bags (50mL, 150mL, 250mL and 500mL) and bioprocessing bags (1 L, 2 L, 5 L, 10 L, 20 L and 50 L) in one of our ISO Class 7 cleanrooms in Barcelona, Spain.

Line	Volume	Ports	Quantity	Film	Description
Sampling	50mL	Injected PE boat weld with 2 ports of 3,2mm	1pc 10/pk 50/pk	Multilayer PE with oxygen barrier	Wide center hole with hard plastic support
	150mL				
	250mL				
	500mL				
Bioprocessing	1L	Injected PE boat weld with 3 ports of 1x 3.2mm 2x 6.4mm	1pc 10/pk 50/pk	Multilayer PE with oxygen barrier	Pair of self-supporting circular holes
	2L				
	5L				
Bioprocessing	10L	Injected PE boat weld with 3 ports of 1x 3.2mm 2x 9.5mm	1pc 10/pk 50/pk	Multilayer PE with oxygen barrier	Pair of self-supporting circular holes
	20L				
	50L				

1.3.2 BAG SYSTEM

TUBING AVAILABLE IN:

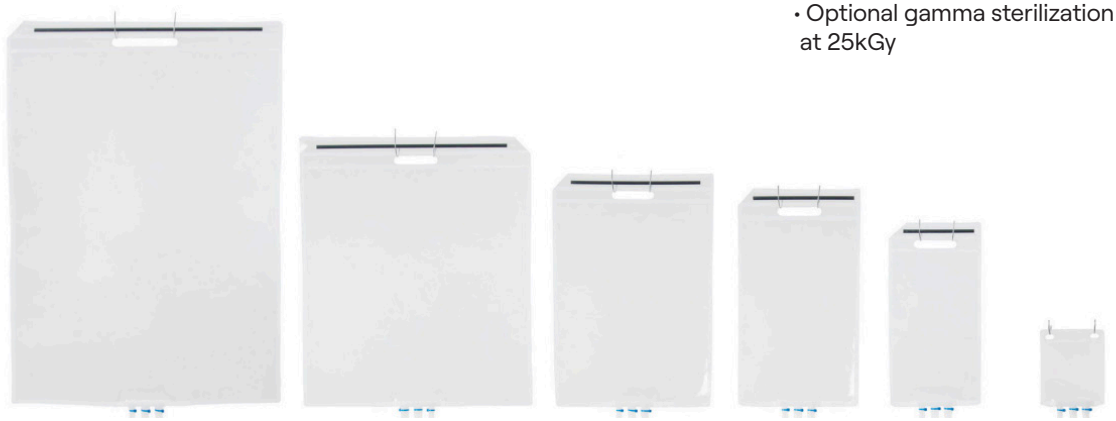
- VENABIO® FLOW
- VENABIO® PUMP
- VENABIO® FLEX

CONNECTORS AVAILABLE IN:

- Polypropylene
- Polycarbonate
- PVDF

UNDER DEMAND:

- Different combination of inlet/outlet
- Other port lengths and diameters
- Sanitary fitting triclamp 25mm
- Stainless steel band clamps
- Custom shapes and sizes
- Optional gamma sterilization at 25kGy



Volume	Port	Size	Length	Connections	Description
0,5L 2L 5L	Sampling Inlet Outlet	ID 3,20mm x OD 6,40mm ID 6,40mm x OD 9,50mm ID 6,40mm x OD 9,50mm	0,3m 0,3m 0,3m	LUER	Needlefree swabable valve female luer lock, Polycarbonate Male luer lock, Polycarbonate, cap included Female luer lock, Polycarbonate, cap included
0,5L 2L 5L	Sampling Inlet Outlet	ID 3,20mm x OD 6,40mm ID 6,40mm x OD 9,50mm ID 6,40mm x OD 9,50mm	0,3m 0,3m 0,3m	QUICK CONNECT	Needlefree swabable valve female luer lock, Polycarbonate RQC male quick connector, MPC compatible, Polypropylene, cap included RQC female quick connector, MPC compatible, Polypropylene, cap included
0,5L 2L 5L	Sampling Inlet Outlet	ID 3,20mm x OD 6,40mm ID 6,40mm x OD 9,50mm ID 6,40mm x OD 9,50mm	0,3m 0,3m 0,3m	TRICLAMP	Needlefree swabable valve female luer lock, Polycarbonate Sanitary fitting triclamp 50mm, Polypropylene Sanitary fitting triclamp 50mm, Polypropylene
10L 20L 50L	Sampling Inlet Outlet	ID 6,40mm x OD 9,50mm ID 9,50mm x OD 15,90mm ID 9,50mm x OD 15,90mm	0,3m 0,3m 0,3m	QUICK CONNECT	Needlefree swabable valve female luer lock, Polycarbonate RQC male quick connector, MPC compatible, Polypropylene, cap included RQC female quick connector, MPC compatible, Polypropylene, cap included
10L 20L 50L	Sampling Inlet Outlet	ID 6,40mm x OD 9,50mm ID 9,50mm x OD 15,90mm ID 9,50mm x OD 15,90mm	0,3m 0,3m 0,3m	TRICLAMP	Needlefree swabable valve female luer lock, Polycarbonate Sanitary fitting triclamp 50mm, Polypropylene Sanitary fitting triclamp 50mm, Polypropylene

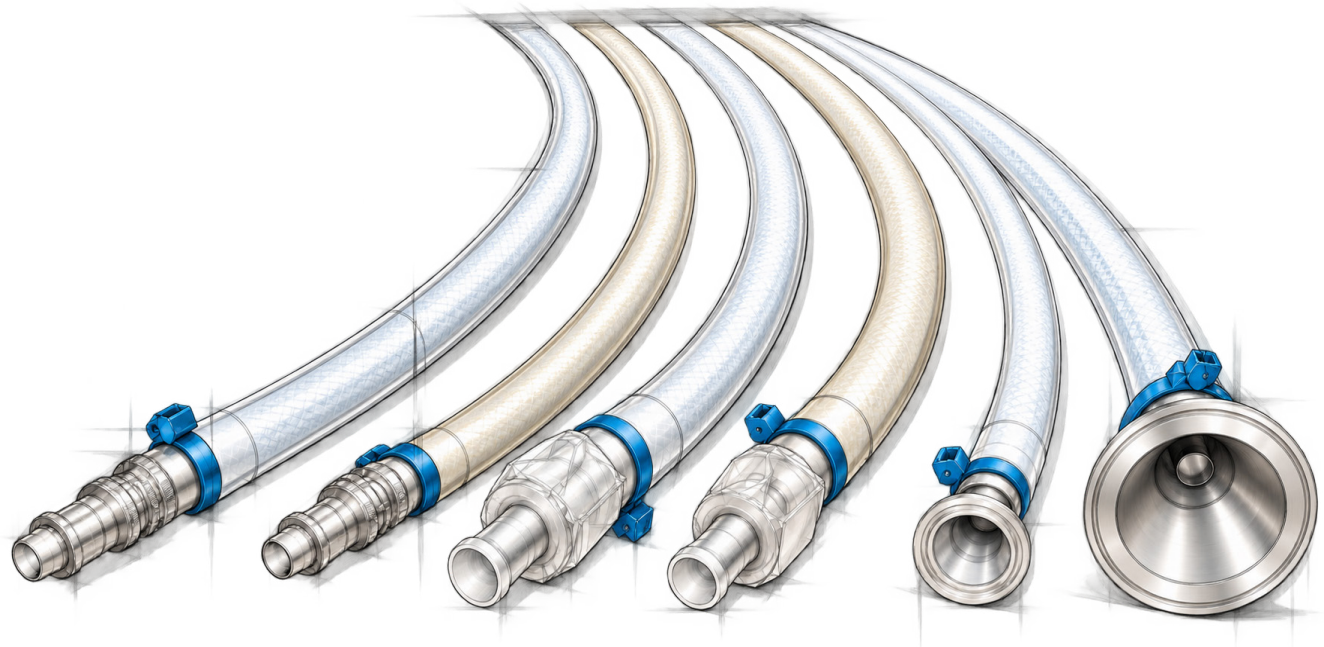
1.4 GMP – GRADE SINGLE- USE SYSTEM

We understand the importance of optimizing your bio-manufacturing processes to save time, space and resources, product quality, and scalability. That's why we offer both common and customized designs that are tailored to meet your unique facility needs and process parameters.

Our team of experts has years of experience designing and developing single use sytems that can be used in multiple unit operations with manual or automated filling. We provide flexible designs that enable you to choose the number and type of single- use bags/film technology, standard tubing, standard connectors, and equipment integration that best suits your needs.

- Transfer lines
- Y pump kits
- Sampling bottle manifolds
- Sampling bag assemblies
- Bottle seed train
- Storing bags up to 50L
- Filter and TFF kits
- Sensorized PUPSIT architecture with drain bags
- Filling lines with SS316L or PEEK needles
- Whole "tank-to-vial" filling assembly with RTP Beta bags

We understand that each facility has unique challenges, and we're here to help you overcome them. Our customizable single-use systems are designed to help you achieve the highest level of process optimization, so you can focus on what you do best: biomanufacturing.



1.5 CUSTOMIZED OPEN ARCHITECTURE

Our commitment to your success means that we offer direct access to experienced engineers who can help you with any questions or concerns you may have. We pride ourselves on providing quick prototyping and short lead times so that you can get your system up and running as soon as possible.

With our systems, you can transition seamblessly and scale efficiently. For this reason we offer our integration services in a wide range of regulatory profiles for every stage of your development:

Application	Level	Gamma 25kGy	Shelf life	Sterile claim	USP 85	USP 788	Integrity
Prototypes	0	-	-	-	-	-	-
Bioburden reduced	1	Yes	-	-	-	-	-
GMP grade	2	Yes	2 years*	Yes	-	-	-
GMP grade	3	Yes	2 years*	Yes	Lot release	Lot release	-
GMP grade	4	Yes	2 years*	Yes	Lot release	Lot release	Leak tested**
Customized	9	Any custom combination of services					

*Although VENAIR strives to offer a 2 year shelf life, there are instances when certain components may not have 2 years shelf life prior to manufacture of an assembly and the expiration date of the whole assembly is adjusted based on the component with the shortest shelf life. Regarding shelf life for sterility, there is currently a risk assessment that supports a 2 year period. Data from accelerated and real time aged sterile barrier system properties is currently being generated to back this claim.

** Pressure decay leak testing is performed partially or not performed at all when prohibited by the design.

COMPONENT LIBRARY

Tubing

Venabio® Multipurpose

Venabio® Precision 50

Venabio® Precision 60

Venabio® Flow 70

Venabio® Technosil

Venabio® Double Braided

Venabio® Flex

Venabio® Pump

Other brands available

PE/EVOH Bags

2 ports 3.2/3.2mm; 50mL to 500mL

3 ports 3.2/6.4/6.4mm; 1L to 5L

3 ports 3.2/9.5/9.5mm; 10L to 50L

Customized ports and shapes

Multiple brands available

Aseptic connectors and disconnectors

Genderless and high temperature options

TC and HB connections

Big range of dimensions

Sensors

Pressure, Flow, Conductivity

pH, Turbidity and Air detection

Multiple brands available

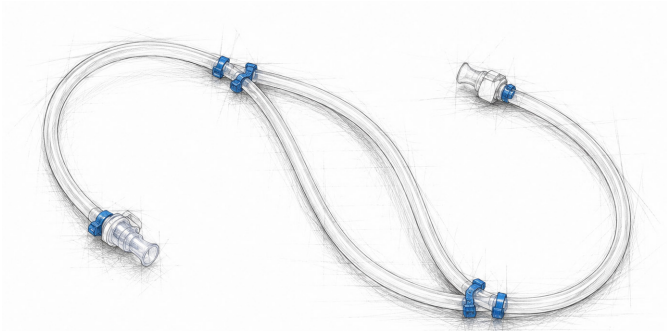
Single-use pump heads

Pulsation-free fast transfer

No protein aggregation

Low particle release

Ultra-low shear technology



Filters

Venting and Sterilization grade

TC and HB connectors

Hydrophobic and hydrophilic options

Gamma stable

Many materials, flow ranges and pore sizes

Multiple brands available

Bottles

PC and PET

PP Caps with 48mm or 70mm

2, 3 and 4 ports

50mL to 20L

Multiple brands available

Needles

Retro compatible with all filling machines

SS316L or PEEK

All flow ranges and sizes

Connections

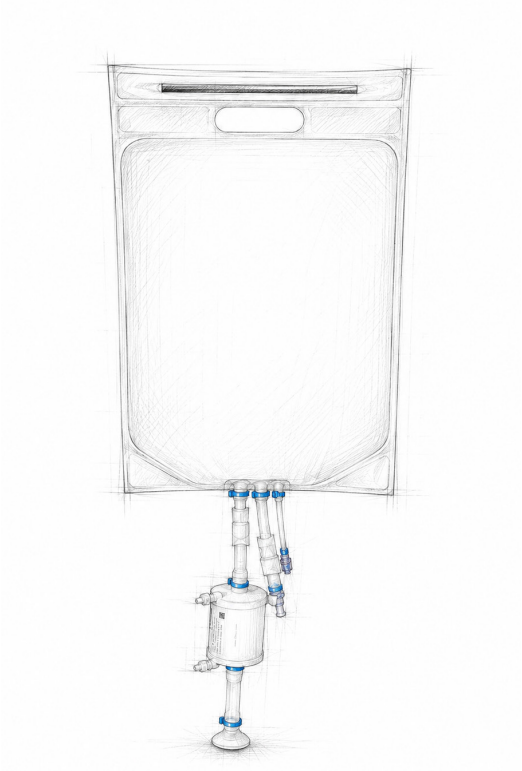
Luer Lock and Quick Connects

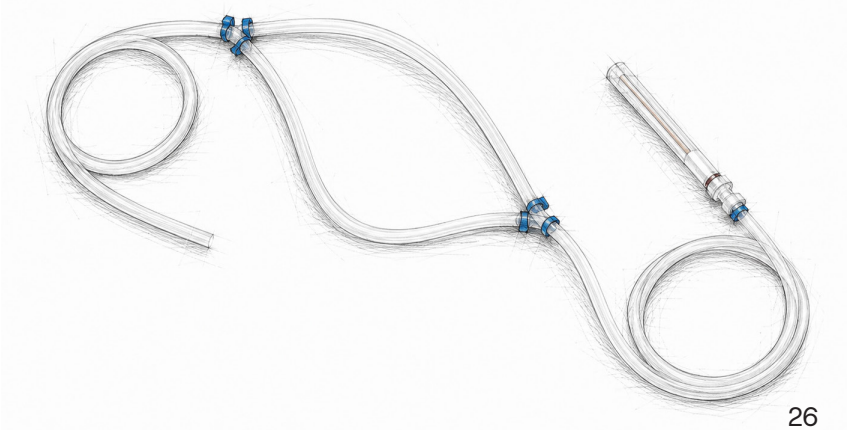
Straight adapters and reducers

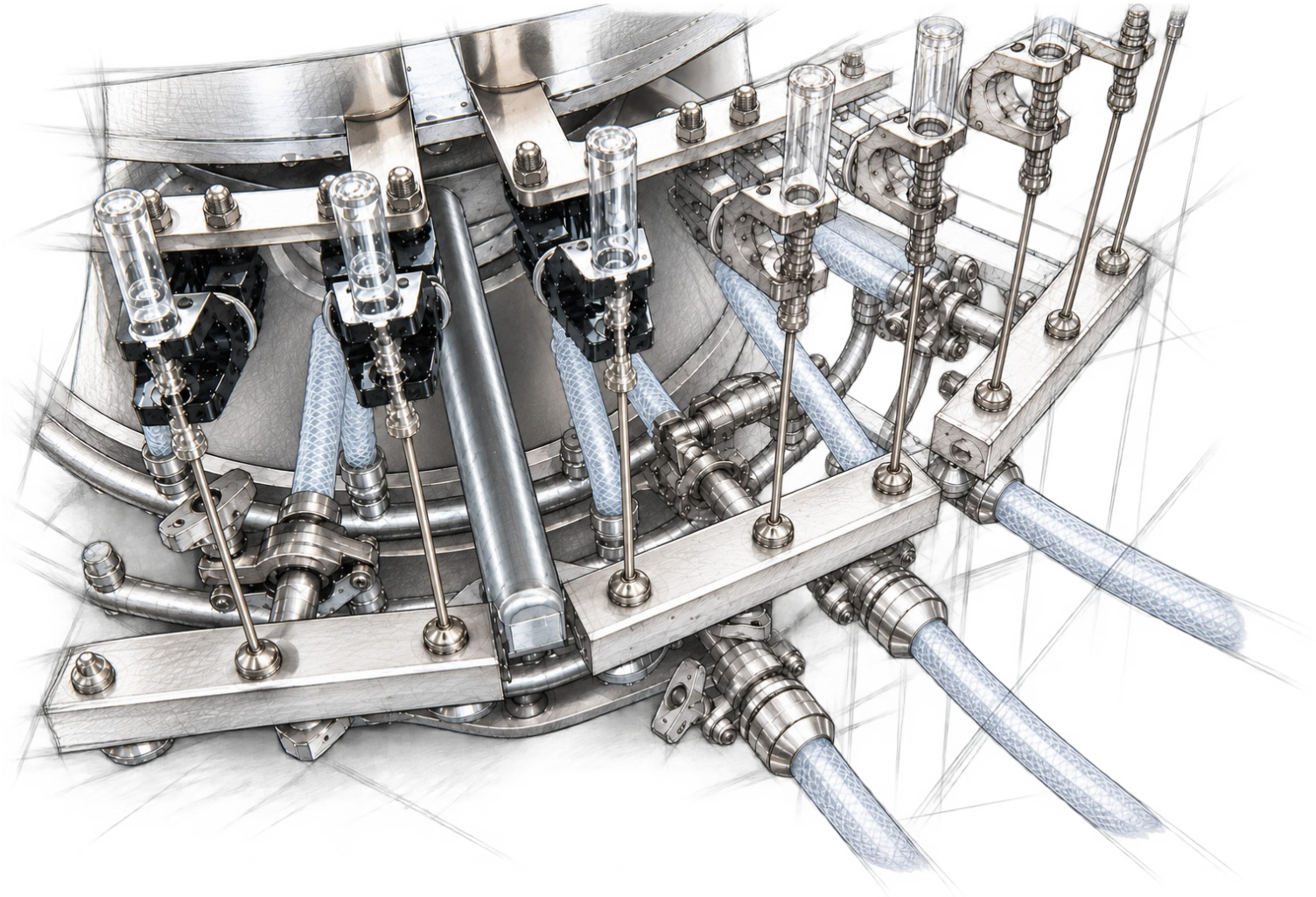
“Y”, “T” and “+”

TC and HB connections

Many materials, flow ranges and sizes







2. PHARMA, FOOD & PERSONAL CARE

At Venair, we develop high-purity fluid transfer solutions engineered for the most demanding Life Sciences applications. With decades of experience supporting pharmaceutical, biotechnology, food and personal care manufacturers, we provide customized hose systems, tubing, single-use assemblies and fluid handling solutions designed to ensure product integrity, process reliability and regulatory compliance.

Our products combine excellent mechanical performance, chemical compatibility and long-term durability, making them suitable for critical applications involving liquids, semi-liquids, powders and gases across a wide range of operating conditions. From upstream and downstream bioprocessing to filling, storage, temperature-controlled systems and product transfer, Venair helps optimize production processes while reducing maintenance requirements and minimizing downtime.

Whatever the fluid, process conditions or cleaning requirements, Venair delivers tailored solutions designed to improve operational efficiency and support the highest standards of quality and safety.

All Venair's pharma silicone range of products is made with a fully validated silicone.
From the simplest pharma application to the most technical bioprocess, Venair provides its product with the same and completely validated silicone, avoiding any cross contamination.

Under request, we can deliver our extensive leachables and extractables study.

Advantatges:

- Animal derived component free (ADCF).
- Platinum cured and post cured to reduce extractables levels.
- Gamma stable and autoclave.
- Low water absortion and low gas permeability rating.
- Minimal extractables help maintain fluid integrity.
- Documented biocompatibility for sensitive applications.

All our silicone products comply with the following regulations:

Reference	Title
(EU) No 10/2011 (EU) No 1935/2004	Plastic materials and articles intended to come into contact with food. Simulant B (3% Acetic acid asqueous solution) and Simulant D1 (50% ethanol)
FDA 21 CFR 177.2600	Rubber articles intended for repetead use, FDA ITEM 177.2600(e)
BfR recommendation XV	Recommendations on the health assessment of plastics and other high polymers
United States Pharmacopeia <88>	Biological reactivity tests, IN VIVO Class VI - 121°C
ISO 10993-4	Biological evaluation of medical devices- Part 4: Selection of tests for interactions with blood
ISO 10993-5 & USP <87>	Biological evaluation of medical devices- Part 5: Test in vitro cytotoxicity
ISO 10993-6	Biological evaluation of medical devices- Part 6: Tests for local effects after implantation
ISO 10993-10	Biological evaluation of medical devices- Part 10: Tests for irritation and skin sensitization
3A 18-03	Sanitary standard procedure N°18-03 Class I
European Pharmacopeia 3.1.9	Silicone elastomer for closures and tubing

2.1. LIQUID TRANSFER SOLUTIONS

Efficient and reliable fluid transfer is essential across pharmaceutical, biotechnology, food and personal care manufacturing processes. Whether handling high-purity ingredients, sensitive formulations, viscous products or process fluids, transfer systems must ensure product integrity, process efficiency and regulatory compliance.

Venair's liquid transfer solutions are engineered to meet the demanding requirements of hygienic industries, combining high-performance materials, excellent chemical compatibility and long-term durability. Designed for applications ranging from product transfer and dosing to filling and temperature-controlled processes, our hoses provide reliable performance under a wide range of operating conditions.

With a broad portfolio of validated solutions, Venair helps manufacturers optimize production processes, reduce downtime and maintain the highest standards of quality and safety.

2.1.1 VENA® FOOD

Butyl rubber hose

MATERIAL

Food grade butyl rubber and stainless steel spring wire and EPDM

TEMPERATURE

-20 °C/+100 °C
(-4 °F/+212 °F)
Peaks up to 130 °C (266 °F).

CERTIFICATIONS

- US FDA Standard 21 CFR 177.2600.
- 3A Sanitary Standard 18-03 Class III (hose).
- ResAp 2004 (5), according to Reg 1935/2004/EEC, and Reg 10/2011/EEC.
- German BfR Standard part XXI Cat 2.
- RoHS compliant
- PFA Free

STANDARD MANUFACTURING LENGTH

Available at a maximum length of 40 m (131.23 ft)

APPLICATIONS

- Milk and dairy products
- Chocolate and confectionery products
- Mineral water, beer and alcoholic beverages
- Fruit juices and edible oils
- Cosmetic creams and viscous products
- High-temperature food and cosmetic processing systems

2.1.2 VENA® PHARMA

Fabric and wire reinforced silicone hose

(former Vena® Sil 650V)

MATERIAL
Transparent platinum cured silicone + polyester fabric + stainless steel spring wire

TEMPERATURE
-55 °C/+180 °C
(-67 °F/+356 °F)

CERTIFICATIONS
- Complete validation package.
- 3A Sanitary standard 62-02 (Fitted hoses).
- RoHS compliant
- PFA Free

STANDARD MANUFACTURING LENGTH
4 m for ID < 16 mm (5/8")
6 m for ID ≥16 mm (5/8")

APPLICATIONS
- Liquid and semi-liquid fluid handling
- High-temperature transfer
- Suction and discharge systems
- Pharmaceutical, biotech and food proces-

CUSTOMIZATIONS
- Antimicrobial silicone
- Conductive inner layer, outer layer or full material
- Plastic wire
- High pressure textile
- Color
- Antistatic

VENA® PHARMA RANGE

VENA® PHARMA CLEAR

Maximum flow visibility

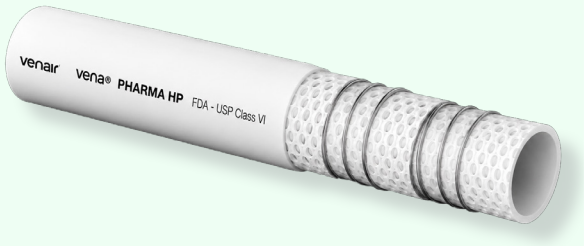
CONSTRUCTION

Transparent platinum cured silicone + Stainless steel spring wire + Translucent fabric

(former Vena® Sil 630)

VENA® PHARMA HP

Enhanced pressure resistance



CONSTRUCTION

Transparent platinum cured silicone + Polyester fabric + Double stainless steel spring wire

(former Vena® Sil 655)

VENA® PHARMA LASTIC

Reinforced and highly elastic

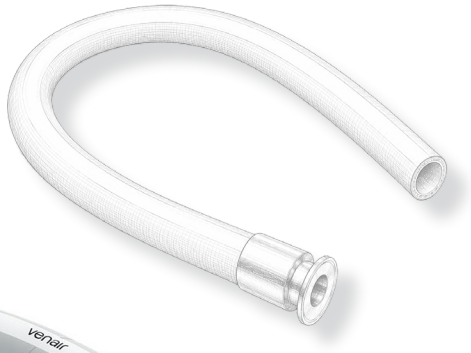
CONSTRUCTION

Three polyester fabric reinforcements + Stainless steel wire spring, everything encased inside the hose

(former Vena® Sil 650V Lastic)

2.1.3 VENA® PROCESS

Food-grade EPDM synthetic rubber



MATERIAL

Food grade EPDM synthetic rubber

TEMPERATURE

-30°C / +120°C
(-22°F / +212°F)
Peaks up to 130°C (266°F) for sterilization (max. 30min)

CERTIFICATIONS

- US FDA Standard 21 CFR 177.2600
- ResAp 2004 (5) according to Reg 1935/2004/EC

STANDARD MANUFACTURING LENGTH

Available at a maximum length of 40 m (131.23 ft).

APPLICATIONS

- Milk and dairy products
- Chocolate and confectionery products
- Mineral water, beer and alcoholic beverages
- Fruit juices and soft drinks
- Cosmetic creams and lotions
- High-temperature food and cosmetic processing systems
- Liquid and semi-liquid product transfer

CUSTOM SHAPES

MATERIAL
Customized.

TEMPERATURE
-55 °C/+180 °C (-67 °C/+356 °F)
Customized (According to material).

CERTIFICATIONS

• Complete validation Package for silicone material.

APPLICATIONS

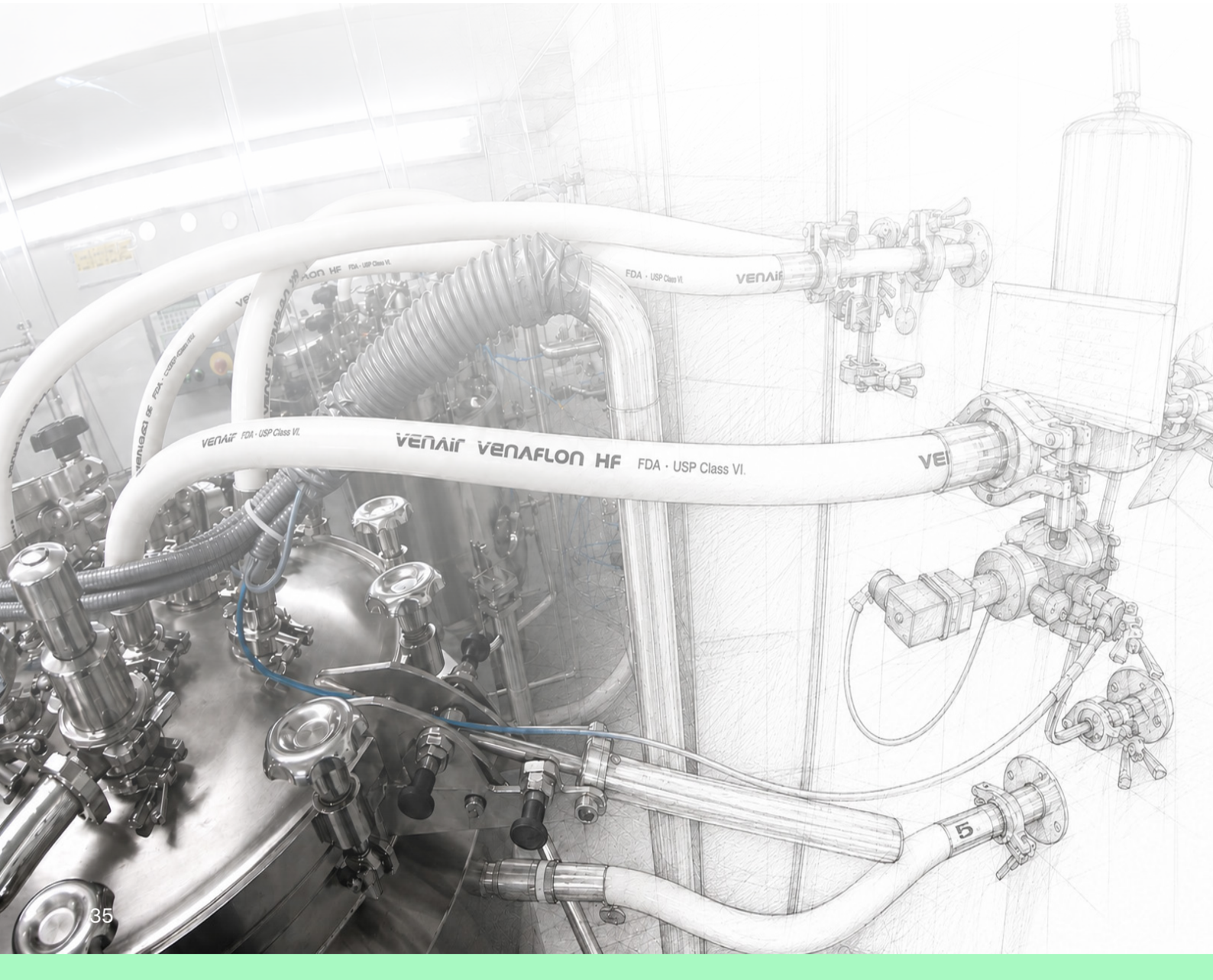
Any configurations can be customized according to the customer needs.

• Recommended to compensate system vibrations as well as to optimize the overall life of the hose or tube connections.
• Solve handling system miss-alignments as well as increased ease in hose or tube installation.
• Offer sound dampening characteristics in your process systems due to its elastic and flexible construction.

2.2. CHEMICALS & FATS

The transfer of aggressive chemicals, fatty products and oil-based formulations requires fluid handling solutions capable of maintaining product integrity while providing excellent chemical resistance and long-term reliability. These applications often involve challenging operating conditions, including high temperatures, cleaning agents, oils, alcohols and process fluids that can affect conventional hose materials.

Venair develops specialized solutions engineered for the safe transfer of chemicals, fats, oils, glycols and viscous products used in pharmaceutical, biotechnology, food and personal care industries. Combining advanced materials with hygienic design, our products help ensure process safety, operational efficiency and compliance in demanding production environments



2.2.1 VENA® FLEXIP

Hybrid elastomer

MATERIAL

Specially formulated FKM inner layer, with polyester fabric reinforcement plies, and an embedded stainless-steel wire helix.

TEMPERATURE

-20 °C/+175 °C
(-4 °F/+347 °F)

CERTIFICATIONS

- US FDA Standard 21 CFR 177.2600.
- USP Class VI <88> in vivo test, 121°C.
- PFA Free

STANDARD MANUFACTURING LENGTH

Available in 4 m (13') / 6 m (19' 8").

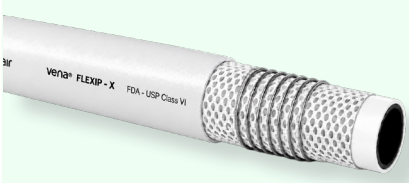
APPLICATIONS

- Transfer of vegetable and animal oils
- Fatty food products processing
- Cosmetic oils and oil-based formulations
- Alcoholic beverages
- Glycols and glycol-based fluids
- Food and cosmetic manufacturing systems
- Liquid and semi-liquid product transfer applications

PRODUCT VARIANTS

Need a conductive version?

VENA® FLEXIP-X



CONDUCTIVE INNER LAYER

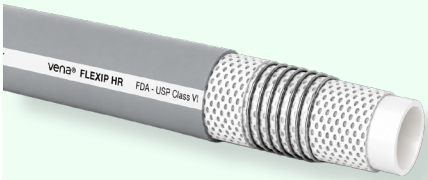
Need full conductivity?

VENA® FLEXIP FULL-X

FULL-CONDUCTIVE INNER LAYER

Need superior resistance?

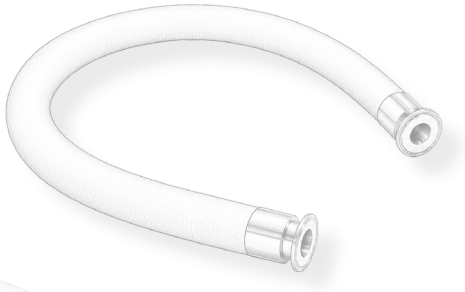
VENA® FLEXIP HR



HIGH ABRASION EXTERNAL LAYER

2.2.2 VENA® FLEXPURE

Flexible PTFE hose for high-purity fluid transfer



MATERIAL
PTFE and braided stainless steel, covered with white FDA silicone.

TEMPERATURE
-50 °C/+200 °C
(-76 °F/+500 °F)

CERTIFICATIONS
- US FDA Standard 21 CFR 177.550
- USP Class VI <88> in vivo test, 120°C
- European Regulation (EU) 10/2011.
- RoHS compliant

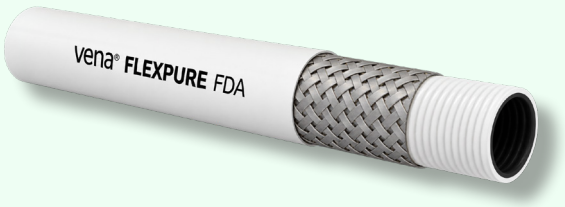
STANDARD MANUFACTURING LENGTH
Available in 10 m (32.81 ft).

APPLICATIONS
- Powder, liquid and semi-liquid product transfer
- Food, cosmetic, pharmaceutical and biotech applications
- Aggressive chemical processing
- Hygienic processing systems
- Flexible transfer lines with demanding routing requirements
- Applications requiring high cleanliness standards and flexibility

PRODUCT VARIANTS

Need a conductive version?

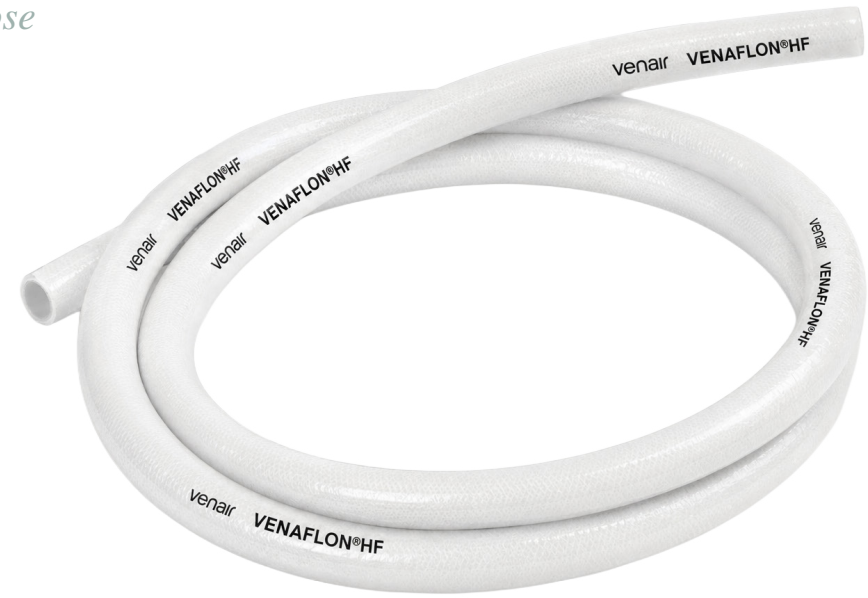
VENA® FLEXPURE-X



CONDUCTIVE INNER LAYER

2.2.3 VENAFLON® HF

Chemical resistant silicone hose



MATERIAL
Platinum-cured silicone hose with a PFA fluoropolymer inner liner

TEMPERATURE
-30 °C / +150 °C
(-22 °F / +302 °F)

CERTIFICATIONS
- US FDA Standard 21 CFR 177.1550
- USP Class VI <88> in vivo tests
- USP Class VI <87> in vitro tests
- ISO 10993-5, 10 & 11
- Reg. 1935/2004/EC and Reg. 10/2011/EC

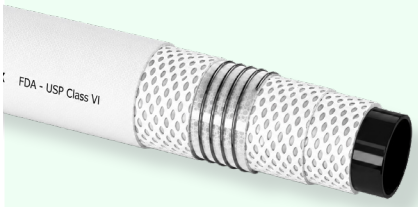
STANDARD MANUFACTURING LENGTH
Available in 20 m (65.62 ft)

APPLICATIONS
- Aggressive chemical transfer
- Liquid and semi-liquid fluid handling
- High-temperature transfer applications
- Suction and discharge systems
- Pharmaceutical, biotech and food processes
- Chemical-resistant fluid transfer systems

PRODUCT VARIANTS

Need a conductive version?

VENAFLON HF-X



CONDUCTIVE INNER LAYER

Need full conductivity?

VENAFLON FULL-X

FULL-CONDUCTIVE MATERIAL INNER LAYER

Need superior resistance?

VENAFLON HR

HIGH ABRASION EXTERNAL LAYER

2.2.4 VENA® FLEXHOL

Thermoplastic tube for alcohol transfer

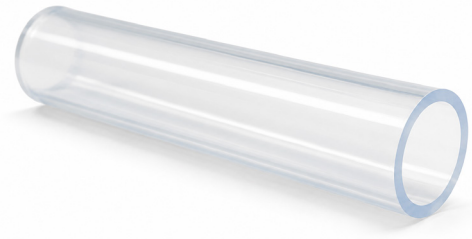
MATERIAL
Thermoplastic silicone

TEMPERATURE
-40 °C to +125 °C
(-40 °F to +257 °F)

CERTIFICATIONS
- EU Regulations 10/2011, 2016/1416, 2020/1245 and EC 1935/2004
- Compatible with CIP and SIP cleaning processes
- FDA 21 CFR 177.2600. Rubber articles intended for repeated use, FDA ITEM 177.2600
- RoHS compliant

STANDARD MANUFACTURING LENGTH
Available in 15.24 m (50 ft rolls.) Custom lengths available upon request.

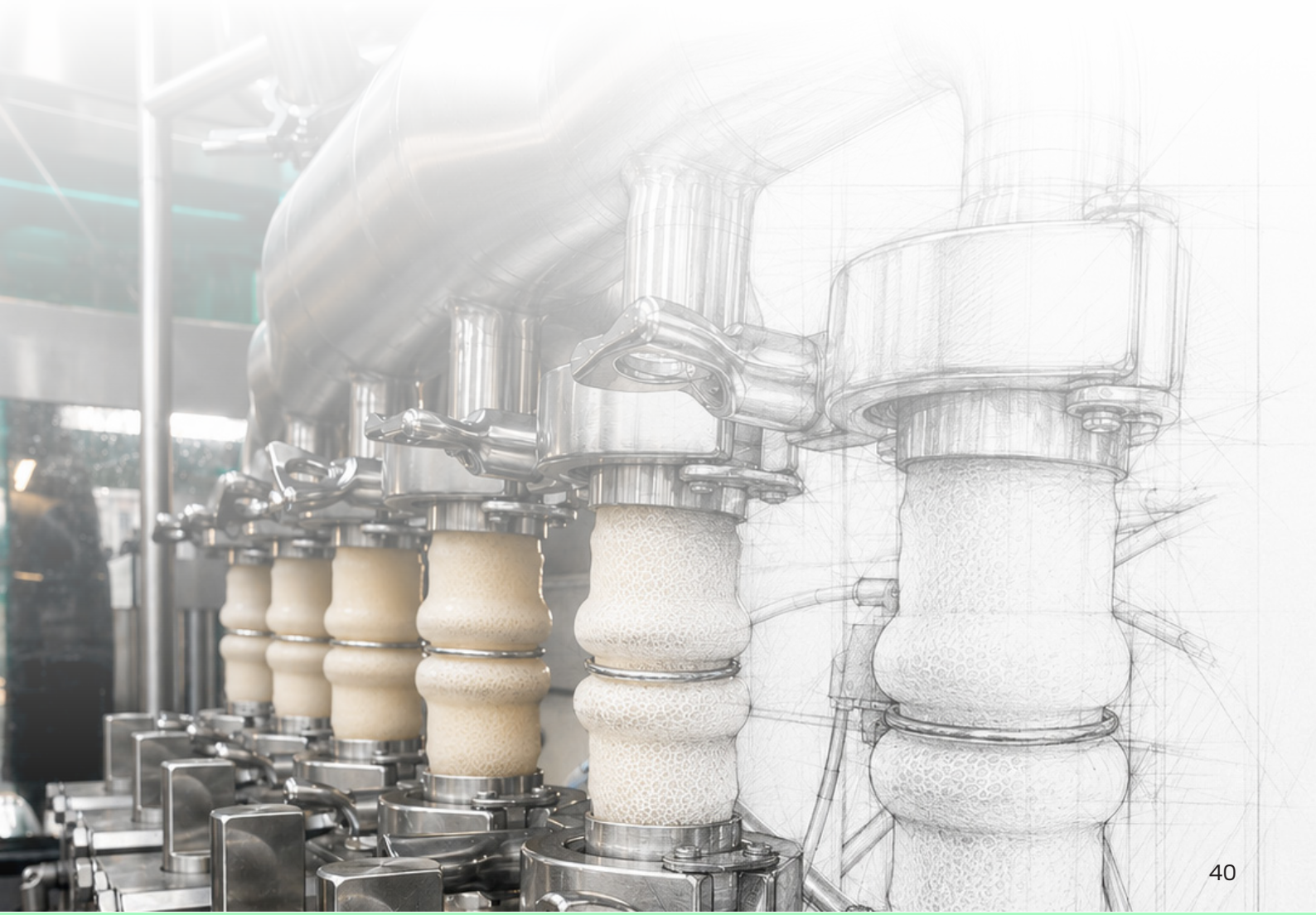
APPLICATIONS
- Ethanol and methanol transfer
- Alcohol-based cosmetic products
- Peristaltic pumping systems
- Filling and dosing operations
- Cosmetic manufacturing
- Long-duration alcohol transfer applications



2.3. SOLID PROCESSING

The handling and transfer of powders, granules and bulk solids require specialized solutions capable of ensuring efficient product flow while maintaining hygiene, process reliability and product quality. Applications involving dry ingredients, abrasive particles and bulk materials often demand high wear resistance, flexibility and safe conveying under demanding operating conditions.

Venair develops advanced hose solutions for solid product processing, supporting operations such as powder conveying, ingredient handling, pneumatic transport and bulk material transfer. Designed for hygienic industries, our products help optimize process efficiency while ensuring compliance with the strict requirements of pharmaceutical, biotechnology, food and personal care manufacturing environments.



2.3.1 VENA® ABRASIL

Highly abrasion resistant hose

MATERIAL
Hybrid polymer with polyester fabric reinforcement and a metal wire spiral.

TEMPERATURE
-20 °C / +90 °C
(-4 °F/+194 °F)
Short peaks up to +120 °C (+248 °F).

CERTIFICATIONS
- FDA 21 CFR 177.2600. Rubber articles intended for repeated use, FDA ITEM 177.2600
- USP (88) Biological reactivity tests, IN VIVO class VI
- PFA Free

STANDARD MANUFACTURING LENGTH
Available in 4 m (13') / 6 m (19' 8").

APPLICATIONS
- Food and pharmaceutical product transfer
- Pneumatic conveying of non-flammable bulk materials
- Abrasive powder and particle suction
- Bulk solids handling systems
- Powder processing and conveying lines
- Hygienic processing environments

PRODUCT VARIANT

Need a conductive version?

VENA® ABRASIL-X

▷ CONDUCTIVE INNER LAYER

2.3.2 VENA® PUR

Highly abrasion resistant polyurethane hose

MATERIAL
Food grade polyurethane

TEMPERATURE
-20 °C/ +80 °C
(-4 °F/+176 °F)

(former Vena® Technipur VAC)

CERTIFICATIONS
- RoHS compliant
- PFA Free

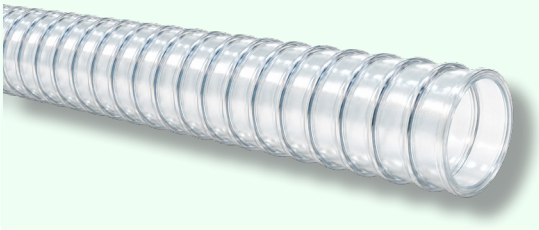
STANDARD MANUFACTURING LENGTH
Available in 10 m (33 ft)

APPLICATIONS
- Bulk and powder material transfer
- Food industry applications
- Pharmaceutical industry applications
- Powder conveying systems
- Ingredient handling and processing
- Hygienic processing environments
- Flexible transfer lines for dry products and powders

PRODUCT VARIANTS

Need a conductive version?

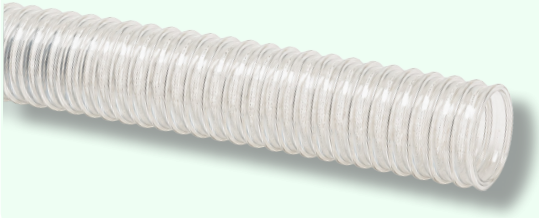
VENA® PUR FULL-X



CONDUCTIVE MATERIAL

Need full conductivity and totally smooth?

VENA® PUR SMOOTH FULL-X



SMOOTH AND FULL-CONDUCTIVE MATERIAL

2.3.3 SILICONE SLEEVE

Low-pressure powder transfer

MATERIAL
Platinum cured silicone

TEMPERATURE
-55 °C/ +180 °C
(-67 °F/+356 °F)

CERTIFICATIONS
- Complete validation package
- RoHS compliant
- PFA Free

STANDARD MANUFACTURING LENGTH
Available in 4 m (13') / 6 m (19' 8").

APPLICATIONS
- Liquid, semi-liquid and powder transfer by gravity discharge
- Food and pharmaceutical processing systems
- Product handling and transfer areas
- Contamination barrier applications
- Hygienic product protection during processing and handling
- Inner-to-outer and outer-to-inner contamination prevention

PRODUCT VARIANTS

Need more resistance?

VENA® SILICONE SLEEVE PLUS

▷ FABRIC REINFORCEMENT

2.3.4 PHARMALOADER

Flexible silicone compensator

MATERIAL
Platinum cured silicone

TEMPERATURE
-55 °C/+180 °C
(-65 °F/+356 °F)

CERTIFICATIONS
- Complete validation package
- RoHS compliant
- PFA Free

STANDARD MANUFACTURING LENGTH
Custom made

APPLICATIONS
- Tank and hopper outlets
- Pump connections
- Weighing tank systems
- Vibration compensation
- Compensation of level differences
- Pharmaceutical processing equipment
- Food processing equipment
- Autoclavable and sterilizable applications

CUSTOMIZATIONS
- Ondulations
- SS Rings
- Conductive
- FKM FDA
- Textiles
- Connections
- Clear
- High Pressure

PRODUCT VARIANTS

Need more resistance?

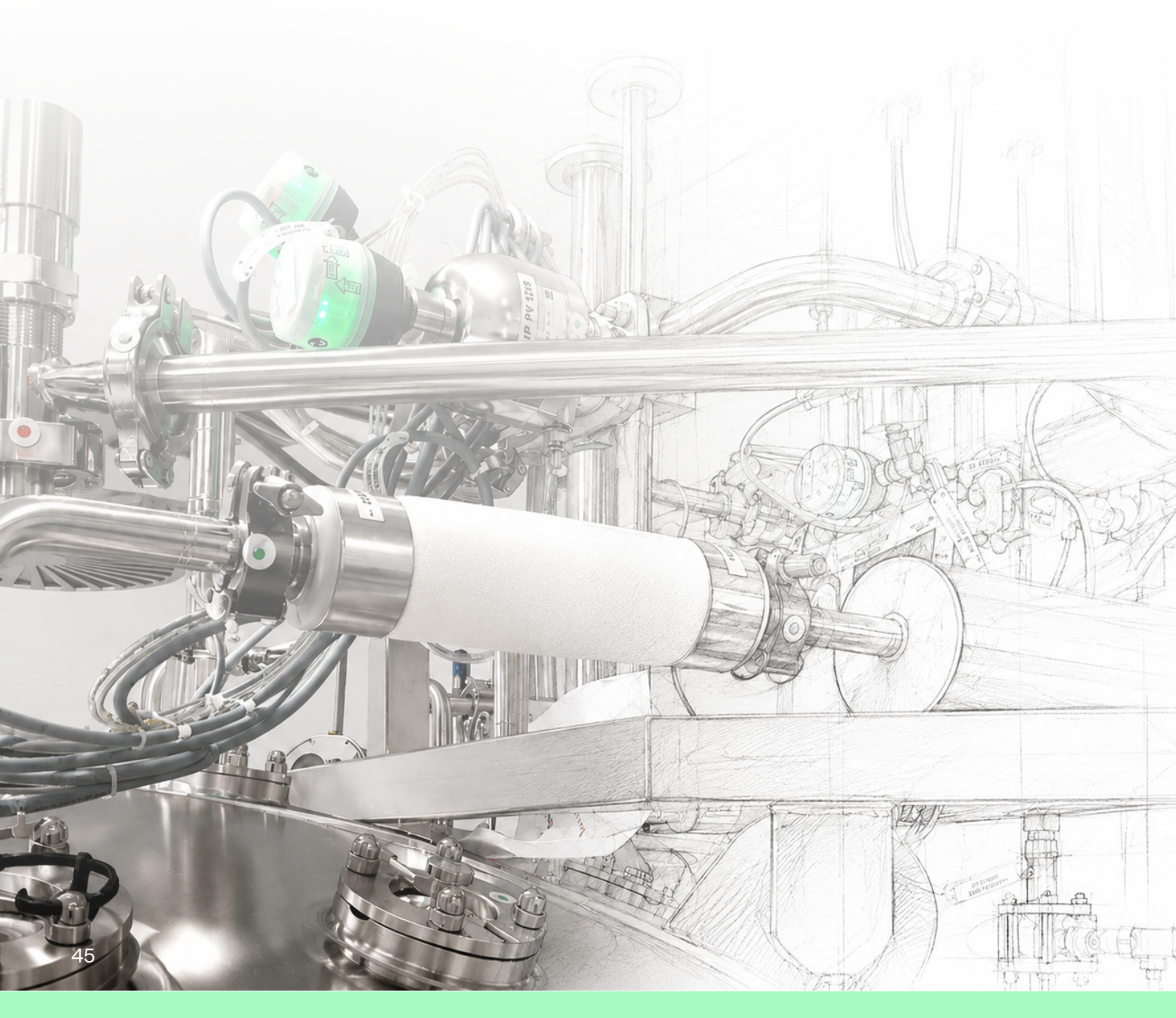
PHARMALOADER® PLUS

FABRIC REINFORCEMENT

2.4. THERMAL MANAGEMENT

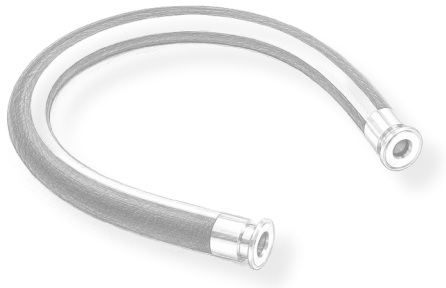
Effective thermal management is essential to ensure the performance, reliability and longevity of modern industrial and process equipment. From temperature-sensitive products to high-performance systems, maintaining precise temperature control is critical to optimizing efficiency, protecting equipment and ensuring product quality.

Venair develops advanced thermal management solutions for heating, cooling and insulation applications across pharmaceutical, biotechnology, food and personal care industries. Our products are designed to support temperature-controlled fluid transfer, steam distribution, cooling circuits and thermal insulation systems, helping manufacturers maintain stable process conditions and improve operational performance.



2.4.1 VENA®STEAMFLOW

High resistance to saturated steam



MATERIAL
Hybrid polymer

TEMPERATURE
-40 °C/+150 °C
(-40 °F/+302 °F)

CERTIFICATIONS
- US FDA Standard 21 CFR 177.2600
- RoHS compliant

STANDARD MANUFACTURING LENGTH
Available in 4 m (13') / 6 m (19'8'')

APPLICATIONS
- Saturated steam transfer in food and pharmaceutical industries
- CIP/SIP cleaning and sterilization systems
- Flexible steam distribution lines
- Applications requiring high flexibility and mechanical performance
- Abrasion-intensive operating environments
- Demanding process and cleaning applications

2.4.2 TELCRA®

Thermal insulation & anti-condensation

MATERIAL
Insulation material cover

TEMPERATURE
-30 °C / +180 °C
(-22 °C/+356 °F)

DENSITY
0.1 g/cm³

THICKNESS
16 ± mm (0.63")

THERMAL CONDUCTIVITY
0.05 (W·K⁻¹·m⁻¹)

THERMAL RESISTANCE*
0.37 (m² ·K·W⁻¹)

COLOR**
White Cream

CERTIFICATIONS
- Outer layer FDA
- Inner layer according to material
- RoHS compliant

STANDARD MANUFACTURING LENGTH
Available in 4 m (13') / 6 m (19'8'')

APPLICATIONS
- Insulation of cold and frozen liquids and semi-liquids
- Anti-condensation applications
- Food, pharmaceutical and biotech processing systems
- Temperature-controlled transfer lines
- Cold process equipment and installations

PRODUCT VARIANTS

Need more protection?

TELCRA® FLAME

Optional configuration with a fire-resistant insulation material, complying with UL 94 V-0 for enhanced flame protection.

*Considering 16 mm (0.63") thickness.
** Available in other colors under request.

2.4.3 HEATED

Electrically heated transfer system

MATERIAL

Platinum silicone hose with an integrated electrical resistance

TEMPERATURE

-55°C/+ 180°C (-67°F/+356°F)
Peaks up to +200°C (392°).

Set temperature: 0°C/200°C (32°F/+392°F).

CERTIFICATIONS

- Complete validation package for silicone material
- RoHS compliant according to inner layer

STANDARD MANUFACTURING LENGTH

Available up to 6 m (19.69 ft).

APPLICATIONS

- Transfer of viscous products such as caramel, chocolate and glycerin
- Temperature-controlled processing systems
- Heated transfer lines
- Food manufacturing applications
- Processes requiring consistent product temperature throughout production

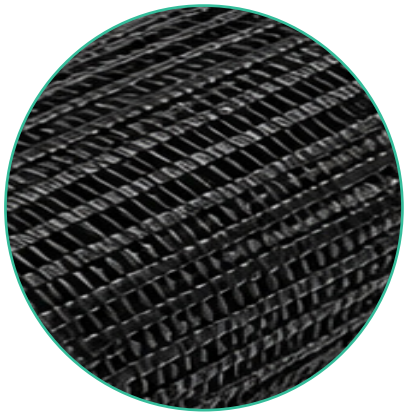
*Regulator available upon request.

2.4.4 VENA® HEATED LITE

Electrically heated transfer system

STANDARD CONSTRUCTION

Silicone hose with a self-regulating heating cable and insulating foam jacket, designed to maintain a stable and uniform product temperature for optimal flow while keeping the outer surface cool to the touch. No external temperature controller or sensors are required. The hose is protected by a black polymer braid and finished with plastic fittings at both ends.



STANDARD MANUFACTURING LENGTH

Available up to 10 m (32.81 ft).

CONFIGURATIONS

Construction and length tailored to each application.
Inner diameters: 19, 25, 38 and 51 mm.

Temperature options: 40 °C (104 °F), 60 °C (140 °F) or 80 °C (176 °F), ±5 °C (±9 °F).
Voltage: 110 V or 220 V, according to customer requirements.

APPLICATIONS

Specially designed for convey viscous products that need to maintain a regular temperature during the transfer process, such as caramel, glycerine or chocolate.
Engineered with self-regulating heating trace to avoid the need of external controllers or temperature sensors.

2.4.5 COOLED®

Temperature-controlled cooling system

MATERIAL

Platinum cured silicone hose with an integrated secondary tubing

TEMPERATURE

-55 °C/+180 °C
(-67 °F/+356 °F)

CERTIFICATIONS

- Complete validation package
- RoHS compliant according to inner material

STANDARD MANUFACTURING LENGTH

Available in 4 m (13') / 6 m (19'8'')

APPLICATIONS

- Temperature-controlled product transfer
- Cooling systems using cold water or nitrogen
- Heating systems using hot water or steam
- Food processing applications
- Pharmaceutical manufacturing processes
- Cosmetic production systems
- Transfer of temperature-sensitive products
- Applications requiring stable product temperature throughout the process

2.5. STERILIZATION & CLEANING

All flexible hoses must be sterilized before use and must only be used for the intended purpose for which they were designed.

During hose selection, it is vitally important to consider the cleaning and sterilization process since this will affect to a greater or lesser extent, the mechanical properties and the behavior of the materials used. It can also determine the useful life of the hose due to the aging effect.

Sterilization and cleaning are important and necessary processes that must be applied in order to eliminate contamination due to transport, storage, handling, or usage of the product. So, it is highly recommended to do it prior to each use to prevent microorganisms growth or harmful contamination that can affect the inner layer of the hose which is in contact with the flow.

Sterilization

The hoses exposed to steam or hot-air sterilization have different and unpredicted behavior depending on the connections, on the frequency of the cleaning and sterilization processes, and on the specific product application.

- Non aggressive liquid transfer (Silicone):
  Our entire range of silicone hoses can be sterilized by steam cycles of 30 minutes at a maximum temperature of 135 °C.

- Chemicals & Fats:
  The product Vena® Flexip and Vena® Flexpure can be sterilized by steam cycles of 30 minutes at a maximum temperature of 130 °C.

- Solid product transfer:
  The product range Vena® Abrasil can be sterilized by steam cycles of 30 minutes at a maximum temperature of 121 °C.

  The product range Vena® Pur cannot be sterilized by steam.

- Thermal management solutions:
  Sterilization conditions depends on the product material (see previous information).

For all hoses, a minimum time of 1 hour must be left between steam cycles for material.

It is recommended an accurate inspection of the hose after 150 hours of sterilization.

Hose replacement criteria based on visual inspection includes among others, displacement of layers, displacement of wire helix from their normal pitch, signs of displacement of fittings or leakage in the ends, reinforcement fabric exposed, wire corrosion, dents, kinks, or abrasion marks in both internally and externally.

CIP (Cleaning in place)

As per the sterilization process, the cleaning process can determine the useful life or the behavior of the hose material due to mechanical and chemical stress that occurs during the cleaning procedure. Therefore, there are some aspects that need to be considered when choosing one process over another (such as temperature, concentration, time...) Also is important to regularly monitor the physical conditions of the hoses in order to detect any possible alteration which could be a sign of a material degradation.

In the CIP process the following media are used in different concentrations:

- Basic solutions (such as caustic soda) used to remove fat and protein part
- Acid solutions (for example phosphoric acid) to eliminate mineral deposits
- Oxidizing acids or other oxidizing products (nitric acid, peracetic acid, hydrogen peroxide) to remove bacterial load

Except the polyurethane product families (Vena® Pur) all Venair products can be cleaned by the typical CIP processes (see table)

	SILICONE	FLEXIP	FLEXPURE	VENAFLON	ABRASIL
HOT WATER	Up to 95 °C Up to 200 °F	Up to 95 °C Up to 200 °F	Up to 95 °C Up to 200 °F	Up to 95 °C Up to 200 °F	Up to 95 °C Up to 200 °F
STEAM	135 °C - 30 min 275 °F - 30 min	130 °C - 30 min 265 °F - 30 min	130 °C - 30 min 265 °F - 30 min	121 °C - 30 min 250 °F - 30 min	130 °C - 30 min 265 °F - 30 min
CAUSTIC SODA	1 % - 80 °C 1 % - 175 °F	3 % - 80 °C 3% - 175 °F	3 % - 80 °C 3 % - 175 °F	3 % - 80 °C 3 % - 175 °F	1 % - 80 °C 1 % - 175 °F
NITRIC ACID / PHOSPHORIC ACID	0,5 % - 80 °C 1 % - 25 °C 0,5 % - 175 °F 1 % - 75 °F	5 % - 80 °C 5 % - 175 °F	3 % - 80 °C 3 % - 175 °F	3 % - 80 °C 3 % - 175 °F	1 % - 25 °C 1 % - 75 °F
PARACETIC ACID	1 % - 25 °C 1 % - 75 °F	3 % - 80 °C 3 % - 175 °F	3 % - 80 °C 3 % - 175 °F	3 % - 80 °C 3 % - 175 °F	1 % - 25 °C 1 % - 75 °F

2.6. TRACEABILITY AND MARKING SOLUTIONS

Hose marking

Venair offers several traceability solutions in order to improve the data reading. Various solutions make it possible to obtain all information related to the hose during the manufacturing process, e.g. raw materials, product codes and components, batch number, appropriate certificates, production and sale date and related orders.

Our hoses can be marked by laser. Apart of the product batch number, any customized marking like customer name and reference can be added to any specific silicone hose.

Connection marking

All crimped hoses count with the batch number marked by laser in the connections which makes it as the simplest and fully reliable system to ensure the traceability of the assembly.

QR marking

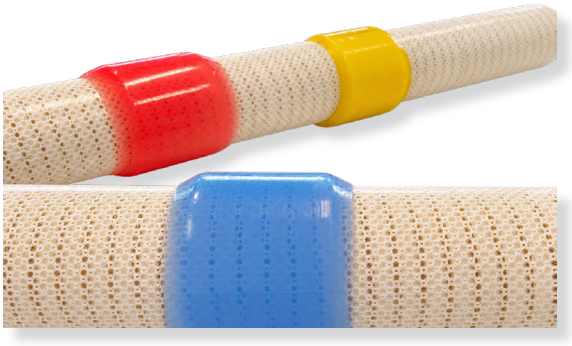
The QR code can be marked by laser on the metal connection, assuring the full traceability of the hose while allowing the access to any information related to the product at any time along the life of the hose. QR code is an alternative to the chip that is commonly used in the market to assure hoses traceability. Data content in the code are completely customizable. It does not need any additional software. QR code can be read with all kind of mobile device which has downloaded an app to read codes. Applications to read QR codes are completely free for any device.

Identification by labels

Color silicone labels can be placed over any Venair hose in order to mark specific information required by the client. The label offers clear identification, cleanliness and permanence in the silicone hose. Venair silicone labels can be customized to meet your specific needs such as part number, manufacturing date, replacement date, or any specific product or process information required by the customer.

Features:

- It is not in contact with the inner liquid.
- It is made of permanent vulcanized silicone
- Handles clean-in-place (CIP) and steam-in-place (SIP) processes
- Autoclavable
- Several colors available

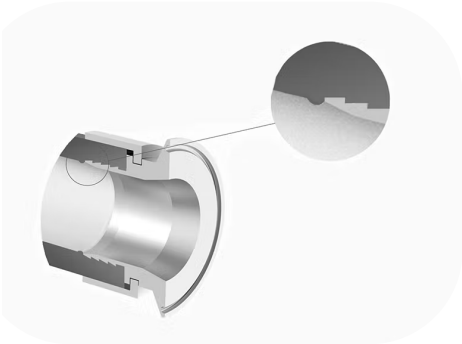


2.7 STAINLESS STEEL CONNECTIONS

SZR crimping system

Venair offers its range of sanitary tubes with any type of 316 L stainless steel connections crimped at the end.

The connection by means of a pressing system (SZR system) is the most recommended for any flexible hose, as it guarantees the correct pressure resistance of the final assembly, avoiding the retention area that usually appears in any sanitary connection. Most of our flexible hoses with connections can be certified according to Sanitary Regulation 3A 62-02 for assemblies.

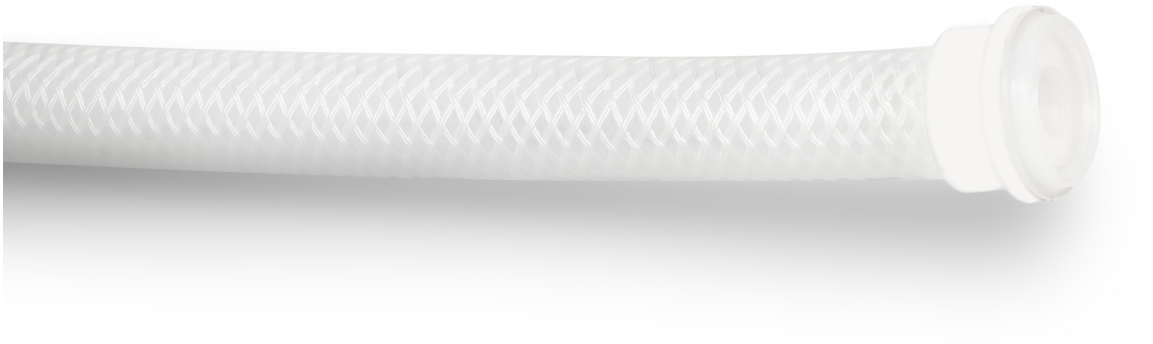


Finishing quality

The maximum standard roughness of the inner surface of our SZR* fittings is 0.8 µm and can be improved to 0.375 µm electropolished under demand.

The manufacturing batch number is indicated on each assembly, ensuring the total traceability of the product. It is also possible to mark a laser QR code on the ferrule, which allows immediate access to any information related to the product (technical data sheet, certificates, instructions for use, etc.).

All the straight fittings are manufactured in a single block, without welds, and the connections at 45 °C or 90 °C are made by orbital welding.



Molded clamps

Venair® molded silicone clamps are well-suited for critical applications in high purity industries. These assemblies are manufactured with the same raw material than this is used to manufacture hoses and tubing. They reduce installation time (no gaskets), improve cleanliness (no retention zone) and maintain the benefits of the silicone.

Venair® molded silicone clamps are available in mini and standard Tri-Clamp fitting styles and are supplied with integrated gaskets molded directly to the face of the clamps.

Protective backup cups (thermoplastic or stainless steel) provide a stable clamping surface and safeguard the clamps during installation and use.

- Platinum-cured silicone
- Completely smooth transition from the tubing or the hose through the clamp
- Constant diameter. No internal reductions
- Autoclavable and sterilizable (CIP and SIP)
- Meets USP Class VI, FDA and BfR standards*
- Easy installation. Reduces assembly time
- Temperature resistance: -55 °C to 180 °C (-67 °F to +356 °F)
- No product contact with metallic materials
- Molded clamps can be supplied on any Venair silicone

*Under request, molded assemblies can meet all the certifications set out in the Validation Package.

2.8 AVAILABLE FITTINGS

Any connection, however special it may be, can be crimped to our product:

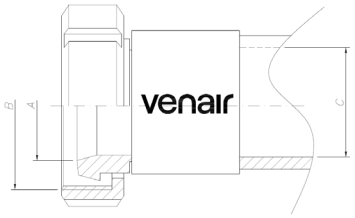
DIN-11851, SMS, Tri-Clamp, DIN-11864, Gas, RJT, Camlock, Flanges...

We have the most standard connections and dimensions in stock for immediate assembly.

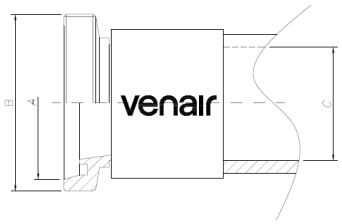
DIN 11851

DN	A	B (DIN 405)	C
	mm	thread	mm
10	10	28 x 1/8''	10
15	16	34 x 1/8''	15
20	20	44 x 1/6''	20
25	26	52 x 1/6''	25
32	32	58 x 1/6''	32
40	38	65 x 1/6''	38
50	50	78 x 1/6''	51
65	66	95 x 1/6''	63
80	81	110 x 1/4''	75
100	100	130 x 1/4''	102
125	125	160 x 1/4''	127
150	150	190 x 1/4''	152

DIN FEMALE



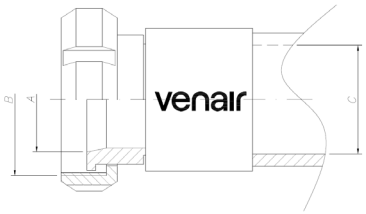
DIN MALE



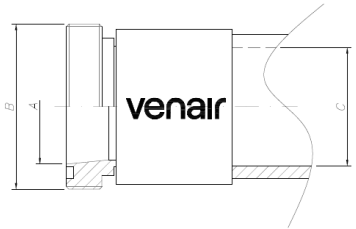
SMS

DN	A	B (DIN 405)	C
	mm	thread	mm
25	22,5	39,7x 1/6''	25
38	35,5	59,8 x 1/6''	38
51	48,5	69,8 x 1/6''	50
63	60,5	84,8 x 1/6''	63
76	72,8	97,5 x 1/6''	75
101,6	97,6	132 x 1/6''	102
104	100	124,4 x 1/6''	102

SMS FEMALE



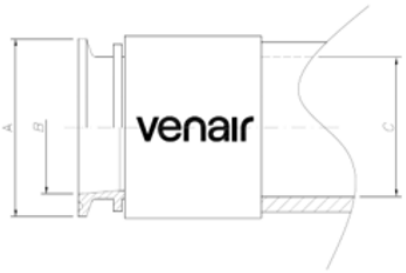
SMS MALE



TRI-CLAMP SMS 3008		
Hose	Cone	Hose
A	B	C
25	9.7	13
25	16.0	19
50.5	16.0	19
50.5	22.5	19
50.5	22.5	25
50.5	35.5	19
50.5	35.5	25
50.5	35.5	38
64	48.5	50
77	60.3	63
91	72.9	76
119	97.6	102

TRI-CLAMP ASME BPE (DIN 32676-C) / Imperial				
DN	Head	Cone	Hose	
	A	B	C	C
(inch)	(mm)	(mm)	(mm)	(inch)
1/2	25	9.4	6.35	1/4
3/4	25	15.8	6.35	1/4
1/2	25	9.4	9.52	3/8
3/4	25	15.8	9.52	3/8
1/2	25	9.4	21.7	1/2
3/4	25	15.8	12.7	1/2
1/2	25	9.4	19.05	3/4
3/4	25	15.8	19.05	3/4
1	50.5	22.1	6.35	1/4
1 1/2	50.5	34.8	6.35	1/4
1	50.5	22.1	9.52	3/8
1 1/2	50.5	34.8	9.52	3/8
1	50.5	22.1	12.7	1/2
1 1/2	50.5	34.8	12. 7	1/2
1	50.5	22.1	19.05	3/4
1 1/2	50.5	34.8	19.05	3/4
1	50.5	22.1	25.4	1
1 1/2	50.5	34.8	25.4	1
2	64	47.5	25.4	1
1 1/2	50.5	34.8	38.1	1 1/2
2	64	47.5	38.1	1 1/2
2	64	47.5	50.8	2
2 1/2	77	60.2	50.8	2
2 1/2	77	60.2	63.5	2 1/2
3	91	72.9	63.5	2
3	91	72.9	76.2	3
4	119	97.4	101.6	4

TRI-CLAMP

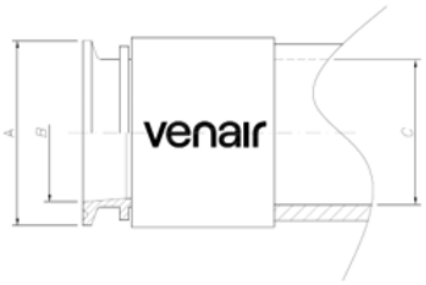


TRI-CLAMP DIN (DIN 326-A)

DN	Head	Cone	Hose
	A	B	C
(mm)	(mm)	(mm)	(mm)
10	34	10	10
15	34	16	16
20	34	20	19
25	50.5	26	25
32	50.5	32	32
40	50.5	38	38
50	64	50	51
65	91	66	63
80	106	81	76
100	119	100	102

TRI-CLAMP (Others)

DN	Head	Cone
A	B	C
(mm)	(mm)	(mm)
25	6.0	6
34	8.0	8
50	8.0	8
25	10.0	10
50	10.0	10
25	13.0	13
34	10.0	13
34	13.0	13
50	13.0	13
25	16.0	16
34	16.0	16
50	16.0	16
50	20.0	19
64	22.5	25
50	29.7	32
64	32.0	32
64	35.5	38
64	38.0	38



TRI-CLAMP

3. SPECIFICATION CHARTS

VENA® FOOD

INNER DIAMETER		OUTER DIAMETER		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS ISO 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch
16	5/8	26	1	10	145	30	435	96	3.78
19	3/4	29	1 1/8	10	145	30	435	115	4.53
25	1	37	2 1/6	10	145	30	435	150	5.91
32	1 1/4	45	1 3/4	10	145	30	435	200	7.87
38	1 1/2	51	2	10	145	30	435	230	9.06
51	2	65	2 9/16	10	145	30	435	300	11.81
63	2 1/2	78	3 1/6	10	145	30	435	380	14.96
76	3	92	3 5/8	10	145	30	435	450	17.72
102	4	120	4 3/4	10	145	30	435	600	23.62

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® PROCESS

INNER DIAMETER		OUTER DIAMETER		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS ISO 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch
15.9	5/8	25.0	0.98	10	145	30	435	55	2.17
19.0	3/4	30.0	1.18	10	145	30	435	65	2.56
25.4	1	37.0	1.46	10	145	30	435	90	3.54
31.8	1 1/4	44.5	1.75	10	145	30	435	110	4.33
38.0	1 1/2	52.0	2.05	10	145	30	435	135	5.31
50.8	2	66.0	2.59	10	145	30	435	180	7.09
63.5	2 1/2	79.5	3.13	10	145	30	435	220	8.66
76.2	3	92.0	3.62	10	145	30	435	270	10.63
89.0	3 1/2	106.0	4.17	10	145	30	435	315	12.40
101.6	4	118.6	4.67	10	145	30	435	360	14.17

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® PHARMA

INNER DIAMETER		OUTER DIAMETER		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS ISO 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch
6	¼	5.5	0.22	26.0	376.5	77.9	1129.5	29	1.14
8	5/16	5.5	0.22	24.0	348.1	72.0	1044.3	31	1.22
10	3/8	5.5	0.22	22.0	318.4	65.9	955.3	34	1.34
13	½	5.5	0.22	19.9	288.6	59.7	865.8	39	1.54
16	5/8	5.5	0.22	18.3	265.0	54.8	794.9	45	1.77
19	¾	5.5	0.22	16.5	239.6	49.6	718.8	54	2.13
22	7/8	5.5	0.22	15.8	228.8	47.3	686.3	60	2.36
25	1	5.5	0.22	14.8	214.2	44.3	642.7	68	2.68
32	1 ¼	5.5	0.22	12.8	186.2	38.5	558.5	94	3.70
38	1 ½	5.5	0.22	11.5	166.6	34.5	499.9	112	4.41
51	2	5.5	0.22	9.2	133.2	27.5	399.5	144	5.67
63	2 ½	5.5	0.22	7.5	109.1	22.6	327.4	181	7.13
76	3	6.0	0.24	6.1	87.8	18.2	263.4	232	9.13

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® PHARMA CLEAR

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	ft
10	25/64	5.70	0.22	9.86	143.00	29.58	429.02	16.03	0.053
13	1/2	5.70	0.22	8.40	121.83	25.20	365.49	25.04	0.083
19	3/4	5.70	0.22	6.66	95.72	19.99	289.93	43.07	0.15
25	1	5.70	0.22	5.63	81.65	16.90	245.11	61.10	0.21
32	1 1/4	5.70	0.22	4.84	70.19	14.53	210.73	82.13	0.27
38	1 1/2	5.70	0.22	4.36	63.23	13.08	189.70	112.00	0.54
51	2	5.70	0.22	3.64	52.79	10.92	158.38	139.22	0.37
55	2 11/64	5.70	0.22	3.47	50.32	10.41	150.98	151.24	0.50
63	2 1/2	5.70	0.22	3.20	46.41	9.60	139.23	175.27	0.58
76	3	5.70	0.22	2.85	41.33	8.56	124.15	214.33	0.71
102	4	5.70	0.22	2.38	34.51	7.15	103.70	292.45	0.96

*At the indicated working pressure, the hose may experience an elongation up to 20%.
Other diameters can also be manufactured. Please consult.

VENA® PHARMA HP

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	ft
6	1/4	5.50	0.26	31.50	456.90	94.50	1370.60	43	1.69
8	5/16	5.50	0.26	29.00	420.60	87.00	1261.80	46	1.81
10	3/8	5.50	0.26	27.00	391.60	81.00	1174.80	49	1.93
13	1/2	5.50	0.26	24.50	355.30	73.50	1066.00	54	2.13
16	5/8	5.50	0.26	22.50	326.30	67.50	979.00	59	2.32
19	3/4	5.50	0.26	20.50	297.30	61.50	892.00	68	2.68
22	7/8	5.50	0.26	20.00	290.10	60.00	870.20	72	2.83
25	1	5.50	0.26	18.50	268.30	55.50	805.00	80	3.15
32	1 1/4	5.50	0.26	16.50	239.30	49.50	717.90	100	3.94
38	1 1/2	6.50	0.28	15.00	217.60	45.00	652.70	121	4.76
51	2	6.50	0.28	12.00	174.00	36.00	522.10	185	7.28
63	2 1/2	6.50	0.28	10.00	145.00	30.00	435.10	273	10.75
76	3	6.50	0.28	7.10	102.70	21.30	308.20	318	12.52
102	4	6.50	0.28	5.00	72.50	15.00	217.60	423	16.65

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® FLEXIP

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING PRESSURE 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	ft
6	1/4	5.50	0.22	32.70	474.40	98.10	1423.20	29	1.14
8	5/16	5.50	0.22	31.20	452.00	93.50	1356.00	31	1.22
10	3/8	5.50	0.22	29.70	430.30	89.00	1290.80	34	1.34
13	1/2	5.50	0.22	27.50	398.90	28.50	1196.70	39	1.54
16	5/8	5.50	0.22	25.40	369.00	76.30	1107.10	45	1.77
19	3/4	5.50	0.22	23.50	340.60	70.50	1021.80	54	2.13
22	7/8	5.50	0.22	21.60	313.70	64.90	941.00	60	2.36
25	1	5.50	0.22	19.90	288.20	59.60	864.50	68	2.68
32	1 1/4	5.50	0.22	16.20	234.50	48.50	703.40	94	3.70
38	1 1/2	5.50	0.22	13.40	194.80	40.30	584.40	112	4.41
51	2	5.50	0.22	8.90	129.10	26.70	387.20	144	5.67
63	2 1/2	5.50	0.22	6.40	92.90	19.20	278.80	270	10.63
76	3	5.50	0.24	5.50	80.40	16.60	320.00	320	12.60

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® FLEXPURE

INNER DIAMETER		OUTER DIAMETER		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING PRESSURE 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch
13.10	0.516	23.00	0.906	114	1653	457	6628	37	1.457
16.30	0.642	27.00	1.063	102	1479	409	5932	50	1.969
19.60	0.772	31.00	1.220	87	1262	347	5033	77	3.031
25.50	1.004	38.70	1.524	65	943	260	3771	80	3.150
32.40	1.276	46.00	1.811	63	914	251	3640	100	3.937
39.00	1.535	52.00	2.047	55	798	220	3191	145	5.709
50.50	1.988	67.00	2.638	47	685	189	2741	210	8.268

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENAFLON® HF

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F
10.00	3/8	6.00	0.24	10	145.04	40	1.58
13.00	1/2	6.00	0.24	10	145.04	45	1.77
16.00	5/8	6.00	0.24	10	145.04	55	2.17
19.00	3/4	6.00	0.24	10	145.04	65	2.56
25.00	1	6.00	0.24	10	145.04	85	3.35
32.00	1 1/4	6.00	0.24	10	145.04	120	4.72
38.00	1 1/2	6.50	0.26	10	145.04	140	5.51
51.00	2	8.00	0.31	10	145.04	180	7.09
63.50	2 1/2	8.00	0.31	5	72.52	320	12.60
76.00	3	8.00	0.31	5	72.52	380	14.96
100.00	4	9.00	0.35	3	43.51	500	19.69

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENAFLON® HF-X

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F
6.00	0.24	6.00	0.24	10	145.04	40	1.57
13.00	1/2	6.00	0.24	10	145.04	120	4.72
19.00	3/4	6.00	0.24	10	145.04	120	4.72
25.00	1	6.00	0.24	10	145.04	150	5.91
32.00	1 1/4	6.00	0.24	10	145.04	200	7.87
38.00	1 1/2	7.00	0.28	10	145.04	250	9.84
51.00	2	8.00	0.31	10	145.04	300	11.81
63.50	2 1/2	8.00	0.31	5	72.52	380	14.96
76.00	3	8.00	0.31	5	72.52	460	18.11

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENAFLON® HR

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		VACUUM		WEIGHT	BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	(+1/0.5mm)	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	kg/m	mm	inch
13.00	1/2	6.00	0.24	10	145.04	-0.90	-13.05	0.55	45	1.77
19.00	3/4	6.00	0.24	10	145.04	-0.90	-13.05	0.72	65	2.55
25.00	1	6.00	0.24	10	145.04	-0.90	-13.05	0.89	85	3.34
32.00	1 1/4	6.50	0.26	10	145.05	-0.90	-13.05	1.16	120	4.72
38.00	1 1/2	6.50	0.26	10	116.03	-0.90	-13.05	1.47	140	5.51
51.00	2	7.25	0.28	10	116.03	-0.90	-13.05	2.08	180	7.08
63.50	2.5	8.00	0.31	10	116.03	-0.90	-13.05	2.80	250	9.84
76.00	3	8.00	0.31	10	116.03	-0.90	-13.05	3.48	350	13.78
100.00	4	8.50	0.35	10	116.03	-0.90	-13.05	4.77	700	27.56

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENAFLON® FULL-X

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		VACUUM	WEIGHT	BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar	kg/m	mm	inch
13.00	1/2	6.00	0.24	10	145.04	-0.90	0.51	135	5.31
19.00	3/4	6.00	0.24	10	145.04	-0.90	0.67	188	7.40
25.00	1	6.00	0.24	10	145.04	-0.90	0.88	225	8.85
32.00	1 1/4	6.50	0.26	10	145.04	-0.90	1.16	262	10.31
38.00	1 1/2	6.50	0.26	10	145.04	-0.90	1.43	338	13.30
51.00	2	7.25	0.28	10	145.04	-0.90	1.95	412	16.22
63.50	2 1/2	8.00	0.31	10	145.04	-0.90	2.75	450	17.71
76.00	3	8.00	0.31	10	145.04	-0.90	3.20	525	20.66

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA®ABRASIL

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		BENDING RADIUS 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 23°C	psi at 73.40°F	bar at 23°C	psi at 73.40°F	mm	inch
6.00	1/4	4.50	0.18	5.62	81.48	16.85	244.45	50.38	1.98
8.00	5/16	4.50	0.18	5.53	80.27	16.60	240.82	59.24	2.33
10.00	3/8	4.50	0.18	5.45	79.07	16.35	237.20	67.99	2.68
13.00	1/2	4.50	0.18	5.33	77.25	15.98	231.76	80.93	3.19
16.00	5/8	4.50	0.18	5.20	75.44	15.60	226.32	93.63	3.69
19.00	3/4	4.50	0.18	5.08	73.63	15.23	220.88	106.10	4.18
22.00	7/8	4.50	0.18	4.95	71.81	14.85	215.44	118.34	4.66
25.00	1	4.50	0.18	5.58	80.99	16.75	242.98	130.34	5.13
32.00	1 1/4	4.50	0.18	5.23	75.87	15.69	227.61	157.44	6.20
38.00	1 1/2	4.50	0.18	4.93	71.48	14.78	214.44	179.66	7.07
51.00	2	5.50	0.22	4.27	61.96	12.82	185.89	243.32	9.58
63.00	2 1/2	5.50	0.22	3.67	53.18	11.00	159.55	288.41	11.35
76.00	3	5.50	0.22	3.01	43.67	9.03	131.00	331.07	13.03
102.00	4	5.50	0.22	1.70	24.64	5.10	73.91	420.75	16.57

*Pressure data hold at room temperature. Please reduce pressure values by 20% for each increase of 100°C/212°F.
Other diameters can also be manufactured. Please consult.

VENA® PUR

INNER DIAMETER		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		VACUUM		BENDING RADIUS 10619-1	
mm	inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch
50	1.97	0.56	8.12	1.68	24.36	0.22	3.19	60	2.36
55	2.17	0.49	7.11	1.47	21.32	0.2	2.90	65	2.56
60	2.36	0.43	6.24	1.29	18.71	0.18	2.61	70	2.76
65	2.56	0.38	5.51	1.14	16.53	0.16	2.32	75	2.95
70	2.76	0.34	4.93	1.02	14.79	0.15	2.18	80	3.15
75	2.95	0.31	4.50	0.93	13.49	0.14	2.03	85	3.35
80	3.15	0.28	4.06	0.84	12.18	0.12	1.74	90	3.54
85	3.35	0.25	3.63	0.75	10.88	0.12	1.74	95	3.74
90	3.54	0.23	3.34	0.69	10.01	0.11	1.60	100	3.94
100	3.94	0.20	2.90	0.60	8.70	0.09	1.31	110	4.33
105	4.13	0.19	2.76	0.57	8.27	0.09	1.31	115	4.53
110	4.33	0.17	2.47	0.51	7.40	0.08	1.16	120	4.72
115	4.53	0.16	2.32	0.48	6.96	0.08	1.16	125	4.92
120	4.72	0.15	2.18	0.45	6.53	0.08	1.16	130	5.12
125	4.92	0.14	2.03	0.42	6.09	0.07	1.02	135	5.31
130	5.12	0.14	2.03	0.42	6.09	0.07	1.02	140	5.51
135	5.31	0.13	1.89	0.39	5.66	0.06	0.87	145	5.71
140	5.51	0.12	1.74	0.36	5.22	0.06	0.87	150	5.91
150	5.91	0.11	1.60	0.33	4.79	0.06	0.87	160	6.30
160	6.30	0.10	1.45	0.30	4.35	0.05	0.73	170	6.69
170	6.69	0.09	1.31	0.27	3.92	0.05	0.73	180	7.09
180	7.09	0.08	1.16	0.24	3.48	0.05	0.73	190	7.48
200	7.87	0.07	1.02	0.21	3.05	0.04	0.58	210	8.27
205	8.07	0.07	1.02	0.21	3.05	0.04	0.58	215	8.46
220	8.66	0.06	0.87	0.18	2.61	0.04	0.58	230	9.06
250	9.84	0.05	0.73	0.15	2.18	0.03	0.44	260	10.24
255	10.04	0.05	0.73	0.15	2.18	0.03	0.44	265	10.43
300	11.81	0.04	0.58	0.12	1.74	0.02	0.29	310	12.20
305	12.01	0.04	0.58	0.12	1.74	0.02	0.29	315	12.40
310	12.20	0.04	0.58	0.12	1.74	0.02	0.29	320	12.60
315	12.40	0.04	0.58	0.12	1.74	0.02	0.29	325	12.80
320	12.60	0.04	0.58	0.12	1.74	0.02	0.29	330	12.99
325	12.80	0.04	0.58	0.12	1.74	0.02	0.29	335	13.19
330	12.99	0.03	0.44	0.09	1.31	0.02	0.29	340	13.39
335	13.19	0.03	0.44	0.09	1.31	0.02	0.29	345	13.58
340	13.39	0.03	0.44	0.09	1.31	0.02	0.29	350	13.78
345	13.58	0.03	0.44	0.09	1.31	0.02	0.29	355	13.98
350	13.78	0.03	0.44	0.09	1.31	0.02	0.29	360	14.17
400	15.75	0.03	0.44	0.09	1.31	0.02	0.29	410	16.14
450	17.72	0.02	0.29	0.06	0.87	0.01	0.15	460	18.11

*For more diameters consults our sales representatives

VENABIO® TECHNOSIL

INNER DIAMETER		WALL THICKNESS		BENDING RADIUS		WORKING PRESSURE		BURSTING PRESSURE	
mm	inch	mm	inch	mm	inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F
6.35	1/4	13.2	33/64	40	1 37/64	9.3	135	28.0	406
7.93	5/16	15	19/32	45	1 25/32	7.7	111	23.0	334
12.7	1/2	20.3	51/64	70	2 3/4	5.7	82	17.0	247
15.87	5/8	24.5	31/32	85	3 11/32	4.3	63	13.0	189
22.22	7/8	31.3	1 15/64	110	4 21/74	3.3	48	10.0	145
25.4	1	34.5	1 23/64	135	5 5/16	3.0	44	9.0	131
31.75	1 1/4	40.8	1 39/64	160	6 19/64	2.3	34	7.0	102

VENABIO® TECHNOSIL PLUS

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE		BURSTING PRESSURE		BENDING RADIUS		VACUUM PRESSURE	
mm	inch	mm	inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	mm	inch	bar	psi
5.00	13/64	4.00	0.46	25.16	364.92	75.48	1094.76	30.00	1.20	1.00	14.50
6.35	1/4	4.83	0.19	23.74	344.32	71.22	1032.97	34.00	1.36	1.00	14.50
7.90	5/16	5.05	0.20	22.85	331.37	68.54	994.10	37.00	1.48	1.00	14.50
9.52	3/8	5.24	0.21	22.31	323.54	66.92	970.61	46.00	1.84	0.95	13.78
12.70	1/2	5.15	0.20	19.44	281.91	58.31	845.73	51.00	2.04	0.95	13.78
15.80	5/8	5.60	0.22	16.97	246.18	50.92	738.54	65.00	2.60	0.90	13.05
19.05	3/4	5.73	0.23	15.58	226.02	46.75	678.06	76.00	3.04	0.80	11.60
22.00	7/8	5.50	0.22	13.95	202.33	41.85	606.99	99.00	3.96	0.50	7.25
25.40	1.00	5.80	0.23	12.50	181.25	37.49	543.75	118.00	4.72	0.40	5.80
28.00	1 7/64	5.00	0.20	11.67	169.21	35.00	507.64	160.00	6.40	0.15	2.18
31.75	1 1/4	7.13	0.28	10.07	146.01	30.20	438.02	181.00	7.24	0.15	2.18

VENA® PUR SMOOTH FULL-X

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402		BURSTING PRESSURE ISO 1402		VACUUM RESISTANCE	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F	bar at 20°C	psi at 68°F
20.00	0.79	3.60	0.14	10.44	151.35	31.31	454.06	0.93	13.49
25.00	0.98	3.60	0.14	9.40	136.27	28.19	408.80	0.93	13.49
30.00	1.18	3.60	0.14	8.46	122.68	25.38	368.05	0.93	13.49
32.00	1.26	3.60	0.14	8.11	117.64	24.34	352.92	0.93	13.49
35.00	1.38	3.60	0.14	7.62	110.46	22.85	331.37	0.93	13.49
38.00	1.50	3.60	0.14	7.15	103.71	21.46	311.14	0.93	13.49
40.00	1.57	3.60	0.14	6.86	99.45	20.58	298.34	0.93	13.49
45.00	1.77	3.60	0.14	6.17	89.53	18.52	268.60	0.93	13.49
51.00	2.01	3.60	0.14	5.44	78.93	16.33	236.80	0.93	13.49
60.00	2.36	4.00	0.16	4.51	65.34	13.52	196.02	0.70	10.15
63.50	2.50	4.00	0.16	4.19	60.71	12.56	182.13	0.70	10.15
70.00	2.76	4.00	0.16	3.65	52.96	10.96	158.89	0.70	10.15
76.00	2.99	4.00	0.16	3.22	46.69	9.66	140.08	0.70	10.15
82.00	3.23	4.00	0.16	2.84	41.17	8.52	123.50	0.70	10.15
90.00	3.54	4.00	0.16	2.40	34.80	7.20	104.40	0.70	10.15
102.00	4.02	4.00	0.16	1.87	27.05	5.60	81.14	0.70	10.15
114.00	4.49	4.00	0.16	1.45	21.02	4.35	63.07	0.70	10.15
127.00	5.00	4.50	0.18	1.10	16.00	3.31	48.00	0.70	10.15

VENA® STEAMFLOW

INNER DIAMETER		WALL THICKNESS		WORKING PRESSURE ISO 1402/2009		BURSTING PRESSURE ISO 1402/2009		BENDING RADIUS ISO 10619-1	
mm	inch	(+1/0.5mm)	+0.04/ -0.02 inch	Bar at 20°C	Psi at 68°F	Bar at 20°C	Psi at 68°F	mm	inch
10.00	3/8	6.50	0.26	21.30	308.90	63.90	926.80	123.80	4.90
13.00	1/2	6.50	0.26	19.40	281.40	58.20	844.10	135.30	5.30
16.00	5/8	6.50	0.26	17.10	247.50	51.20	742.60	148.20	5.80
19.00	3/4	6.50	0.26	15.30	221.40	45.80	664.30	162.40	6.40
25.00	1	6.50	0.26	11.40	165.30	34.20	496.00	194.70	7.70
32.00	1 1/4	6.50	0.26	9.90	143.10	29.60	429.30	239.10	9.40
38.00	1 1/2	6.50	0.26	9.60	139.70	28.90	419.20	283.00	11.10
50.00	2	6.50	0.26	8.60	124.70	25.80	374.20	396.00	15.60

PHARMALOADER®

NOMINAL CLAMP Ø	CLAMP HEAD Ø	INNER Ø	OVERALL LENGHT		WORKING PRESSURE	
inch	mm	mm	inch	mm	bar	psi
1	50,5	22,1	4	102	1,00	14
1 1/2	50,5	34,7	4	102	0,90	13
2	64	47,5	4	102	0,80	11
2 1/2	77,5	60	4	102	0,70	10
3	91	73	6	152	0,60	8
4	119	97,6	6	152	0,50	7
5	155	125	7	178	0,40	5
6	183	150	7	178	0,35	5
6	167	147	7	178	0,35	5
8	233,5	200	7	178	0,20	3
8	218	198	7	178	0,20	3
10	270	250	8	204	0,10	1

PHARMALOADER® PLUS

NOMINAL CLAMP Ø	CLAMP HEAD Ø	INNER Ø	OVERALL LENGHT	WORKING PRESSURE	BURSTING PRESSURE
inch	mm	mm	mm(inches)	bar	bar
1 1/2"	50.50	34.70	4" (102)	5.70	17.00
2"	64.00	47.50	4" (102)	4.00	12.00
3"	91.00	73.00	6"(152)	2.60	7.90

4.CHEMICAL COMPATIBILITY

A	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
acetaldehyde	A	D	A	A
acetamide	B	B	A	A
acetic acid 5%	A	A	A	A
acetic acid 30%	A	B	A	A
acetic acid, hot high press	C	D	A	C
acetic acid, glacial	B	D	A	B
acetic anhydride	C	D	A	B
acetone	B	D	A	A
acetophenone	D	D	A	A
acetyl acetone	D	D	A	A
acetyl chloride	C	A	A	D
acetylene	B	A	A	A
acetylene tetrabromide	-	A	A	A
acrylonitrile	D	D	A	D
adipic acid	-	-	A	-
aero lubriplate	B	A	A	D
aero safe 2300	C	D	A	A
aero safe 2300 w	C	D	A	A
aero shell IAC	B	A	A	D
aero shell 7 A grease	B	A	A	D
aero shell 17 grease	B	A	A	D
aero shell 750	D	A	A	D
air-below 300° F	A	A	A	B
air-above 300° F	A	A	A	D
alkazene	D	B	A	D
alum NH3 CR-K	A	D	A	A
aluminum acetate	D	D	A	A
aluminum bromide	A	A	A	A
aluminum chloride	B	A	A	A
aluminum fluoride	B	A	A	A
aluminum nitrate	B	A	A	A
aluminum phosphate	A	A	A	A
aluminum salts	A	A	A	A
aluminum sulfate	A	A	A	A
ambrex 33 mobile	D	A	A	D
amines, mixed	B	D	A	B
ammonia anhydrous(liquid)	C	D	A	A
ammonia gas, cold	A	D	A	A
ammonia gas, hot	A	D	A	B
ammonia & lichium metali solution	D	D	A	B
ammonium carbonate	-	-	A	A
ammonium chloride	-	A	A	A
ammonium hydroxide (con-centrated)	A	B	A	A
ammonium nitrate	-	-	A	A
ammonium nitrite	B	-	A	A
ammonium persulfate solution	-	-	A	A
ammonium persultate 10%	-	-	A	A
ammonium phosphate	A	-	A	A
ammonium phosphate, mono-basic	A	-	A	A
ammonium phosphate, dibasic	A	-	A	A
ammonium phosphate, tribasic	A	-	A	A
ammonium salts	A	C	A	A
ammonium sulfate	A	A	A	A
ammonium sulfide	-	D	A	A
amyl acetate	D	D	A	A
amyl alcohol	D	B	A	A
amyl borate	-	-	A	D
amyl chloride	D	A	A	D
amyl chloronaphthalene	D	A	A	D
amyl naphthalene	D	A	A	D
anderol L 774 (di-ester)	D	A	A	D
anderol L 826 (di-ester)	D	A	A	D
anderol L 829 (di-ester)	D	A	A	D
ang-25 (glycerol ester)	B	A	A	A
ang-25 (di-ester base)	B	A	A	D
anhydrous ammonia	B	D	A	A
anhydrous hydrazine	-	D	A	B
anhydrous hydrogen fluo	-	D	A	A
aniline	D	C	A	B
aniline dyes	C	B	A	B
aniline hydrochloride	D	B	A	C
aniline oils	D	C	A	B
animal fats	B	A	A	B
animal oil (lard oil)	B	A	A	B
AN-03 grade M	B	A	A	D
AN-0-6	D	A	A	D
AN-0-366	D	A	A	D
AN-V V-0-366 b hydrofluid	D	A	A	D
ansul ether	D	D	A	C
aqua regia	D	B	A	C
argon	B	A	A	A
aroclor 1248	B	A	A	B
aroclor 1254	C	A	A	B
aroclor 1260	A	A	A	-
aromatic fuel 50%	D	A	A	D
arsenic acid	A	A	A	A
arsenic trichloride	-	-	A	-
askatel	D	A	A	D
asphalt	D	A	A	D
ASTM oit #1	A	A	A	D
ASTM oil #2	D	A	A	D
ASTM oil #3	C	A	A	D
ASTM oil #4	D	A	A	D
ASTM reference fuel A	D	A	A	D
ASTM reference fuel B	D	A	A	D
ASTM reference fuel C	D	A	A	D
ATL-857	D	A	A	D
atlantic dominion F	D	A	A	D
aurex 903R mobil	D	A	A	D
automatic transmission fluid	D	A	A	D
automotive brake fluid	C	D	A	A

B	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
bardol B	D	A	A	-
barium chloride	A	A	A	A
barium hydroxide	A	A	A	A
barium salts	A	A	A	A
barium sulfate	A	A	A	A
barium sulfide	A	A	A	A
bayol D	D	A	A	D
beer	A	A	A	A
beet sugar liquors	A	A	A	A
benzaldehyde	D	D	A	A
benzene	D	A	A	D
benzene sulfonic acid	D	A	A	D
benzine	D	A	A	D
benzochloride	-	A	A	A
benzoic acid	B	A	A	D
benzophenone	-	A	A	B
benzyl alcohol	-	A	A	B
benzyl benzoate	-	A	A	B
benzyl chloride	D	A	A	D
black point 77	C	A	A	A
black sulphate liquors	B	A	A	B
blast furnace gas	A	A	A	D
bleach solution	B	A	A	A
borax	B	A	A	A
bordeaux mixture	B	A	A	A
boric acid	A	A	A	A
boron fluids (HEF)	D	A	A	D
brake fluid (non petroleum)	C	D	A	A
bray GG-130	D	A	A	D
brayco 719-R (VV-H-910)	B	D	A	A
brayco 885 MILL-L-6085 A	D	A	A	D
brayco 910	D	D	A	A
bret 710	D	D	A	A
brine	-	-	A	A
brom-113	D	-	A	D
brom-114	D	B	A	D
bromine	D	A	A	D
bromine anhydrous	C	A	A	-
bromine pentafluoride	D	D	A	D
bromine trifluoride	D	D	A	D
bromine water	D	A	A	D
bromobenzene	D	A	A	D
bromochloro trifluoroethane	D	A	A	D
bunker oil	B	A	A	D
butadiene	D	B	A	D
butane	D	A	A	D
butane 2.2-dimethyl	D	A	A	D
butane 2.3-dimethyl	D	A	A	D

Resistance to different products:
A - excellent
B - good
C - insufficient
D - unsatisfactory

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
butanol (butyl alcohol)	B	A	A	B
1-butane.2-ethyl	D	A	A	D
butter	B	A	A	B
butyl acetate	D	D	A	B
butyl acetyl ricinoleate	-	A	A	A
butyl acrylate	-	D	A	D
butyl alcohol	B	A	A	B
butyl amine	B	D	A	D
butyl benzoate	-	A	A	B
butyl butyrate	-	A	A	A
butyl carbitol	D	C	A	A
butyl cellosolve	-	D	A	A
butyl cellosolve adipate	B	B	A	B
butyl ether	D	D	A	C
butyl oleate	-	A	A	B
butyl stearate	-	A	A	B
butylene	D	A	A	D
butyraldehyde	D	D	A	B
butyric acid	-	B	A	B

C

calcine liquors	-	A	A	A
calcium acetate	D	D	A	A
calcium bisulfite	A	A	A	D
calcium carbonate	A	A	A	A
calcium chloride	A	A	A	A
calcium cyanide	A	-	A	A
calcium hydroxide	A	A	A	A
calcium hypochloride	-	A	A	A
calcium hypochlorite	B	A	A	A
calcium nitrate	B	A	A	A
calcium phosphate	A	A	A	A
calcium salts	B	A	A	A
calcium silicate	-	A	A	A
calcium sulfide	B	A	A	A
calcium sulfite	A	A	A	A
calcium thiosulfate	A	A	A	A
caliche liquors	B	A	A	A
cane sugar liquors	A	A	A	A
caproic aldehyde	B	D	A	B
carbanate	-	A	A	B
carbitol	B	B	A	B
carbolic acid	D	A	A	B
carbon bisulfide	-	A	A	D
carbon dioxide, dry	B	B	A	B
carbon dioxide, wet	B	B	A	B
carbon disulfide	-	A	A	D
carbon monoxide	A	A	A	A
carbon tetrachloride	D	A	A	D
carbonic acid	A	A	A	A
castor oil	A	A	A	B
cellosolve	D	D	A	B
cellosolve acetate	D	D	A	B

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
cellosolve butyl	D	D	A	B
celluguard	A	A	A	A
cellulube A60 (now fyrquel)	-	B	A	A
cellulube 90,100,150,220,300 and 500	A	A	A	A
cellutherm 2505A	-	A	A	D
cetate (hexadecane)	D	A	A	D
china wood oil (tunf oil)	D	A	A	C
chloroacetic acid	-	D	A	B
chlorodane	D	A	A	D
chlorextol	D	A	A	D
chlorinated salt brine	D	A	A	D
chlorinated solvents, dry	D	A	A	D
chlorinated solvents, wet	D	A	A	D
chlorine, dry	D	A	A	D
chlorine, wet	-	A	A	C
chlorine dioxide	-	A	A	C
chlorine dioxide (8%Cl as NAC102 in solution)	-	A	A	D
chlorine trifluoride	D	D	A	D
chloroacetone	D	D	A	A
chloroacetic acid	-	-	A	B
chlorobenzene	D	A	A	D
chlorobenzene (mono)	D	A	A	D
chlorobromo methane	D	B	A	B
chlorobutadiene	D	A	A	D
chrorododecane	D	A	A	D
chloroform	D	A	A	D
0-chloroaphtanene	D	A	A	D
I-chloro-I-nitro ethane	D	C	A	D
chlorosulfonic acid	D	C	A	D
chlorotoluene	D	A	A	D
chlorox	-	A	A	B
0-chlorphenol	D	A	A	D
chrome alum	A	A	A	A
chrome plating solution	B	A	A	D
chromic acid	C	A	A	C
chromic oxide 88 Wt, % aqueous solution	B	A	A	B
circo light process oil	D	A	A	D
citric acid	A	A	A	A
city service koolmotor-AP gear oil 140 E,P,Lube	D	A	A	D
city service pacemaker #2	D	A	A	D
city service #65,#120,#250	D	A	A	D
cobalt chloride	B	A	A	A
cobalt chloride, 2N	A	A	A	A
cocoanut oil	A	A	A	C
cod liver oil	B	A	A	A
coffe	A	A	A	A
coke oven gas	B	A	A	D
coliche liquors	-	-	A	B
convelex 10	D	-	A	-
coolanol (monsanto)	D	A	A	D
coolanol 45 (monsanto) +A269	D	A	A	D

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
copper acetate	D	D	A	A
copper chloride	A	A	A	A
copper cyanide	A	A	A	A
copper salts	A	A	A	A
copper sulfate	A	A	A	B
copper sulfate 10%	A	A	A	B
copper sulfate 50%	A	A	A	B
corn oil	A	A	A	C
cottonseed oil	A	A	A	C
creosol	D	A	A	D
creosote	D	A	A	D
creosote, coal tard	D	A	A	D
creosote, wood	D	A	A	D
creosvlic acid	D	A	A	D
crude oil	D	A	A	D
cumene	D	A	A	D
cutting oil	D	A	A	D
cyclohexane	D	A	A	D
cyclohexanol	D	A	A	D
cyclohexanone	D	D	A	B
P-cymene	D	A	A	D

D

decalin	D	A	A	D
decane	B	A	A	D
delco brake fluid	C	D	A	A
denatured alcohol	A	A	A	A
detergent solutions	A	A	A	A
developing fluids (photo)	A	A	A	B
dextrin	D	A	A	D
diacetone	D	D	A	A
diacetone alcohol	D	D	A	A
diazinon	D	B	A	D
dibenzyl ether	-	D	A	B
dibenzyl sebacate	C	B	A	B
dibromoethyl benzene	D	A	A	D
dibutylamine	C	D	A	D
dibutyl ether	D	C	A	C
dibutyl phthalate	B	B	A	C
dibutyl sebacate	B	B	A	B
0-dichlorobenzene	D	A	A	D
P-dichlorobenzene	D	-	A	D
dichloro-butane	D	A	A	D
dichloro-isopropyl ether	D	C	A	C
dicyclohexylamine	-	D	A	D
diesel oil	D	A	A	D
di-ester lubricant MIL-L-7808	D	A	A	D
di-ester synthetic lubricants	D	A	A	D
diethylamine	B	D	A	B
diethyl benzene	D	A	A	D

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
diethyl ether	D	D	A	D
diethyl sebacate	B	B	A	B
diethylene glycol	B	A	A	A
difluorodibromomethane	D	-	A	B
diisobutylene	D	A	A	D
diisooctyl sebacate	C	B	A	C
diisopropyl benzene	-	A	A	D
diisopropyl ketone	D	D	A	A
dimethyl aniline	-	D	A	B
dimethyl formamide	B	D	A	B
dimethyl phthalate	-	B	A	B
dinitro toluene	D	D	A	D
dioctyl phthalate	C	B	A	B
dioctyl sebacate	C	B	A	B
dioxane	D	D	A	B
dioxolane	D	D	A	B
dipentene	A	A	A	D
diphenyl	D	A	A	D
diphenyl oxides	C	A	A	D
dow chemical 50-4	-	D	A	A
dow chemical ET378	D	-	A	-
dow chemical ET588	-	D	A	B
dow corning-3	C	A	A	A
dow corning-4	C	A	A	A
dow corning-5	C	A	A	A
dow corning-11	C	A	A	A
dow corning-33	C	A	A	A
dow corning-44	C	A	A	A
dow corning-55	C	A	A	A
dow corning-200	C	A	A	A
dow corning-220	C	A	A	A
dow corning-510	C	A	A	A
dow corning-550	C	A	A	A
dow corning-704	-	A	A	A
dow corning-705	-	A	A	A
dow corning-710	C	A	A	A
dow corning-1208	C	A	A	A
dow corning-4050	C	A	A	A
dow corning-6620	C	A	A	A
dow corning-F60	C	A	A	A
dow corning-F61	B	A	A	A
dow corning-XF60	C	A	A	A
dow guard	A	A	A	A
dowtherm oil	B	A	A	D
dowtherm A or E	D	A	A	D
dowtherm 209.50%solution	C	D	A	A
driking water	A	A	A	A
dry cleaning fluids	D	A	A	D
DTE light oil	D	A	A	D

E

elco 28-EP lubricant	B	A	A	D
epichlorohydrin	D	D	A	B
epoxy resins	-	D	A	A
esam-6 fluid	-	D	A	A
esso fuel 208	B	A	A	D
esso golden gasoline	D	A	A	D
esso motor oil	D	A	A	D
esso transmission fluid (typeA)	D	A	A	D
esso WS3812 (MIL-L-7808 A)	D	A	A	D
esso SP90-EP lubricant	D	A	A	D
esstic 42,43	B	A	A	D
ethane	D	A	A	D
ethanol	A	A	A	A
ethanol amine	B	D	A	B
ethers	D	C	A	C
ethyl acetate-organic ester	B	D	A	B
ethyl acetoacetate	B	D	A	B
ethyl acrylate	B	D	A	B
ethyl acrylic acid	D	-	A	B
ethyl alcohol	B	A	A	A
ethyl benzene	D	A	A	D
ethyl benzoate	D	A	A	D
ethyl bromide	-	A	A	D
ethyl cellosolve	D	D	A	B
ethyl cellulose	C	D	A	B
ethyl chloride	D	A	A	A
ethyl chlorocarbonate	D	A	A	D
ethyl chloroformate	D	A	A	D
ethyl cyclopentane	D	A	A	D
ethyl ether	D	D	A	C
ethyl formate	-	A	A	B
ethyl hexanol	B	A	A	A
ethyl mercaptan	C	B	A	D
ethyl oxalate	D	A	A	D
ethyl pentachlorobenzene	D	A	A	D
ethyl silicate	-	A	A	A
ethylene	-	A	A	-
ethylene chloride	D	B	A	D
ethylene chlorohydrin	C	A	A	B
ethylene diamine	A	D	A	A
ethylene dibromide	D	A	A	C
ethylene dichloride	D	A	A	C
ethylene glycol	A	A	A	D
ethylene oxide	D	D	A	C
ethylene trichloride	D	A	A	C
ethylmorpholene stannous octoate (50/50)mixture	-	D	A	B

F

F-60 fluid (dow corning)	D	A	A	A
F-61 fluid (dow corning)	D	A	A	A
fatty acids	C	A	A	D
FC-43 hetacosofluorotri- butylamine	A	A	A	A
FC75 fluorocarbon	A	B	A	A
ferric chloride	B	A	A	A
ferric nitrate	C	A	A	A
ferric sulfate	B	A	A	A
fish oil	A	A	A	A
fluoboric acid	-	-	A	A
fluorine (liquid)	D	B	A	C
fluorobenzene	D	A	A	D
fluorocarbon oils	-	-	A	A
fluorolube	A	B	A	A
fluorinated cyclic ethers	-	-	A	A
fluosilicie acid	-	-	A	-
formaldehyde	B	D	A	A
formic acid	B	C	A	A
freon,11	D	A	A	D
freon,12	D	B	A	B
freon, 12&ASTM-oil#2 (50/50 mixture)	D	A	A	D
freon, 12&SUNISO 4G (50/50 mixture)	D	A	A	D
freon,13	D	A	A	A
freon, 13B1	D	A	A	A
freon,14	D	A	A	A
freon,21	D	D	A	D
freon,22	D	D	A	A
freon,22&ASTM OIL#2D (50/50 mixture)	B	A	A	B
freon,31	-	D	A	A
freon,32	-	D	A	A
freon,112	D	A	A	D
freon, 113	D	B	A	D
freon,114	D	B	A	A
freon,114B2	D	B	A	D
freon,115	D	B	A	A
feron,142b	-	D	A	A
freon,152a	-	D	A	A
freon, 218	-	A	A	A
freon, C316	-	-	A	A
freon, C318	-	A	A	A
freon, 502	-	B	A	A
freon, BF	D	A	A	D
freon, MF	D	B	A	D
freon, TF	D	B	A	D
freon, TA	A	C	A	A
freon, TC	D	A	A	B
freon, TMC	C	A	A	B
freon, t-P35	A	A	A	A
freon, T-WD602	D	A	A	B
freon, PCA	D	B	A	D
fuel oil	D	A	A	D
fuel oil acidic	A	A	A	D
fuel oil #6	A	A	A	D
fumaric acid	B	A	A	-
fuming sulphuric acid (20/25% oleum)	D	A	A	D

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA-/PTFE	IIR (VENA FOOD)
furan	-	-	A	C
furfural	D	D	A	B
furfuraldehyde	D	D	A	B
furfuraly alcohol	D	-	A	B
furyl carbinol	D	-	A	B
fyrquel A60	C	D	A	B
fyrquel 90, 100, 150, 220, 300 500	A	A	A	A

G

gallic acid	-	A	A	B
gasoline	D	A	A	D
gelatin	A	A	A	A
grilling brake fluid	-	D	A	A
glacial acetic-acid	B	D	A	B
glauber's salt	-	B	A	B
glucose	A	A	A	A
glue (depending on type)	A	A	A	A
glycerine-glycerol	A	A	A	A
glycols	A	A	A	A
green sulphate liquor	A	A	A	A
gulfcrown grease	D	A	A	D
gulf endurance oils	D	A	A	D
gulf FR fluids (emulsion)	D	A	A	D
gulf FRG-fluids	A	A	A	A
gulf FRp-fluids	A	B	A	B
gulf harmony oils	D	A	A	D
gulf high temperature grease	D	A	A	D
gulf lesion oils	D	A	A	D
gulf paraount oils	D	A	A	D
gulf security oils	D	A	A	D

H

halotane	D	A	A	D
halowax oil	D	A	A	D
hannifin lube A	B	A	A	D
heavy water	A	-	A	A
HEF-2 (high energy fuel)	D	A	A	D
helium	A	A	A	A
N-heptane	D	A	A	D
N-hexaldehyde	B	D	A	B
hexane	D	A	A	D
N-hexane-1	D	A	A	D
hexyl alcohol	B	A	A	C
high viscosity lubricant U14	A	A	A	A
high viscosity lubricant H2	A	A	A	A
hilo MS #1	C	D	A	B
houghto-safe271 (water and glycol base)	B	B	A	A
houghto-safe 620(water/ glycol)	B	B	A	A
houthto-safe 1010 phosphate ester	C	A	A	A
houghto-safe 1055 phospha-te ester	C	A	A	A
houghto-safe 1120 phosphate ester	C	A	A	A
houghto-safe 5040 (water/oil emulsion)	C	A	A	D
hydraulic oil (petroleumbase)	C	A	A	D
hydrazine	C	-	A	A
hydrobromic acid	D	C	A	A
hydrobromic acid 40%	D	A	A	A
hydrocarbons (saturated)	D	A	A	D
hydrochloric acid hot 37%	D	A	A	C
hydrochloric acid cold 37%	B	A	A	A
hydrochloric acid 3 M	D	A	A	A
hydrochloric acid concen-trated	D	A	A	C
hydrocyanic acid	C	A	A	A
hydro-drive, MIH-50 (petro-leum base)	B	A	A	D
hydro-drive, MIH-10 (petro-leum base)	B	A	A	D
hydrofluoric acid, 65% max. cold	D	A	A	A
hydrofluoric acid, 65% min. cold	D	A	A	C
hydrofluoric acid, 65% max. hot	D	C	A	D
hydrofluoric acid, 65% min. hot	D	C	A	D
hydrofluosilicic acid	D	A	A	A
hydrogen gas	C	A	A	A
hydrogen peroxide	A	A	A	A
hydrogen 90%	B	B	A	C
hydrogen sulfide, dry	C	D	A	A
hydrogen sulfide, wet	C	D	A	A
hydrolube-water/ethylene glycol	B	A	A	A
hydroquinone	-	D	A	D
hydyne	D	D	A	A
hyjet	-	D	A	A
hyjet III	-	D	A	A
hyjet S	-	D	A	A
hyjet W	-	D	A	A
hypochlorous acid	-	A	A	B

I

industron FF44	D	A	A	D
industron FF48	D	A	A	D
industron FF53	D	A	A	D
industron FF80	D	A	A	D
iodine	-	A	A	B
iodine pentafluoride	D	D	A	D
iodoform	-	-	A	A
isobutyl alcohol	A	A	A	A
iso-butyl N-butyrade	-	A	A	A
isododecane	-	A	A	D
iso-octane	D	A	A	D
isophorone (ketone)	D	D	A	A
isopropanol	A	A	A	A
isopropyl acetate	D	D	A	B
isopropyl alcohol	A	A	A	A
isopropyl chloride	D	A	A	D
isopropyl ether	D	D	A	D

J

JP 3 (MIL-J-5624)	D	A	A	D
JP 4 (MIL-J-5624)	D	A	A	D
JP 5 (MIL-J-5624)	D	A	A	D
JP 6 (MIL-J-25656)	D	A	A	D
JP X (MIL-J-25604)	D	D	A	D

K

kel F liquid	A	B	A	A
kerosene	D	A	A	D
keystone #87HX-grease	D	A	A	D

L

lactams-amino acids	-	D	A	B
lactic acid	A	A	A	A
lacquers	D	D	A	D
lacquer solvents	D	D	A	D
lard, animals fats	B	A	A	D
lavender oil	D	A	A	D
lead acetate	D	D	A	A
lead nitrate	B	-	A	A
lead sulfamate	B	A	A	A
lehigh x 1169	D	A	A	D
lehigh x 1170	D	A	A	D
light greas	D	A	A	D
ligroin (petroleum ether or benzine)	D	A	A	D
lime bleach	B	A	A	A
lime sulphur	A	A	A	A
lindol, hydraulic fluid (phos-phate ester type)	C	B	A	A
linoleic acid	B	B	A	D
linseed oil	A	A	A	C
liquid oxygen	D	D	A	D
liquid petroleum gas (LPG)	C	A	A	D
liquimoly	D	A	A	D
lubricating oils, di-ester	D	A	A	D
lubricating oils, petroleum base	D	A	A	D
lye solutions	B	B	A	A

M

magnesium chloride	A	A	A	A
magnesium hydroxyde	-	A	A	A
magnesium sulfate	A	A	A	A
magnesium sulfite	A	A	A	A
magnesium salt	A	A	A	A
malathion	D	A	A	D
maleic acid	-	A	A	D

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
maleic anhydride	-	A	A	D
malicacid	B	A	A	D
MCS312	A	A	A	D
MCS352	C	D	A	A
MCS463	C	D	A	A
mercuric chloride	-	A	A	A
mercury	-	A	A	A
mercury vapor	-	A	A	A
mesityl oxide (ketone)	D	D	A	B
methane	D	A	A	D
methanol	A	A	A	A
methyl acetate	D	D	A	B
methyl acetoacetate	B	D	A	B
methyl acrylate	D	D	A	B
methylacrylic acid	D	C	A	B
methyl alcochol	A	D	A	A
methyl benzoate	D	A	A	B
methyl bromide	-	A	A	D
methyl butyl ketone	D	D	A	A
methyl carbonate	D	A	A	D
methyl cellosolve	D	D	A	B
methyl cellulose	B	D	A	B
methyl chloride	D	A	A	C
methyl chloroformate	D	A	A	D
methyl D-bromide	D	A	A	-
methyl cyclopenthane	D	A	A	D
methylene chloride	D	B	A	D
methylene dichloride	D	B	A	D
methyl ether	A	A	A	A
methyl ethyl ketone (MEK)	D	D	A	A
methyl ethyl ketone peroxyde	B	D	A	D
methyl format	B	-	A	B
methyl isobutyl ketone (MIBK)	D	D	A	C
methyl isopropyl ketone	D	D	A	B
methyl methacrylic	C	D	A	D
methyl oleate	-	A	A	B
methyl salicylate	-	-	A	B
milk	A	A	A	A
mineral oils	B	A	A	D
mobil 24 DTE	D	A	A	D
mobil HF	-	A	A	D
mobil delvac 1100,1110,1130	D	A	A	D
mobil nyvac 20 and 30	A	A	A	A
mobil velocite C	D	A	A	D
mobilgas wa 200, type A automatic trans. Fluid	D	A	A	D
mobil oil SAE20	D	A	A	D
mobiltherm 600	D	A	A	D
mobilux	D	A	A	D
mono bromobenzene	D	A	A	D
mono chlorobenzene	D	A	A	D
monoethanolamine	B	D	A	B
monomerthyl aniline	-	B	A	-
monomerthylether	-	-	A	A
monomerthyl hydrazine	D	-	A	A
monotrotoluene & dinitrotoluene(40-60mix)	D	C	A	D
monovinyl acethylene	B	A	A	A
mopar brake fluid	C	D	A	A
mustard gas	A	-	A	A

N

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
naphtha	D	A	A	D
naphthalene	D	A	A	D
napthenic	D	A	A	D
natural gas	A	A	A	D
neatsfoot oil	B	A	A	B
neon	A	A	A	A
neville acid	D	A	A	B
nickel acetate	D	D	A	A
nickel chloride	A	A	A	A
nickel salts	A	A	A	A
nickel sulfate	A	A	A	A
niter cake	A	A	A	A
nitric acid 3 M	D	A	A	B
nitric acid concentrated	D	A	A	D
nitric acid dilute	B	A	A	B
nitric acid red fuming (RFNA)	D	C	A	D
nitric acid inhidited red fuming (IRFNA)	D	B	A	D
nitrobenzene	D	B	A	D
nitrobenzine	-	A	A	C
nitroethane	D	D	A	B
nitrogene	A	A	A	A
nitrogene (textroxide) (N204)	D	D	A	D
nitromethane	D	D	A	B
nitropropane	D	D	A	B

O

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
o-a-548 A	B	B	A	A
o-t-634b	D	A	A	D
octachlorotoluene	D	A	A	D
octadecane	D	A	A	D
N-octane	D	A	A	D
octyl alcohol	D	A	A	A
oleic acid	-	B	A	B
oleum (fuming sulfuric acid)	D	A	A	D
oleum spirits	D	A	A	D
olive oil	D	A	A	B
oronite 8200	D	A	A	D
oronite 8515	D	A	A	D
orthochloroethylbenzene	D	A	A	D
ortho-dichlorobenzene	D	A	A	D
os45 type III (os54)	D	A	A	D
os45 type IV (os45)	D	A	A	D
OS70	D	A	A	D
oxalic acid	B	A	A	A
oxygen, cold	A	A	A	A
oxygen, cold 200-400°F	B	B	A	D
ozone	A	A	A	A

P

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
p-s-66 lb	D	A	A	D
p-d-680	D	A	A	D
paint thinner duco	D	B	A	D
palmitic acid	D	A	A	B
para-dichlorobenzene	D	A	A	D
par-al-keton	D	D	A	D
parker o lube	B	A	A	D
peanut oil	A	A	A	C
pentane 2 methyl	D	A	A	D
pentane, 2-4 dimethyl	D	A	A	D
pentane, 3 dimethyl	D	A	A	D
N-pentane	D	A	A	D
perchloric acid	D	A	A	B
perchloroethylene	D	A	A	D
petroleum oil, crude	D	A	A	D
petroleum oil, below 250°FB	B	A	-	A
petroleum oil, above 250°F	D	B	A	D
phenol	D	A	A	B
phenol, 70%/30%H20	D	A	A	D
phenol, 85%/15%H20	D	A	A	D
phenylbenzene	D	A	A	D
phenyl ethy ether	D	D	A	D
phenyl hydrazine	-	A	A	D
phorone	D	D	A	B
phosphoric acid 20%	B	A	A	A
phosphoric acid 45%	D	A	A	B
phosphoric acid 3 M	B	A	A	A
phosphoric acid concentrated	C	A	A	B
phosphorus trichloride	-	A	A	A
pickling solution	D	B	A	C
picric acid H2O solution	D	A	A	B
picric acid molten	D	A	A	B
pinene	D	A	A	D
pine oil	D	A	A	D
piperidine	D	D	A	D
plating solutions, chrome	D	A	A	A
plating solutions, other	D	A	A	A
pneumatic service	D	A	A	A
polyvinyl acetate emulsion	D	-	A	A
potassium acetate	D	D	A	A
potassium chloride	A	A	A	A
potassium cupro cyanide	A	A	A	A
potassium cyanide	A	A	A	A
potassium dichromate	A	A	A	A
potassium hydroxide	C	B	A	A
potassium nitrate	A	A	A	A
potassium salts	A	A	A	A
potassium sulfate	A	A	A	A
potassium sulfite	A	A	A	A

	SILICONE	FKM (VENA FLEXIP)	FEP/PFA/PTFE	IIR (VENA FOOD)
prestone antifreeze	A	A	A	A
PRL-high temp.hydr.oil	B	A	A	D
producer gas	B	A	A	D
propane	D	A	A	D
propane propionitrile	D	A	A	D
propyl acetate	D	D	A	B
N-propyl acetone	D	D	A	A
propyl alcohol	A	A	A	A
propyl nitrate	D	D	A	B

S

shell diala	D	A	A	D
shell iris 905	D	A	A	D
shell iris 3XF mine fluid (fire resist.hydr.)	-	A	A	D
shell iris tellus #2 pet.base	D	A	A	D
shell iris tellus #33	D	A	A	D
shell iris tellus UMF (5% aromatic)	D	A	A	D
shell Lo hydrax 27 & 29	D	A	A	D
shell macoma 72	D	A	A	D
silicate esters	D	A	A	D
silicone greases	C	A	A	A
silicone oils	C	A	A	A
silver nitrate	A	A	A	A
sinclair,opaline CX-EPLlube	D	A	A	D
skelly,solvent B,C,E	-	A	A	D
skydrol 500	C	D	A	A
skydrol 7000	C	B	A	A
soap solution	A	A	A	A
socony mobile type A	D	A	A	D
socony vacuum AMV AC781 (grease)	D	A	A	D
socony vacuum PD959B	D	A	A	D
soda ash	A	A	A	A
sodium acetate	D	D	A	A
sodium bicarbonate (baking soda)	A	A	A	A
sodium bisulfite	A	A	A	A
sodium borate	A	A	A	A
sodium carbonate (sodium ash)	A	A	A	A
sodium chloride	A	A	A	A
sodium cyanide	A	A	A	A
sodium hydroxide	B	B	A	A
sodium hydrochlorite	B	A	A	B
sodium metaphospate	-	A	A	A
sodium nitrate	D	-	A	A
sodium perborate	B	A	A	A
sodium peroxide	D	A	A	A
sodium phosphate (mono)	D	A	A	A
sodium phosphate (dibasic)	D	A	A	A
sodium phosphat (tribasic)	A	A	A	A
sodium salts	A	A	A	A
sodium silicate	-	A	A	A
sodium sulphate	A	A	A	A
sodium sulphide	A	A	A	A
sodium sulphite	A	A	A	A
sodium trisultate	A	A	A	A
sovasol #1, 2 & 3	D	A	A	D
sovalsol # 73 & 74	D	A	A	D
soybean oil	A	A	A	C
spry	A	A	A	B
SR-6 fuel	D	A	A	D
SR-10 fuel	D	A	A	D
standard oil mobilube GX90-EP lube	D	A	A	D
stannic chloride	B	A	A	B
stannic chloride 50%	B	A	A	B
stannous chloride	B	A	A	A
stauffer 7700	D	A	A	D
steam, below 350°F	D	D	A	A
steam, above 350°F	D	D	A	C
stearic acid	B	-	A	B
stoddard solvent	D	A	A	D

T

TT-S-735,type II	D	A	A	D
TT-S-735,type III	D	A	A	D
TT-S-735,type IV	C	A	A	D
TT-S-735,type V	C	A	A	D
TT-S-735,type VI	C	A	A	D
TT-T-656b	D	D	A	A
tannic acid	B	A	A	A
tannic acid 10%	B	A	A	A
tar bituminous	B	A	A	D
tartaric acid	A	A	A	B
terpineol	-	A	A	C
tertiary butyl alcohol	B	A	A	B
tertiary butyl catechol	-	A	A	B
tertiary butyl mercaptan	D	A	A	D
tetrabromomethane	D	A	A	D
tertabutyl titanate	-	A	A	A
tetrachloroethylene	-	A	A	D
tetraethyl lead	-	A	A	D
"tetraethyl lead" blend	-	A	A	D
tetrahydrofuran	-	D	A	B
tetralin	D	A	A	D
texaco 3450 gear oil	D	A	A	D
texaco capella A & AA	D	A	A	D
texaco meropa #3	D	A	A	D
texaco regal B	D	A	A	D
texaco uni-ttemp grease	B	A	A	D
texamatic "A" trans.oil	D	A	A	D
texamatic 1581 fluid	D	A	A	D
texamatic 3401 fluid	D	A	A	D
texamatic 3525 fluid	D	A	A	D
texamatic 3528 fluid	D	A	A	D
texas 1500 oil	B	A	A	D
thiodol TP-90B	-	A	A	A
thiodol TP-95	-	A	A	A
thionyl chloride	-	A	A	D
tidewater oil-beedol	B	A	A	D
tidewaater oil multigear 140, EP lube	-	A	A	D
titanium tetrachloride	-	A	A	D
toluene	-	A	A	D
toluene discocyanids	-	D	A	B
transformer oil	B	A	A	D
transmission fluid type A	B	A	A	D
triacetin	-	D	A	A
triaryl phosphate	C	A	A	A
tributoxyethyl phosphate	-	A	A	A
tributyl mercaptan	D	A	A	D
tributyl phosphate	-	D	A	A
trichlorroacetic acid	-	C	A	B
trichloroethane	D	A	A	D
trichloroethylene	D	A	A	D
tricresyl phosphate	C	B	A	A
triethanol amine	-	D	A	B
triethyl aluminium	-	B	A	-
triethyl borane	-	A	A	-
trifluoroethane	D	A	A	D
trinitroluene	-	B	A	D
trioctyl phosphate	C	B	A	A
tripoly phosphate	C	B	A	A
tung oil (china wood oil)	D	A	A	D

X

xylene	D	A	A	D
sylidepenes-mixed-aromatic amines	D	D	A	D
xylol	D	A	A	D
xenon	A	A	A	A

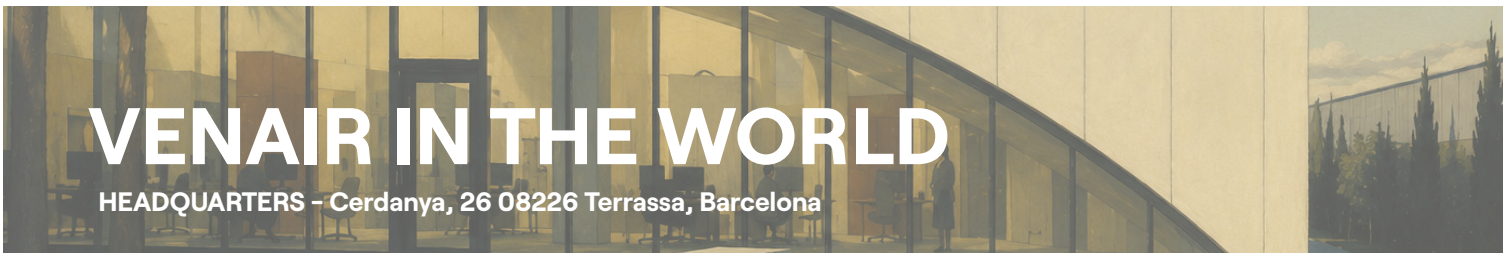
Z

zeolites	-	A	A	A
zinc aceate	D	D	A	A
zinc chloride	-	A	A	A
zinc salts	A	A	A	A
zinc sulfate	A	A	A	A

The chemical compatibility ratings shown in this table are provided for guidance purposes only.

Actual material performance may vary depending on operating conditions, fluid concentration, temperature, pressure, and other application-specific factors.

These recommendations do not constitute a guarantee of suitability for a particular application.
Validation under actual service conditions is recommended prior to use.



VENAIR IN THE WORLD

HEADQUARTERS - Cerdanya, 26 08226 Terrassa, Barcelona

EUROPE

CROATIA
ZAGREB
Zavrtnica 17 1000 Zagreb
hrsales@venair.com

FRANCE
LYON
ZAC Champ Perrier
7 Porte du Grand Lyon
FR-01700 Neyron
contact@venair.com

GERMANY
DORTMUND
Emil-Figge-Strasse 80
D-44227 Dortmund
kontakt@venair.com

FREIBERG AM NECKAR
Robert-Bosch-Strasse 3 D-71691
Freiberg am Neckar
kontakt@venair.com

ITALY
CASTELLAZZO
Via Baudolino Giraudi, 1, 15073,
Castellazzo Bormida (AL)
commerciale@venair.com

POLAND
KRAKÓW
ul. Czyżówka 16
plsales@venair.com

WARSAW
ul. Stępińska 22/30 lok.11 00-739
Warszawa
plsales@venair.com

SPAIN
TERRASSA
C/ Cerdanya 26,
08226 Barcelona
info@venair.com

ALCALÁ DE HENARES
Avda. Juan Carlos I, 13 LOCAL 47,
28806 Alcalá de Henares (Madrid)
info@venair.com

BILBAO
Astintze kalea 6A
Edificio INBISA 2ª Planta,
Oficina 207 - 48160 Derio
info@venair.com

SWEDEN
STOCKHOLM
Malmskillnadsgatan 29,
111 57 Stockholm, Suecia
sesales@venair.com

TURKEY
ANKARA
Kızılırmak Mahallesi,
Dumlupınar Bulvarı, No:3,
Next Level Ofis A Blok, T kat
venairtr@venair.com

ISTANBUL
Mimar Sinan Mah.
Üsküdar Cad. No:1 Yedpa D-172
Ataşehir İstanbul
venairtr@venair.com

UK
WARRINGTON
Unit 50, Gateway 49
Trade Park Kerfoot Street
Warrington WA2 8NT
uksales@venair.com

ASIA & MIDDLE EAST

CHINA
BEIJING
Room 211, 401, 4/F, Building 1, No. 15
Guanghua Road, Chaoyang District,
Beijing
cnsales@venair.com

GUANGZHOU
Room 6023, Shangsheng Tower B,
Hemuling Street Jiahe, Wanggang,
Baiyun District
Guangzhou, China
cnsales@venair.com

SHANGHAI
JiangKai Road 177, Building 3, Floor 1
Room
02-03 Minhang District,
Shanghai 201112
cnsales@venair.com

INDIA
BENGALURU
Survey No. 118/2 (Old Survey No. 82),
80 Feet Road, Jakkur, Bengaluru,
Karnataka 560064, India
insales@venair.com

HYDERABAD
Ground floor, Shop no 2, Apurupa
Colony, Dollars Hills Colony, Pragathi
Nagar, Hyderabad, Telangana
500090, India
insales@venair.com

PUNE
Gaurav Icon Tower Pune,
411057 Maharashtra
insales@venair.com

PUNE
Solitaire Business Hub, opp.
eco Garden Road, Society, Clover Park,
Viman Nagar, Pune, Maharashtra, 411014
insales@venair.com

INDONESIA
SOUTH YAKARTA
Plaza Sovereign, 8th Floor Jl. TB
Simatupang Kav. 36, RT.1 / RW.2
Cilandak, Jakarta Selatan,
12430, Indonesia
sgsales@venair.com

ISRAEL
TEL AVIV
1 Hatachana St Kfar Saba,
Kfar Saba,
ilsales@venair.com

KOREA
SEOUL
78 Saeun-ro, Giheung-gu,
Yongin-si, Gyeonggi-do,
Korea Quick Building, 2nd Floor
Republic of Korea
krsales@venair.com

MALAYSIA
KUALA LUMPUR
Level 12, Sunway V2 Tower No. 158,
Jalan Peel, Sunway Velocity, 5
5100 Kuala Lumpur
sgsales@venair.com

SINGAPORE
GEYLANG
110 Lor 23 Geylang, #04-06 YAYOI
Victory Centre,
Singapur 388410
sgsales@venair.com

VIETNAM
Unit A Floor 2 Standard Factory Road 14
Tan Thuan EPZTan Thuan Dong Ward -
District 7 Ho Chi Minh City
vnsales@vinasil.com

AMERICA

ARGENTINA
BUENOS AIRES
Av Alsina 622 OF 4, Banfield,
Buenos Aires
arsales@venair.com

BRASIL
SÃO PAULO
Alameda 2° Sargento Fábio Pavani, 282,
Jardim Japão - São Paulo,
CEP 02142-040 São Paulo (SP)
brsales@venair.com

COLOMBIA
BOGOTÁ
Carrera 28 No. 11 67 Centro de
Comercio Empresarial Ricaurte Oficina
524 Ciudad de Bogotá
cosales@venair.com

MEXICO
ATIZAPÁN DE ZARAGOZA
Blvd. Adolfo López Mateos No.9 int. 1-A,
Col. el Potrero, Atizapán de zaragoza,
Estado de México
mxsales@venair.com

US
MIAMI
16713 Park Centre Blvd Miami Gardens,
FL 33169
usasales@venair.com

MERRIMACK
4 Center St Merrimack, NH 03054
usasales@venair.com

AFRICA

SOUTH AFRICA
JOHANNESBURG
2nd Floor, 1 Bompas Rd,
Dunkeld West, Johannesburg,
2196, Sudáfrica
zasales@venair.com

venair

Fluid solutions. Solid performance.

Venair reserves the right to change, amend, modify, suspend, continue or terminate all or any part of this Catalogue at any time without notice. It is the user's responsibility to ensure the suitability and safety of the VENAIR products for all intended uses. All the tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of the hoses in any particular application.

Limited Warranty: For a period of 6 months from the date of sale, VENAIR warrants this product to be free from defects in materials and workmanship. Our only obligation will be to replace any portion proving defective, or at our option, to refund the purchase price thereof. User assumes all other risk, if any, including the risk of injury, loss or damage, direct or consequential, arising out of the use, misuse, or inability to use, this product. THIS WARRANTY IS IN LIEU OF THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. No deviation is authorized. VENAIR assumes no obligations or liability for any advice furnished by it, or for results obtained with respect to those products. All such advice is given and accepted at the buyer's risk.Vena, Venair and the Venair logo are trademarks of Venair Ibérica S.A.U.
IL/MB

CAT 47 REV 00 EN
Copyright 2027 | Venair Group | All rights reserved.

venair
Fluid solutions. Solid performance.