



**SLEEVES**

**THE SOLUTION YOU'VE BEEN LOOKING FOR**

## THE CORE OF OUR VALVE

*The core of the Larox pinch valve is the elastic sleeve, which is the only part in contact with the medium. The full bore sleeve integrates the valve to the pipeline. This full bore design eliminates turbulence and minimizes pressure losses. Technologically advanced Larox sleeves guarantee high wear and corrosion resistance, a trouble free operation, and extended lifetime. Our sleeves are 100% tight.*

### TECHNICAL FEATURES

- Size Range  
25 mm – 1000 mm
- Operating Temperature  
-50°C – +160°C
- Operating Pressure  
from Vacuum to  
100 bar

### PRODUCT FEATURES

- Flexible
- Self-cleaning
- Multilayer Construction
- Full Bore
- 100% Tight
- Only the Sleeve  
is in Contact with  
the Medium
- Numerous Elastomer  
Compounds
- Special Sleeve Designs

### PROCESS BENEFITS

- Excellent Wear  
Resistance
- High Corrosion  
Resistance
- No Turbulence
- No Jamming or Clogging
- No Flow Restriction
- Reduced Process  
Downtime

Larox sleeves are handmade layer by layer in a quality process covered by ISO 9001:2000. The standard sleeve design consists of three sets of layers: the inner layer, the reinforcement layer and the outer layer.

- The inner layer, which is the only part in contact with the medium, is resistant to wear and chemicals.
- The reinforcement layer gives the sleeve its pressure retaining capability. The operating pressure of the sleeve determines the reinforcement fabric to be used in this layer.
- The outer layer protects the sleeve from the external process environment.

All standard Larox sleeves are equipped with opening tags to ensure full valve opening in all conditions.

### A WIDE RANGE OF MATERIAL AND DESIGN OPTIONS

Pinch valves are often applied in aggressive, abrasive and corrosive media types, or in high-pressure applications. To cover a wider range of applications, our R&D has developed several sleeve materials and constructions to meet these industry-specific needs.

The high-grade Larox sleeve materials range from wear resistant styrene butadiene to numerous other elastomers and rubber compounds. These materials are highly resistant to abrasive and corrosive slurries, powders and granular substances. By introducing a HNBR, hydrogenated nitrile sleeve material, Larox sleeves can now handle temperatures up to 160°C.



## SPECIAL SLEEVE DESIGNS

**Several sleeve design options including a conical sleeve for control valves and a vacuum sleeve for negative pressure applications are available. Larox's sleeves can withstand pressures from vacuum up to 100 bar. Maintenance is easy as sleeve change requires no special tools.**

### VACUUM SLEEVE

Specially designed for negative pressure applications such as suction lines, pneumatic conveying with vacuum and for applications where sleeve pulsation occurs.

- Sizes: from 80 to 700 mm
- Standard valve bodies: PV, PVE, PVE/S and PVS
- Standard material range: SBRT, EPDM, NBR, NR, HNBR, CR, FPM, CSM and IIR
  - Three standard flange shapes
  - Opening tags as standard

### SENSOMATE SLEEVE

Larox SensoMate sleeve detects and signals critical wear.

- The sleeve incorporates a steel mesh vulcanized between the wear layer and reinforcement cords of the sleeve
- For electrically conductive media
- Available with all standard sleeve materials and sizes

### CONICAL SLEEVE

Conical sleeves ensure the most accurate control in flow control applications.

- Sizes: from 25 to 400 mm
- Standard valve bodies: PV, PVE, PVE/S and PVS
- Standard material range: SBRT, EPDM, NBR, NR, HNBR, CR, FPM, CSM and IIR
  - Reduced port is normally smaller than the pipeline size
  - Three standard flange shapes
  - Opening tags as standard

### POLYURETHANE (PU) LINED SLEEVE

Larox sleeves with polyurethane lining ensure improved protection against wear. Polyurethane has excellent resistance to abrasive media, which makes PU lined sleeves especially suitable for demanding control applications.

- Maximum operating temperature: 80°C
- Sizes from 25 to 300 mm
- Applicable to most Larox standard sleeve materials



Vacuum Sleeve



Conical Sleeve



SensoMate Sleeve



Polyurethane (PU)  
Lined Sleeve

## STANDARD SLEEVE MATERIALS FOR LAROX VALVES

RUBBER QUALITY	APPLICATION EXAMPLES	TEMPERATURE RANGE	TYPICAL MEDIA
<b>SBRT</b> Styrene Butadiene, Larox Blend	Heavy wearing High cycle frequency	-40°C - +110°C	Abrasive materials Diluted acid, alkali and chemical applications
<b>EPDM</b> Ethylene Propylene	Chemical applications • Applicable to 75% of all industrial chemical applications	-40°C - +120°C	Concentrated and oxidizing chemicals




## OTHER SLEEVE MATERIAL OPTIONS

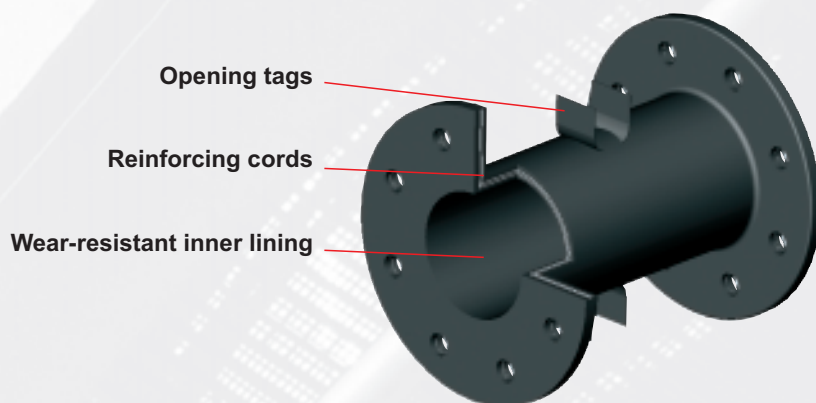
RUBBER QUALITY	APPLICATION EXAMPLES	TEMPERATURE RANGE	TYPICAL MEDIA
<b>NBR</b> Nitrile Rubber	Applications involving oils, fats and hydrocarbon	-30°C - +100°C	Oils, Fats, Fuels Hydrocarbon, Lubricants
<b>NR</b> Natural Rubber	High wear applications	-40°C - +75°C	Abrasive materials Diluted acids, alkali and chemicals
<b>HNBR</b> Hydrogenated Nitrile	High temperature applications	-30°C - +160°C	Oils, Fats, Fuels Hydrocarbon, Lubricants
<b>NRF</b> Natural Rubber Foodstuff Quality White inner lining	Foodstuff applications  Fulfils FDA (Food and Drug Administration) requirements	-40°C - +75°C	Media used in food and other CIP (clean-in-place) processes Alcohol
<b>NBRF</b> Nitrile Rubber White inner lining	Applications involving fatty foodstuff Fulfils FDA (Food and Drug Administration) requirements	-30°C - +100°C	Vegetable and animal oils and fats
<b>EPDM/B</b> Ethylene Propylene, Larox Blend	Pulp and paper industry's green liquor application	-40°C - +100°C	Green liquor Alkaline and extraneous matter in green liquor processes
<b>CR</b> Chloroprene Rubber	Special-purpose chemical applications • Resilient to ozone and averse weather	-40°C - +100°C	Chemicals, Acids Several solvents Aliphatic oils Fats, Lubricants
<b>FPM</b> Fluorine Rubber (Viton®)	Special-purpose chemical applications • Resilient to ozone and averse weather	-20°C - +120°C	Chemicals Aliphatic oils Aromatic and halogenated hydrocarbon
<b>CSM</b> Chloro-sulphone-ethylene (Hypalon®)	Special-purpose chemical applications • Resilient to ozone and averse weather	-40°C - +100°C	Chemicals, Acids Several solvents Aliphatic oils Fats, Lubricants
<b>IIR</b> Butyl	Special-purpose chemical applications • Impermeable to gas	-40°C - +100°C	Concentrated and acidic chemicals Vegetable oils
<b>PU</b> Polyurethane • With PU lining or solid PU	Abrasive media applications	-10°C - +80°C	Abrasive materials Diluted chemicals Hydrocarbon Oils, Lubricants

For more information on sleeve materials for Larox valves, contact your nearest Larox representative. Visit [www.larox.fi/flowsys/](http://www.larox.fi/flowsys/) for contact information.

# SLEEVE MODEL SELECTION


Example: SBRT 10100/250/3L2

SBRT	10	100	/	250	/	3	L	2
<b>SLEEVE MATERIALS</b>	<b>PRESSURE CLASSES (PN)</b>	<b>SLEEVE INNER DIAMETER (MM)</b>		<b>SLEEVE LENGTH (MM)</b>		<b>FLANGE SHAPE</b>	<b>OPENING TAGS</b>	<b>FLANGE DRILLINGS</b>
SBRT = styrene butadiene	1 = 1 bar	25 - 1000		Depends on the sleeve inner diameter		type 1	L = yes - = none	1 = - 2 = DIN PN 10 3 = DIN PN 16 4 = DIN PN 25 5 = DIN PN 40 6 = ANSI 150 7 = ANSI 300 8 = BS TABLE D 9A = AS TABLE D 9B = AS TABLE E 9C = JIS 10 9D = JIS 16 X = other, must be specified
EPDM= ethylene propylene	6 = 6 bar							
CR = chloroprene	10 = 10 bar					type 3		
CSM = chloro-sulphone-ethene	16 = 16 bar							
FPM = fluorine rubber	25 = 25 bar					type 4		
HNBR= hydrogenated nitrile	40 = 40 bar							
IIR = butyl	64 = 64 bar							
NBR = nitrile	100 = 100 bar							
NBRF = nitrile foodstuff quality								
NR = natural rubber								
NRF = natural rubber foodstuff quality								
PU = polyurethane								
_/PU = PU coating inside the sleeve								
_/M = Larox SensoMate sleeve								
						Determined by the valve manufacturer (depending on the valve diameter / pressure class)		





FOR YOUR LOCAL LAROX REPRESENTATIVE SEE  
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COMPANY PROFILE


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MANUAL VALVES

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**LAROX**  
FLOWSYS

LPP-D PUMP

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TYPE APPROVAL  
P-11460



ISO 9001