



AN ISO 13485 : 2016 CERTIFIED

## KOLENO DVT PUMPS - SLEEVES

### HIGHLIGHTS



**Adjustable pressure: 30 to 60 mmHg; 120 mmHg for foot sleeves**



**ISAS (Individual Sleeve Alarm System)**



**6-hour battery back up**



**Alarm mute function, Alarm auto correction**



**Strong and foldable steel hooks for bed mounting**



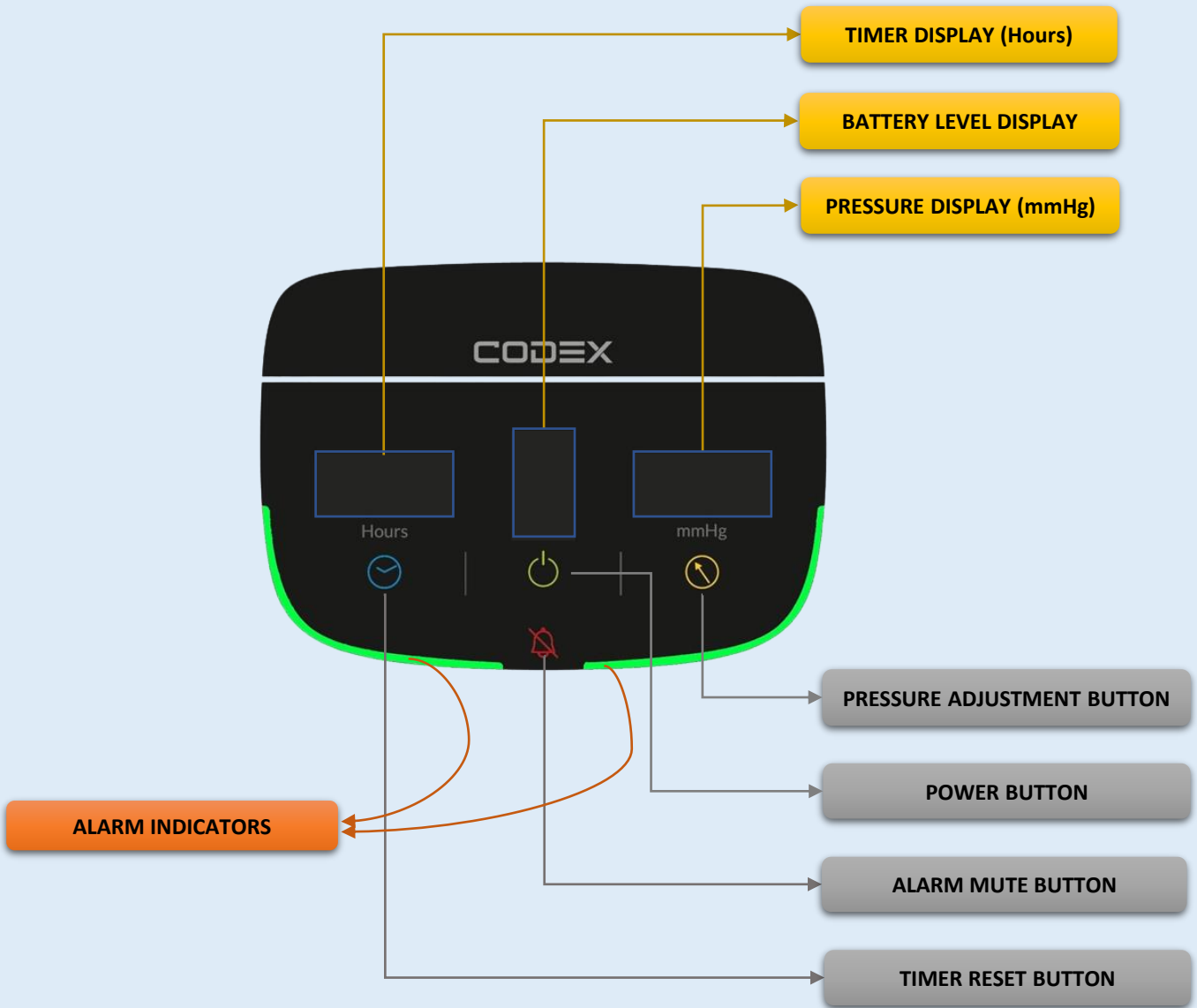
**Non detachable power cord, easy to replace fuses**

**Cable management strap**



**Patent pending, IEC 60601-1 compliant**

## USER INTERFACE



## ALARM INDICATIONS



Both sleeves connected



Only left sleeve connected

# KOLENO DVT PUMPS - SLEEVES



Only right sleeve connected



Pressure is 120 mmHg



Both sleeves connected,  
LP Alarm for the left sleeve



Both sleeves connected,  
HP Alarm for the right sleeve



Only left sleeve connected,  
LP Alarm for the left sleeve



SE alarm;  
i.e. No sleeves connected during sleeve checking



- Red rectangle indicates pump is running on battery power.
- Mains not connected
- 3 green bars: battery level is 60%

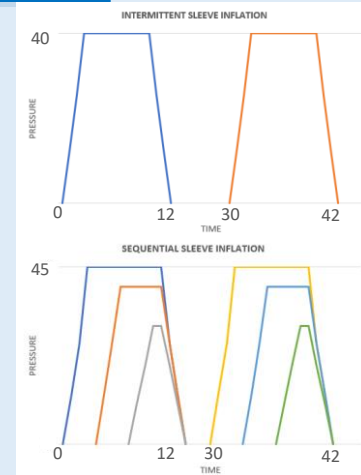
- No red rectangle indicates pump is running on mains power
- Mains connected
- 5 green bars: battery level is 100%

- No battery indicator indicates that battery is not present in the device.
- Pump is running on mains power



## SPECIFICATIONS OF KOLENO 900 AND 1000 DVT PUMPS

- Size: 6.5" L x 7.0" W x 12.8" H
- Weight: 2.5kg
- Pressure Settings:
  - Calf/Thigh sleeve: 30, 40 (default), 50, 60 mmHg ; +10/-5mmHg
  - Foot sleeve: 120 mmHg ; +10/-5mmHg
- Input Rating: AC 100V-240V 50/60 Hz, 0.2A-0.55A
- Fuse Rating: 1A, 250V
- Appliance Class: Class I, Type BF
- Not AP or AGP type
- Classification to FDA: Class II
- Classification to CDSCO: Class B
- Humidity: Operation 30% to 75 %
- Storage & Transportation 30% to 75%
- Air pressure: 4 – 16 kPA
- Temperature: Operation 15° - 35° C
- Storage & Transportation 5-60 degree C
- Cycle Time: Inflation 12 seconds +/- 10%
- Deflation: 48 seconds +/- 10%



## DVT SLEEVES

Soft, breathable, medical grade fabric

100% leak tested

Both sequential and intermittent variants available



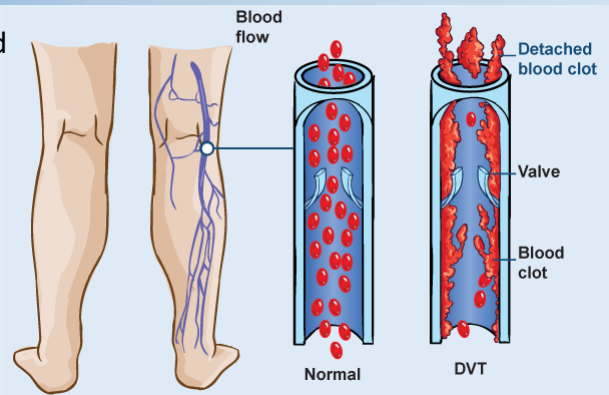
## HOW TO USE

- 1 Wrap the sleeves around the patient legs
- 2 Connect the extension hoses to the pump and sleeves
- 3 Connect the pump to mains power and switch on the mains switch
- 4 Power on the pump by long pressing the power button
- 5 After sleeve checking, inflation will start

## WHAT IS DVT?

**DVT or Deep Vein Thrombosis**, is the formation of blood clot (thrombus) within deep veins, mostly in legs. It occurs because of reduce blood flow mainly due to long term immobility.

**PE or Pulmonary Embolism**, is the most dangerous and potentially fatal consequence of the DVT. The formed blood clot detaches and travels to the lungs, blocking an artery.



- DVT is the **most common preventable cause of death** in hospitals. It is ranked among the top 3 adverse medical outcomes in hospitals worldwide. [1]
- There's a severe **underutilization of DVT prophylaxis** (17.4%) in India against globally, (50.2%) [2]

### How do DVT sleeves and pumps i.e. Intermittent Pneumatic Compression work?

- The sleeve which has an inflatable chamber is wrapped around the patient legs.
- Air is pumped alternately in the left and right leg sleeves. For 12 seconds in one minute.
- When air is pumped in, blood is squeezed out of the limb.
- When air is taken out, blood is allowed to flow back in.
- This provides an active stimulation of the blood flow.

### Limitations of Graduated Compression Stockings (GCS):

**Static compression** is not as effective as the dynamic compression of IPC [3], [4], [7]

**Accurate size is required:** Smaller or larger stockings will result into excessive or ineffective compression, respectively.

**Blisters, skin necrosis, ulcers** are some of the undesirable outcomes. [5]

**Lower adherence to treatment:** Due to the discomfort, there was 39% adherence for stockings compared to 85% for IPCs. [6]



### Limitations of Pharmacological prophylaxis:

Impaired blood clotting ability due to blood thinning agents.

Renal impairment: kidneys lose the ability to remove waste and balance fluids

Intracranial hemorrhage: pathological accumulation of blood within cranial vault.



### References:

- [1] Venous Thromboembolism is becoming a leading cause of disability and death in India : Dr. Suviraj John
- [2] Venous thromboembolism risk & prophylaxis in the acute hospital care setting (ENDORSE), a multinational cross-sectional study: Results from the Indian subset data Ramakrishna Pinjala on behalf of all ENDORSE-India investigators
- [3] Intermittent Pneumatic Compression or Graduated Compression Stockings for Deep Vein Thrombosis Prophylaxis? A Systematic Review of Direct Clinical Comparisons Morris, Rhys J. PhD\*; Woodcock, John P. DSc
- [4] Do graduated compression stockings and pneumatic boots have an additive effect on the peak velocity of venous blood flow? Keith SL1, McLaughlin DJ, Anderson FA Jr, Cardullo PA, Jones CE, Rohrer MJ, Cutler BS.
- [5] Effectiveness of thigh-length graduated compression stockings to reduce the risk of deep vein thrombosis after stroke (CLOTS trial 1): a multicentre, randomised controlled trial. CLOTS Trials Collaboration, Dennis M, Sandercock PA, Reid J, Graham C, Murray G, Venables G, Rudd A, Bowler G.
- [6] Summary of the effectiveness of mechanical and pharmacological prophylaxis.
- [7] Use of intermittent pneumatic compression and not graduated compression stockings is associated with lower incident VTE in critically ill patients: a multiple propensity scores adjusted analysis. Arabi YM1, Khedr M, Dara SI, Dhar GS, Bhat SA, Tamim HM, Afesh LY.

## ORDERING INFORMATION

PRODUCT CODE	SIZE	SPECIFICATION	DESCRIPTION	PACKAGING	PICTURE
<i>Koleno</i> DVT 21	Extra Small	20 cm	<b>Intermittent Calf Sleeve</b> (Below Knee)	10 pairs/box	
<i>Koleno</i> DVT 22	Small	35 cm		10 pairs/box	
<i>Koleno</i> DVT 23	Medium	50 cm		10 pairs/box	
<i>Koleno</i> DVT 24	Large	65 cm		10 pairs/box	
<i>Koleno</i> DVT 25	Extra Large	80 cm		10 pairs/box	
<i>Koleno</i> DVT 26	Extra Small	45 cm	<b>Intermittent Thigh Sleeve</b> (Calf + Thigh)	5 pairs/box	
<i>Koleno</i> DVT 27	Small	60 cm		5 pairs/box	
<i>Koleno</i> DVT 28	Medium	75 cm		5 pairs/box	
<i>Koleno</i> DVT 29	Large	90 cm		5 pairs/box	
<i>Koleno</i> DVT 30	Extra Large	105 cm		5 pairs/box	
<i>Koleno</i> DVT 32	Small	25 cm	<b>Intermittent Foot Sleeve</b> (Ankle)	10 pairs/box	
<i>Koleno</i> DVT 33	Medium	33 cm		10 pairs/box	
<i>Koleno</i> DVT 34	Large	40 cm		10 pairs/box	
<i>Koleno</i> DVT 62	Small	35 cm	<b>Sequential Calf Sleeve</b> (Below Knee)	10 pairs/box	
<i>Koleno</i> DVT 63	Medium	50 cm		10 pairs/box	
<i>Koleno</i> DVT 64	Large	65 cm		10 pairs/box	
<i>Koleno</i> DVT 65	Extra Large	80 cm		10 pairs/box	
<i>Koleno</i> DVT 67	Small	60 cm	<b>Sequential Thigh Sleeve</b> (Calf + Thigh)	5 pairs/box	
<i>Koleno</i> DVT 68	Medium	75 cm		5 pairs/box	
<i>Koleno</i> DVT 69	Large	90 cm		5 pairs/box	
<i>Koleno</i> DVT 70	Extra Large	105 cm		5 pairs/box	
<i>Koleno</i> 900			<b>Intermittent DVT pump</b>	1 unit/box	
<i>Koleno</i> 900 SQ			<b>Sequential DVT pump</b>	1 unit/box	
<i>Koleno</i> 1000			<b>Intermittent Smart DVT pump</b>	1 unit/box	
<i>Koleno</i> 1000 SQ			<b>Sequential Smart DVT pump</b>	1 unit/box	



**Codex Solutions Pvt. Ltd.**

Available at:

**XAVIER Med Pvt. Ltd.**

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