

FRP MEMBRANE PRESSURE TUBES



**NEW MATERIALS
BUSINESS**
An Initiative of **Tata Steel**

ABOUT US

Tata Steel's New Materials Business (NMB) is engaged in the design and manufacture of a range of Membrane Pressure Tubes (MPT) made of fibre-reinforced plastic (FRP). These are designed for use as housings for membrane elements which is why MPTs are also known as membrane housings. Our Membrane Pressure Tubes find use in goods of a world class standard such as membrane filtration systems, NF, and MF, among others.

New Materials Business (NMB) of Tata Steel was set up with a vision of partially insulating revenues from the cyclicity of the steel business and respond to the growing demands of alternative materials. The organisation manufactures a range of products made of Fibre Reinforced Polymer (FRP) composites for three key market segments: infrastructure, process industries and railways. For the industrial segment, the product range comprises FRP tanks, chemical equipment such as hoods, scrubbers, stacks, mist eliminators, FRP valves and pipes, gratings, cable trays, ladders and handrails.



ENGINEERED TO MAXIMISE EFFICIENCY

NMB's Membrane Pressure Tubes are tailored to customer requirements, including OEMs and ODMs. Advanced technology and innovative techniques give these products their edge, backed by stringent testing.

Precision Testing for World Class Quality

Our Membrane Pressure Tubes are available to suit various pressure requirements that extend from 300 PSI to 1200 PSI in 4" as well as 8" lengths. Both types include side and end entry from one element to nine elements.

We are the only organisation of our kind in India with in-house assembly manufacturing facilities, that's why we have the confidence to offer a replacement warranty in case any of our parts are damaged.

NMB manufactures Membrane Pressure Tubes in standard sizes as well as in 40" x 21" and 40" x 25". We also manufacture economical 8" end entry models available with side and end ports. The entrance is multi-port, strong, smooth on the inside and has a robust FRP covering.



WHY CHOOSE NMB'S PRESSURE TUBES?



Small Batch Quantities



Quality Consistency



Value for Money



Just In Time (JIT) Deliveries



Convenience of dealing with technical people at all levels



Flexibility in Manufacturing

UNIQUE FEATURES & BENEFITS

- Tighter tolerance of ID helps in quick loading and unloading of membrane
- Compact design for use in compact and low energy water treatment units
- Quick lock head retention system for quick access to membranes
- Exteriors coated with high gloss polyurethane paint for UV Resistance
- More accurate Head Seal Area is formed by Mandrel Surface
- Head Seal is captured, hence doesn't roll during head assembly fitment

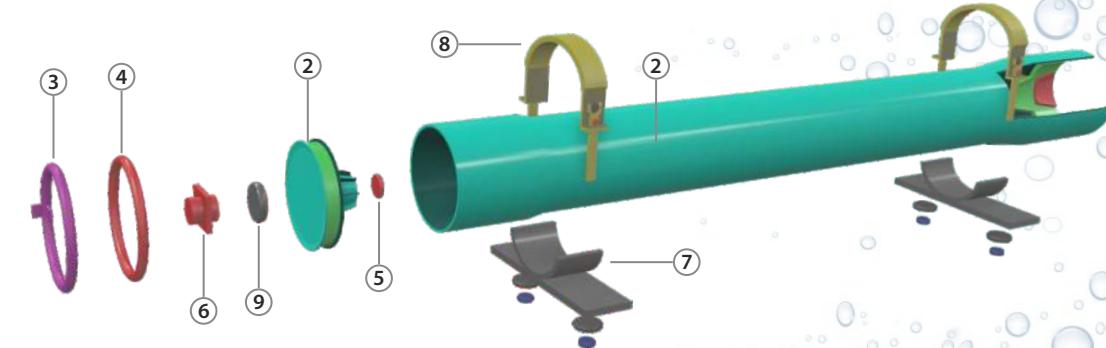


OUR PRODUCT RANGE

FRP Membrane Pressure Tubes (*Economy model*)

ENDPORT 4"

These are membrane housing of 4" diameter with end entry design. This is used for commercial and industrial Reverse Osmosis applications. Tube models are available up to a maximum operating pressure of 300 PSI, 450PSI, 600 PSI, 1000 PSI & 1200 PSI. These are made up of epoxy / glass composites to meet the demands of long term and continuous use in Reverse Osmosis processes. These tubes can accommodate any standard* 4" membrane element.



SR.NO	PART NAME	QTY.	SR.NO	PART NAME	QTY.
1	MEMBRANE HOUSING	1	6	STRAP ASSEMBLY	2
2	END CAP	2	7	SADDLE	2
3	RETAINING RING	2	8	RED CAP	1
4	END CAP O RING	2	9	SQUARE SEAL	1
5	ADAPTER - MEMBRANE O RING	2			

Technical Specifications

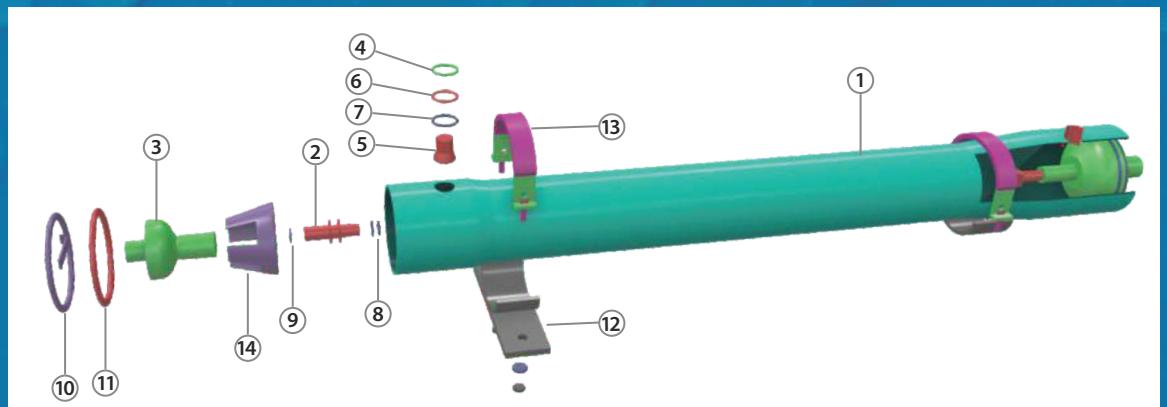
Economy 4" ENDPORT	Maximum Operating Pressure	Maximum Operating Temperature	Element Length
Eco4EP300	300 PSI	49°C (120°F)	1-6
Eco4EP450	450 PSI	49°C (120°F)	1-6
Eco4EP21	300 PSI	49°C (120°F)	1



FRP Membrane Pressure Tubes SIDEPORT 8"

These are membrane housing of 8" diameter with side entry design and a combo head assembly with bearing plate, sealing plate and permeate port in single moulded cap of engineering thermoplastic leads to reduce inventory cost. This is used for commercial, municipal and industrial Reverse Osmosis applications.

8" Membrane Pressure Tube models are available up to a maximum operating pressure of 300 PSI, 450 PSI & 600 PSI. These are made up of epoxy / glass Composite to meet the demands of long term and continuous use in Reverse Osmosis processes. Our Pressure Tubes can accommodate any standard* 8" membrane element.



SR. NO	PART NAME	QTY.	SR. NO	PART NAME	QTY.
1	MEMBRANE HOUSING	1	8	ADAPTER MEMBRANE O RING	4
2	ADAPTER	2	9	ADAPTER PERMEATE O RING	2
3	HEAD ASSEMBLY	2	10	RETAINING RING	2
4	FC PORT CHUCK NUT	2	11	HEAD ASSEMBLY O RING	2
5	1.5" FC PORT	2	12	SADDLE	2
6	CHUCK NUT WASHER	2	13	STARP ASSEMBLY	2
7	FC PORT SEAL	2	14	SPACER	2

Technical Specifications

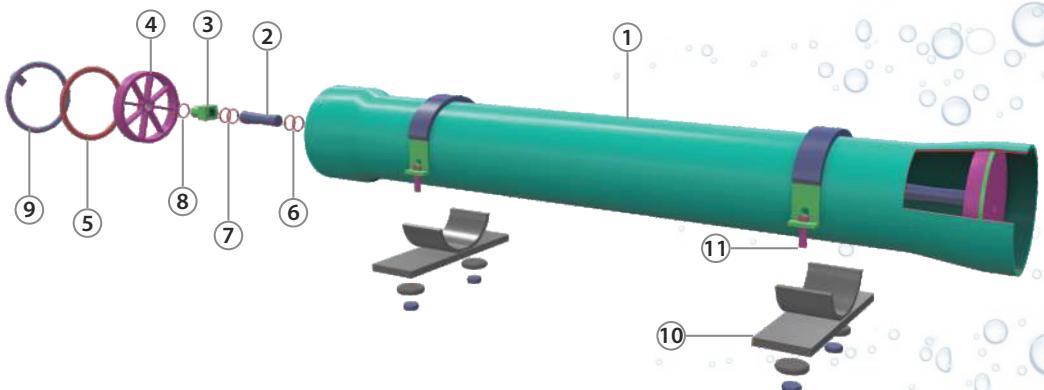
Economy 8" SIDEPORT	Maximum Operating Pressure	Maximum Operating Temperature	Element Length
Eco8SP300	300 PSI	49°C (120°F)	1-8
Eco8SP450	450 PSI	49°C (120°F)	1-8



FRP Membrane Pressure Tubes ENDPORT 8"

These Membrane Pressure Tubes are of 8" diameter with an end entry design having with a combo head assembly with bearing plate, sealing plate and permeate port in single moulded cap of engineering thermoplastic leads to reduce inventory cost.

This is used for commercial and industrial Reverse Osmosis applications. Tube models are available up to a maximum operating pressure of 300 PSI. These are made up of epoxy/glass composites to meet the demands of long term and continuous use in Reverse Osmosis processes



SR. NO	PART NAME	QTY.	SR. NO	PART NAME	QTY.
1	MEMBRANE HOUSING	1	7	ADAPTER - PERMEATE O RING	2
2	ADAPTER	2	8	PERMETATE O RING	2
3	PERMEATE PORT	2	9	RETAINING RING	2
4	HEAD ASSEMBLY	2	10	SADDLE	2
5	HEAD ASSEMBLY O RING	2	11	STARP ASSEMBLY	2
6	ADAPTER - MEMBRANE O RING	8			

Technical Specifications

Economy 8" ENDPORT	Maximum Operating Pressure	Maximum Operating Temperature	Element Length
Eco8EP300	300 PSI	49°C (120°F)	1-6



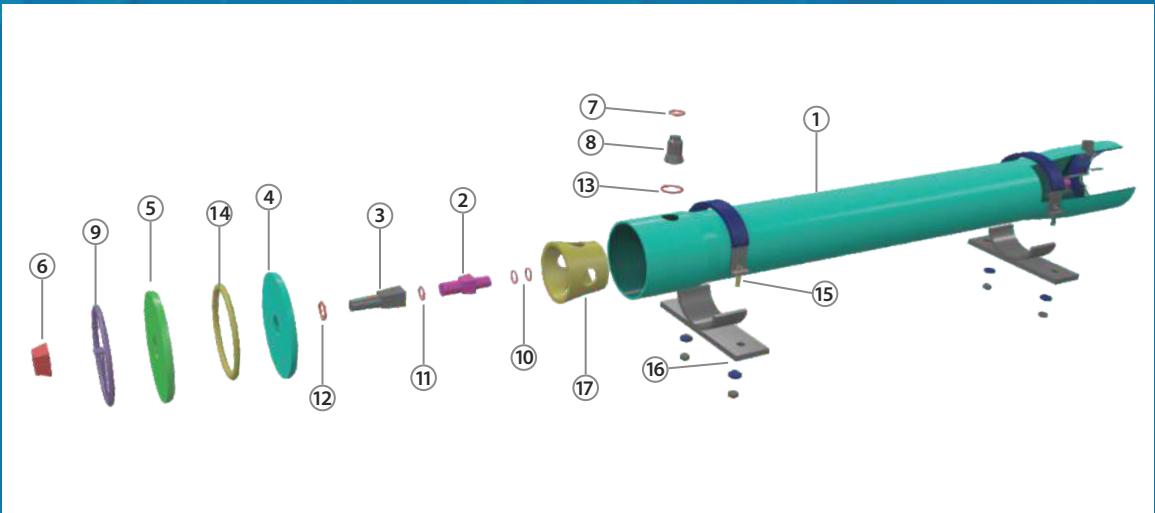
FRP Membrane Pressure Tubes

Tata Pressure Tube Premium model

This is a Membrane Pressure Tube of 8" diameter with an end entry design. This is used for commercial, municipal and industrial Reverse Osmosis applications.

8" Membrane Pressure Tube models are available up to a maximum operating pressure of 300 PSI, 450 PSI, 600 PSI, 1000 PSI & 1200 PSI with end connectivity. These are made up of epoxy/ glass composite to meet the demands of long term and continuous use in Reverse Osmosis processes.

These Pressure Tubes can accommodate any standard* 8" membrane element.



SR. NO	PART NAME	QTY.	SR. NO	PART NAME	QTY.
1	MEMBRANE HOUSING	1	10	ADAPTER - MEMBRANE O RING	4
2	ADEPTER	2	11	ADAPTER - PERMEATE O RING	2
3	PERMIATE PORT	2	12	PERMEATE SEALING O RING	2
4	SEALING PLATE	2	13	FC PORT SQUARE SEAL	2
5	BEARING PLATE	2	14	HEAD ASSEMBLY O RING	2
6	PORT NUT	2	15	STRAP ASSEMBLY	2
7	FC PORT LOCK	2	16	SADDLE	2
8	FC PORT	2	17	SPACER / THRUST CONE	2
9	RETAINING RING	2			



Technical Specifications

Premium 8" ENDPORT	Maximum Operating Pressure	Maximum Operating Temperature	Element Length
PRM8EP300	300 PSI	49°C (120°F)	1-7
PRM8EP450	450 PSI	49°C (120°F)	1-7
PRM8EP600	600 PSI	49°C (120°F)	1-7
PRM8EP1000	1000 PSI	49°C (120°F)	1-7
PRM8EP1200	1200 PSI	49°C (120°F)	1-7

Premium 8" SIDEPORT	Maximum Operating Pressure	Maximum Operating Temperature	Element Length
PRM8SP300	300 PSI	49°C (120°F)	1-7
PRM8SP450	450 PSI	49°C (120°F)	1-7
PRM8SP600	600 PSI	49°C (120°F)	1-7
PRM8SP1000	1000 PSI	49°C (120°F)	1-7
PRM8SP1200	1200 PSI	49°C (120°F)	1-7



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