

# Alfa Laval ATD, End plug and ESA™

## Auxiliary membrane equipment

### Introduction

#### ATD (Anti-Telescoping Device)

An ATD coupler interconnects and supports full-fit spiral membranes in housings.

To prevent the spiral membrane from telescoping an ATD coupler is installed after each spiral membrane in the flow direction. At the same time the ATD coupler transports the permeate through the spiral membrane to the discharge port of the housing.

#### End plug

The front of the first full-fit spiral membrane in the housing is provided with an end plug to prevent the feed flow from entering the permeate collecting tube.

#### ESA™ (Energy Saving Anti-telescoping device)

The special Alfa Laval developed ESA™ coupler makes it possible to effectively reduce the non-productive by-pass between the spiral membrane and the housing.

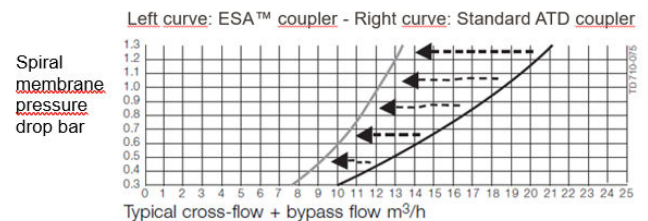
This reduces the energy consumption of the plant without affecting the membrane crossflow.



Alfa Laval recommends fitting all spiral membranes, which are fed by the same recirculation pump, with an Alfa Laval ESA™ coupler in order to avoid variations in flow and pressure.



**Typical flow reduction by ESA™ coupler for Alfa Laval spiral membrane, size 6338/30:**



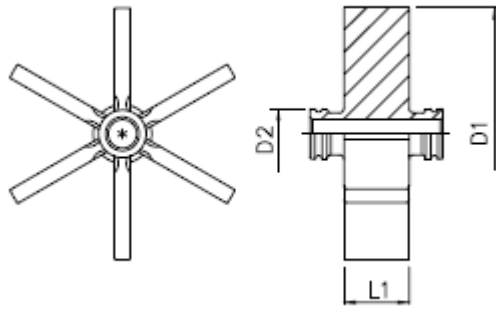
All materials comply with FDA and EU regulations.



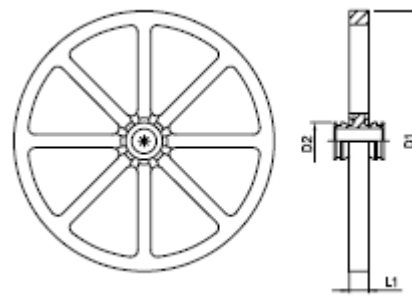
The products are suitable for food contact. Declaration of compliance can be provided on request.

## Technical data – ATD coupler

ATD coupler for 2.5" and 3.8" spiral membranes <sup>1</sup>



ATD coupler for 6.3", 8.0" and 8.3" spiral membranes <sup>1</sup>



<sup>1</sup> For other sizes, please contact Alfa Laval

Spiral D1 <sup>1</sup>	Permeate tube D2 <sup>2</sup>	ATD coupler SS <sup>3</sup> Ra 0.8	L1	ATD coupler SS <sup>3</sup> Ra 1+	ATD coupler SS <sup>3</sup> Ra 1++	L1	ATD coupler PPS <sup>4</sup>	L1	O-ring EPDM <sup>5</sup>
inches	mm		mm			mm		mm	
2.5	21.10 UF/RO	—	—	—	—	—	520162	25	102935
3.8	21.10 UF/RO	—	—	—	—	—	101945	25	102935
6.3	28.90 UF	517367	15	526859	—	8	527997	20	105831
8.0	28.58 RO	523536	15	526928	—	8	—	—	522345
8.0	28.90 RO	517050	15	526889	—	8	—	—	105831
8.0	28.90 UF	538679	15	526932	—	8	—	—	105831
8.3	28.90 UF	528994	15	529896	—	8	—	—	105831

### Transition ATD coupler for connection between 28.58 and 28.9 permeate tubes

8	28.58/28.9 RO	524282	15	—	—	—	—	—	522345/105831
8	28.9/28.58 UF	—	—	—	X543282	8	—	—	105831/522345

<sup>1</sup> Outer diameter, spiral

<sup>2</sup> Inner diameter, spiral

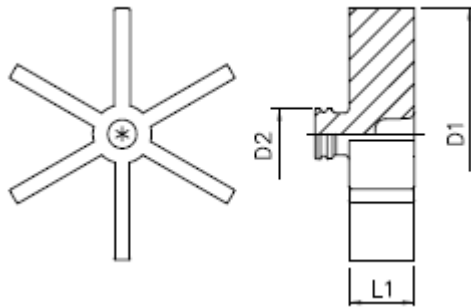
<sup>3</sup> Stainless steel AISI 316L

<sup>4</sup> Polyphenylene sulfide

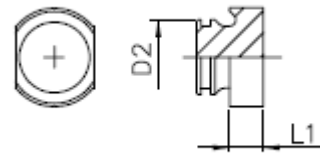
<sup>5</sup> Ethylene propylene diene monomer

## Technical data – End plug

End plug for 2.5" and 3.8" spiral membranes <sup>1</sup>



End plug for 6.3", 8.0" and 8.3" spiral membranes <sup>1</sup>



<sup>1</sup> For other sizes, please contact Alfa Laval

Spiral D1 <sup>1</sup>	Permeate tube D2 <sup>2</sup>	End plug SS <sup>3</sup> Ra 0.8	L1	End plug PPS <sup>4</sup>	L1	O-ring EPDM <sup>5</sup>
inches	mm		mm		mm	
2.5	21.10 UF/RO	—	—	516988	25	102935
3.8	21.10 UF/RO	—	—	101946	25	102935
6.3 / 8.0 / 8.3	28.90 UF	526927	15	—	—	105831
8.0	28.58 RO	526015	15	—	—	522345
8.0	28.90 RO	516570	15	—	—	105831

<sup>1</sup> Outer diameter, spiral

<sup>2</sup> Inner diameter, spiral

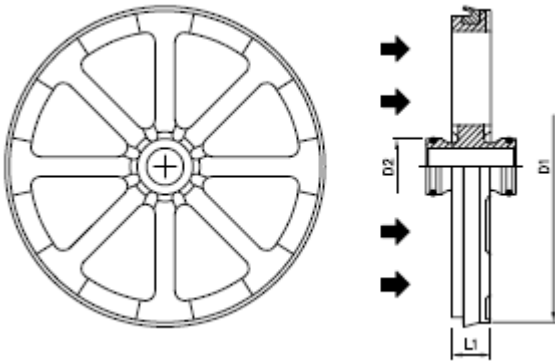
<sup>3</sup> Stainless steel AISI 316L

<sup>4</sup> Polyphenylene sulfide

<sup>5</sup> Ethylene propylene diene monomer

## Technical data – ESA™ coupler

ESA™ coupler for 6.3" and 8.0" spiral membranes <sup>1</sup>



<sup>1</sup> For other sizes, please contact Alfa Laval

Spiral D1 <sup>1</sup>	Permeate tube D2 <sup>2</sup>	ESA™ coupler <sup>3</sup> SS <sup>4</sup> Ra 0.8	L1	O-ring EPDM <sup>5</sup>
inches	mm		mm	
6.3	28.90 UF	549985	20	105831
8.0	28.58 RO	525471	15	522345
8.0	28.90 RO	517524	15	105831

<sup>1</sup> Outer diameter, spiral

<sup>2</sup> Inner diameter, spiral

<sup>3</sup> Includes o-rings

<sup>4</sup> Stainless steel AISI 316L

<sup>5</sup> Ethylene propylene diene monomer

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