

# LINED FILTER HOUSINGS



**Corrossion resistance solutions**

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# LINED FILTRATION SOLUTIONS FOR CORROSIVE APPLICATIONS

**Engineering-first filtration solutions designed for long-term performance in corrosive and demanding industrial services.**

ENGIPLAS designs and manufactures fluoropolymer lined strainers and filter housings for applications where corrosion resistance, mechanical integrity and stable hydraulic performance are critical. Our products are intended for duties where standard off-the-shelf equipment is insufficient and long-term reliability is required.

By combining heavy-duty metallic housings with advanced internal polymer linings and engineered internal geometries, ENGIPLAS delivers filtration solutions optimized for low pressure drop, serviceability and extended service life.

## DESIGN PRINCIPLES

- Straight flow paths to minimize pressure loss
- Full wet-surface internal lining
- Optimized filtration area for stable DP behavior
- Service-oriented design for easy maintenance
- Project-specific engineering based on real process data

# PRODUCT PHILOSOPHY & CAPABILITIES

**In corrosive services, filtration performance depends not only on material selection, but also on internal geometry, flow behavior and long-term serviceability.**

ENGIPLAS follows an engineering-driven design approach inspired by proven filtration concepts, while maintaining the flexibility required for custom and non-standard project requirements.

## PRODUCT SCOPE

- Y Strainers – small and large diameters
- Tee Strainers
- Basket Strainers
- Bag Filter Housings
- Cartridge & Multi-Unit Filter Housings
- Special and process-specific filtration solutions

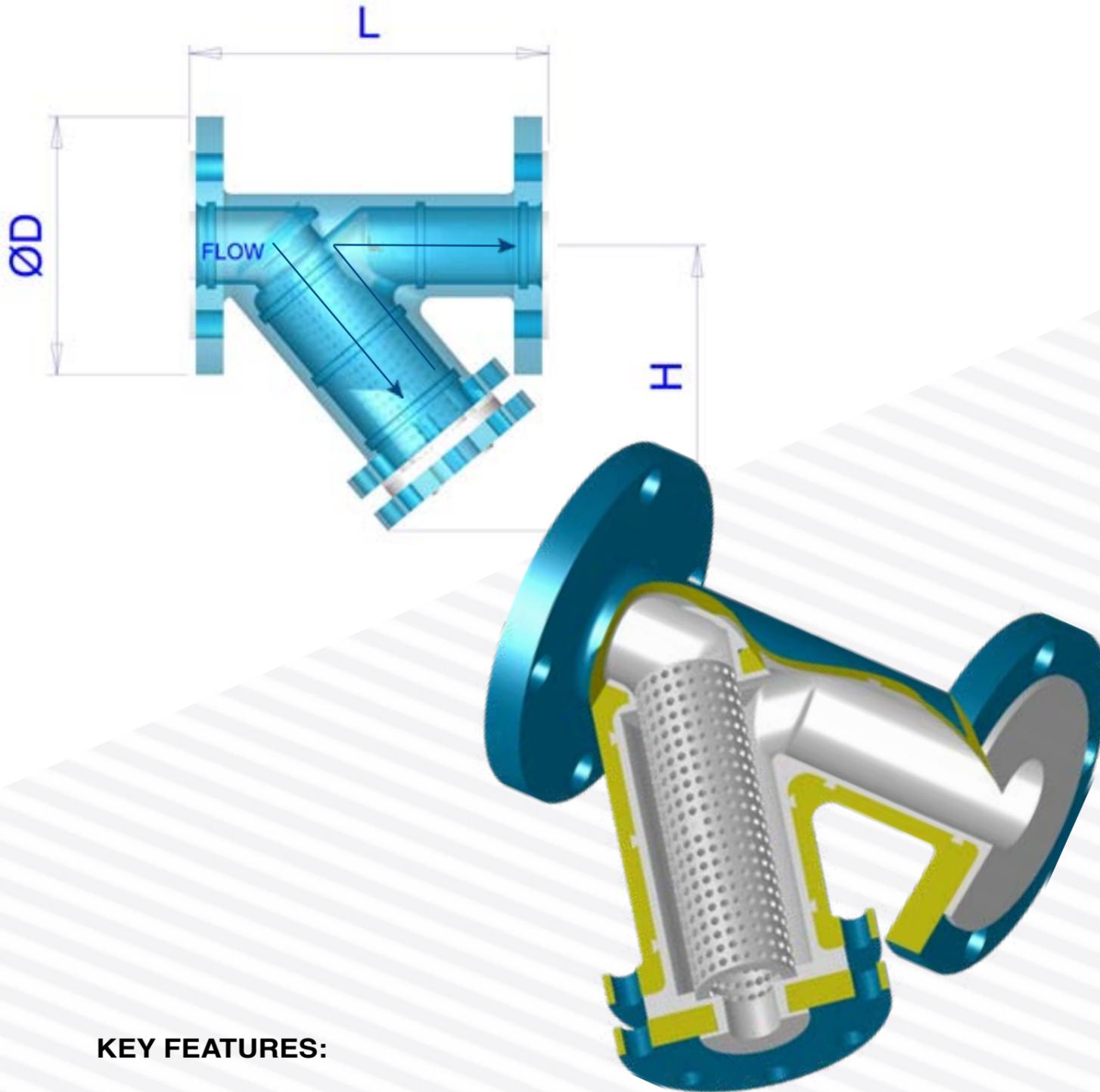
## LINING MATERIALS

PTFE, PFA, ETFE, ECTFE (Halar®), PVDF and XLPE linings are available, selected according to chemical compatibility, operating temperature, pressure conditions, abrasion level and life-cycle cost considerations.

Final lining material selection shall be confirmed during the engineering phase, based on complete process conditions and material compatibility.

# Y-TYPE LINED STRAINER – ANSI CLASS 150

Compact Y-type lined strainer designed to protect pumps, valves and process equipment in corrosive and aggressive services. The smooth fluoropolymer lining and optimized screen geometry ensure reliable filtration with low pressure drop.



## KEY FEATURES:

- Fully lined with PTFE / PFA / ETFE
- Optimized screen design with A2/A1 ratio > 2
- Low pressure drop and high filtration efficiency
- Excellent vacuum resistance due to mechanically locked lining

DN	SIZE	C (mm)	L (mm)	H (mm)	FLOW (m <sup>3</sup> /h)	A2/A1	WEIGHT (kg)
25	1"	108	160	100	6	>3	4.5
40	1 1/2"	127	200	143	12	>2.5	8.3
50	2"	152	230	160	20	>2	11.0
80	3"	190	310	256	45	>2	20.0
100	4"	229	350	284	75	>1.8	27.3

## ENGINEERING ADVANTAGES:

- High resistance to corrosive and aggressive media
- Reduced pressure drop compared to standard cast Y strainers
- Efficient basket volume relative to nominal size
- Long service life with minimal maintenance

## MATERIAL LEGEND:

<b>BODY</b>	Ductile iron or WCB A216GR
<b>COVER</b>	Ductile iron or WCB A216GR
<b>LINING</b>	PFA / PTFE / ETFE, 3–4.5 mm
<b>SCREEN SUPPORT</b>	PTFE
<b>SCREEN</b>	PTFE / PP / GRP
<b>DRAIN PLUG</b>	Carbon Steel with PTFE

## MATERIALS (TYPICAL):

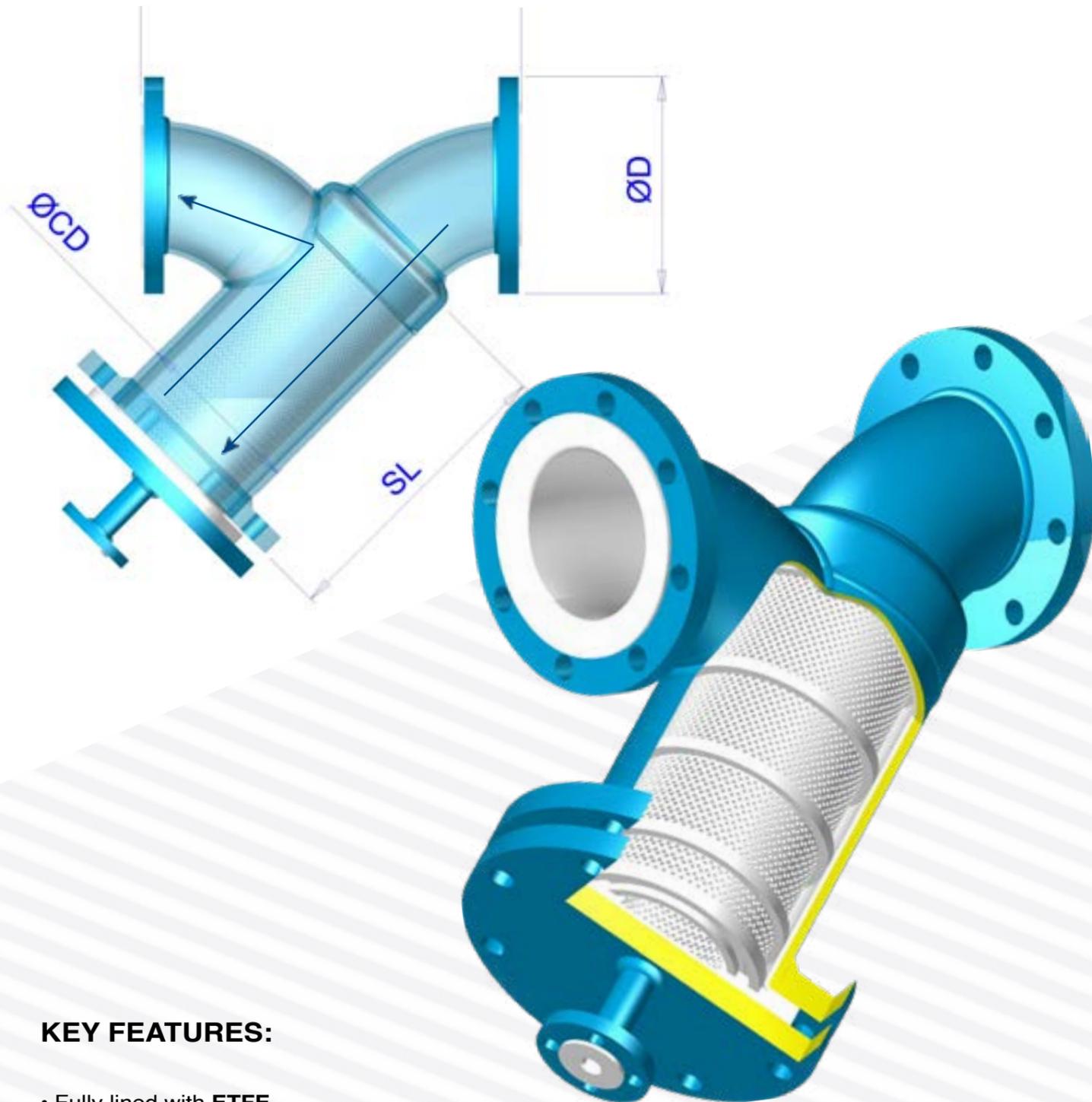
- Body: Ductile iron or carbon steel
- Lining: PTFE / PFA / FEP
- Filter basket: Perforated metal, fluoropolymer lined
- Gaskets: PTFE

## TESTING & LINING DATA:

TEST	TEST PRESSURE
Lining / Seat (Hydrostatic)	15 bar
Spark Test	15 kV DC

## Y-TYPE LINED STRAINER – LARGE SIZES (ANSI 150)

Heavy-duty Y-type lined strainer designed for large diameter piping systems. The enlarged body and optimized screen design ensure reliable filtration with low pressure drop.



### KEY FEATURES:

- Fully lined with **ETFE**
- Enlarged main body for reduced flow velocity
- Perforated **PTFE** screen Ø5 mm, pitch 10 mm (hex pattern)
- Effective screen open area ratio  $A2/A1 > 2$
- Removable screen for easy maintenance

SIZE	D (mm)	CD (mm)	SL (mm)	L (mm)	FLOW (m <sup>3</sup> /h)	A2/A1	WEIGHT (kg)
6" / DN150	318	219.1	390	490	~120	>2.0	82
8" / DN200	381	273.1	482	600	~215	>2.0	128
10" / DN250	445	323.9	578	720	~345	>2.0	154
12" / DN300	520	355.6	665	830	~495	>2.0	235
14" / DN350	585	406.4	745	930	~600	>2.0	330
16" / DN400	650	457.2	840	1050	~785	>2.0	462
18" / DN450	710	508.0	928	1160	~1000	>2.0	~505
20" / DN500	775	609.6	1016	1270	~1250	>2.0	~605
24" / DN600	915	660.4	1192	1490	~1820	>2.0	~825

### MATERIAL LEGEND:

<b>Body</b>	ASTM A106 / A105 or WCB (caps)
<b>Cover</b>	ASTM A105 or equivalent
<b>Lining</b>	ETFE, 3–4.5 mm
<b>Screen support</b>	PTFE
<b>Screen</b>	PTFE / PP / GRP

**Flow:** Recommended nominal values for clean water at 20°C.

**Drain:** Bottom drain outlet diameter is selected according to the specified drain valve size.

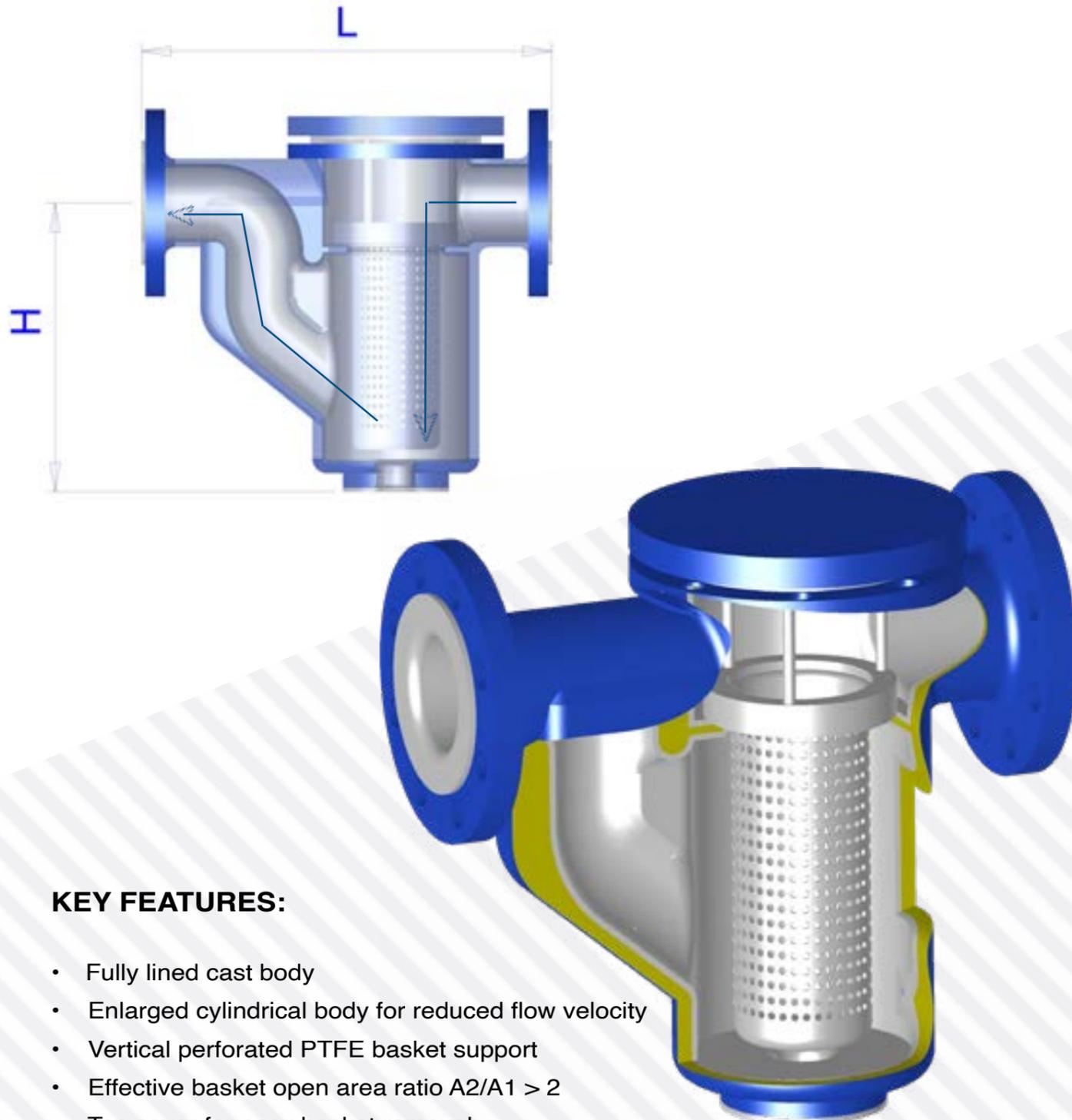
**Materials:** Stainless steel or other construction materials are available upon customer re-

### TESTING & LINING DATA:

Lining / Seat (Hydrostatic)	10 bar
Spark Test	15 kV DC

## POT TYPE LINED STRAINER – (ANSI 150)

Heavy-duty pot type lined strainer designed for high flow rate piping systems. Vertical basket design and enlarged cylindrical body ensure maximum filtration capacity with minimal pressure drop.



### KEY FEATURES:

- Fully lined cast body
- Enlarged cylindrical body for reduced flow velocity
- Vertical perforated PTFE basket support
- Effective basket open area ratio  $A2/A1 > 2$
- Top cover for easy basket removal
- Cover lifting mechanism for sizes above DN150 (6")

### FLOW ® Inlet direction

SIZE	L (mm)	H (mm)	FLOW (m3/h)	A2/A1	WEIGHT (kg)
2" / DN 50	292	280	~25	>2.0	~ 22
2½" / DN 65	347	304	~40	>2.0	~ 28
3" / DN 80	407	330	~55	>2.0	~ 35
4" / DN 100	457	406	~95	>2.0	~ 48
6" / DN 150	562	546	~180	>2.0	~ 72
8" / DN 200	642	660	~320	>2.0	~ 105
10" / DN 250	717	812	~520	>2.0	~ 145
12" / DN 300	817	914	~750	>2.0	~ 190

### MATERIAL LEGEND:

<b>Body</b>	Ductile iron or WCB A216GR
<b>Cover</b>	Ductile iron or WCB A216GR
<b>Lining</b>	ETFE, 3–4.5 mm
<b>Screen support</b>	PTFE
<b>Screen</b>	PTFE / PP / GRP
<b>Drain</b>	PTFE

Flow: Recommended nominal values for clean water at 20°C.

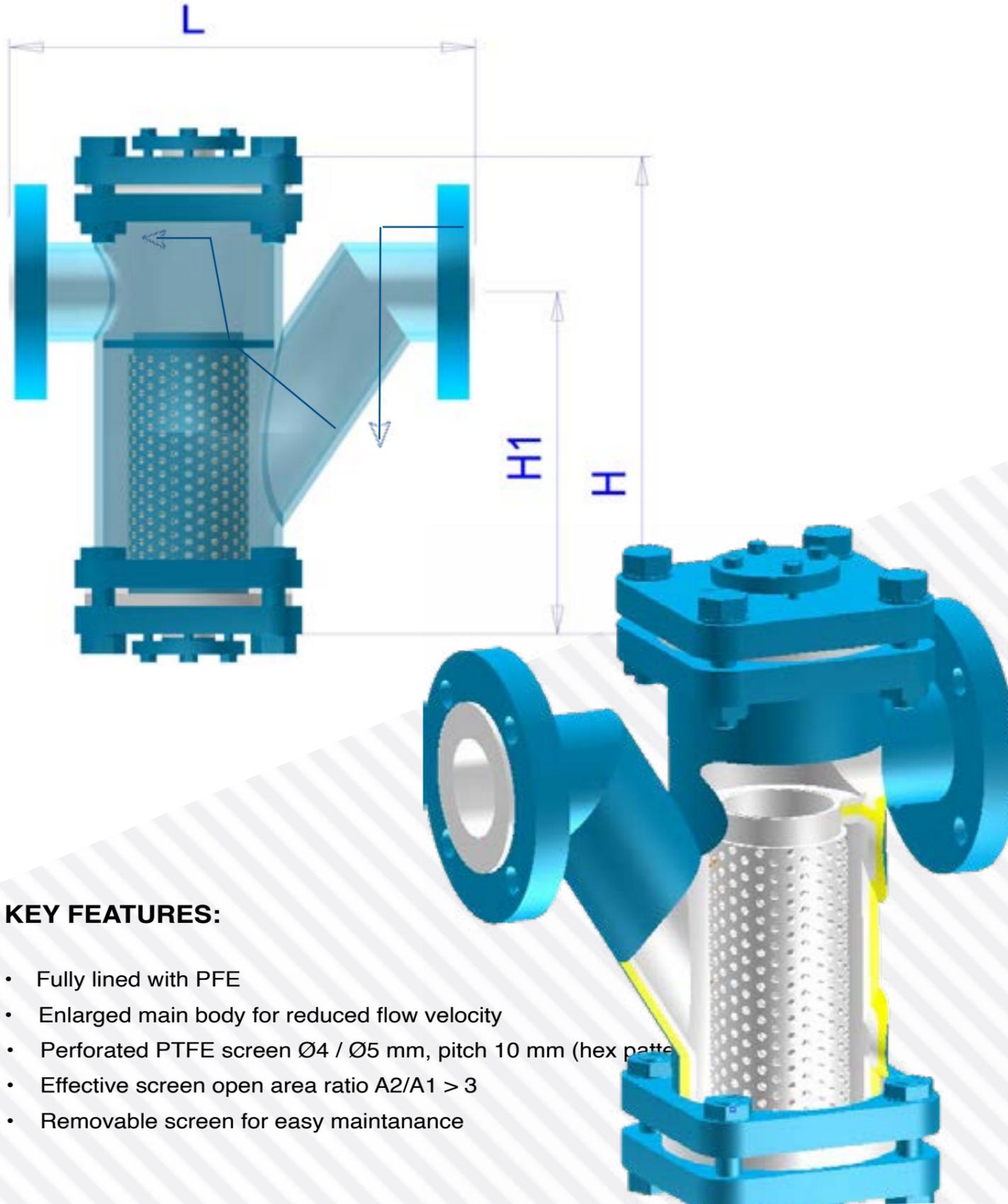
Drain: Bottom drain outlet diameter is selected according to the specified drain valve size.

### TESTING & LINING DATA:

Test	Test pressure
Lining / Seat (Hydrostatic)	15 bar
Spark Test	15 kV DC

## IN-LINE LINED STRAINER (ANSI 150)

Heavy-duty inlined strainer designed for various diameter piping systems. The enlarged body and optimized screen design insure reliable filtration with low pressure drop.



### KEY FEATURES:

- Fully lined with PFE
- Enlarged main body for reduced flow velocity
- Perforated PTFE screen  $\text{Ø}4 / \text{Ø}5$  mm, pitch 10 mm (hex patte)
- Effective screen open area ratio  $A2/A1 > 3$
- Removable screen for easy maintainance

### FLOW ® Inlet direction

SIZE	L	H	H1	FLOW (m3/h)	A2/A1	WEIGHT (kg)
1"	178	200	140	6	>6	7.5
2"	250	314	221	20	>4	17
3"	302	419	295	45	>3	44
4"	433	520	370	75	>4	79
6"	590	655	475	75	>3	145

Recommended nominal flow values for clean water at 20°C, clean screen condition at an approximate pressure drop of  $\Delta P \approx 0.1$  bar across the strainer.

### MATERIAL LEGEND:

Body	ASTM A106 / A105 or WCB (caps)
Cover	ASTM A105 or equivalent
Lining	PFA 3 – 5 mm
Screen support	PTFE
Screen	PTFE / PP / GRP

### TESTING & LINING DATA:

Test	Test pressure
Lining / Seat (Hydrostatic)	10 bar
Spark Test	15 kV DC

## TECHNICAL NOTES – FLOW RATES & PRESSURE DROP

✓ The flow values stated in this catalog are **recommended nominal flow rates** and are **provided for reference and preliminary sizing purposes only**.

### Flow Definition

All nominal flow rates are based on the following conditions:

- Fluid: Clean water
- Temperature: 20 °C
- Strainer condition: Clean screen / basket
- Pressure drop across strainer:  $\Delta P \approx 0.1$  bar

### Design Basis

The stated flow rates are achieved by:

- Enlarged internal body geometry designed to reduce flow velocity
- Optimized perforated screen / basket design
- Effective open area ratio  $A_2/A_1 \geq 2$ , ensuring low pressure drop at nominal flow

### Important Notes

- 
- Pressure drop increases with solids accumulation on the screen/basket.
- Actual pressure drop depends on fluid properties such as density, viscosity, and solids loading.
- For viscous fluids, slurry service, or higher contamination levels, flow rates must be reduced accordingly.

### Final Sizing Responsibility

Final selection and sizing of the strainer must be confirmed based on:

- Process fluid properties
- Operating temperature and pressure
- Allowable pressure drop
- Required filtration degree

**!! The manufacturer shall not be held responsible for improper sizing based solely on nominal flow values.**

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