# LINED FILTER HOUSINGS

## Corrossion resistance solutions

www.engiplas.com
info@engiplas.com

# 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

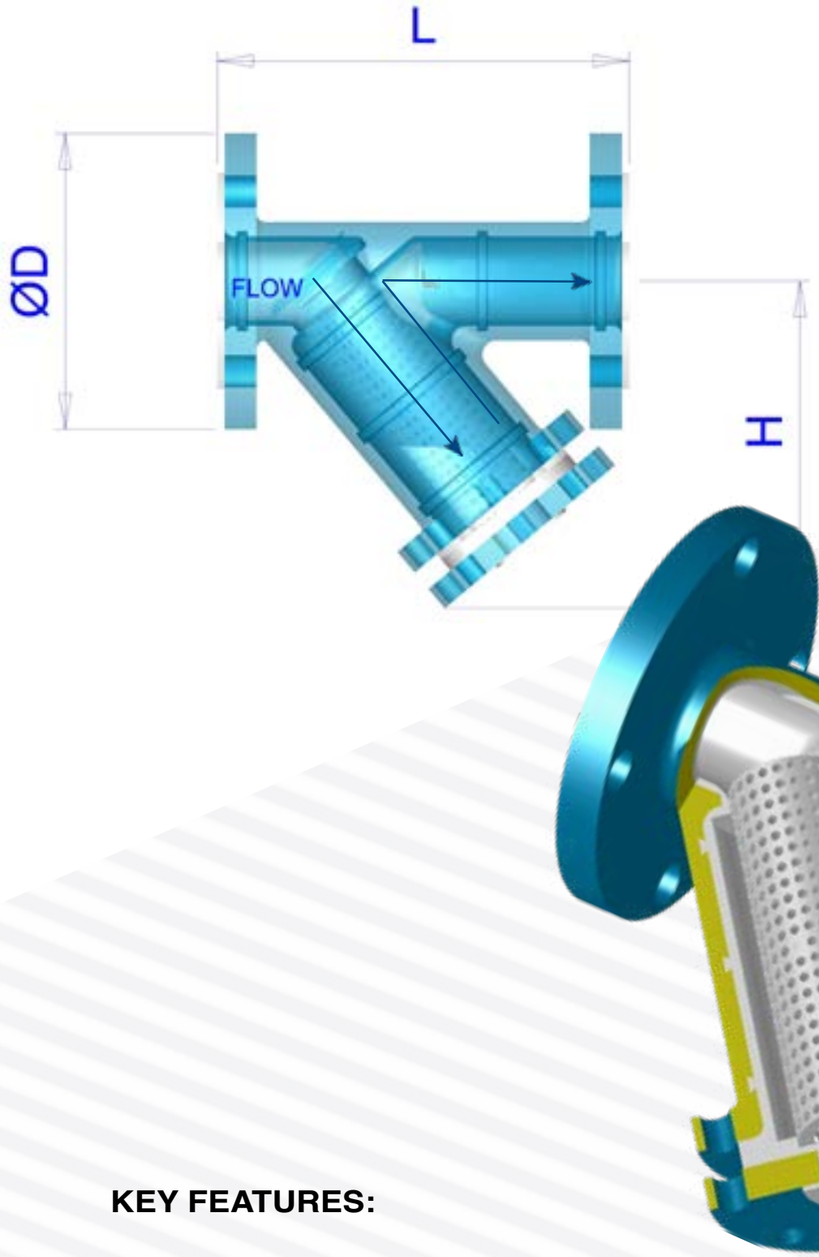
- Y Strainers – small and large diameters
- Tee Strainers
- Basket Strainers
- Bag Filter Housings
- Cartridge & Multi-Unit Filter Housings
- Special and process-specific filtration solutions

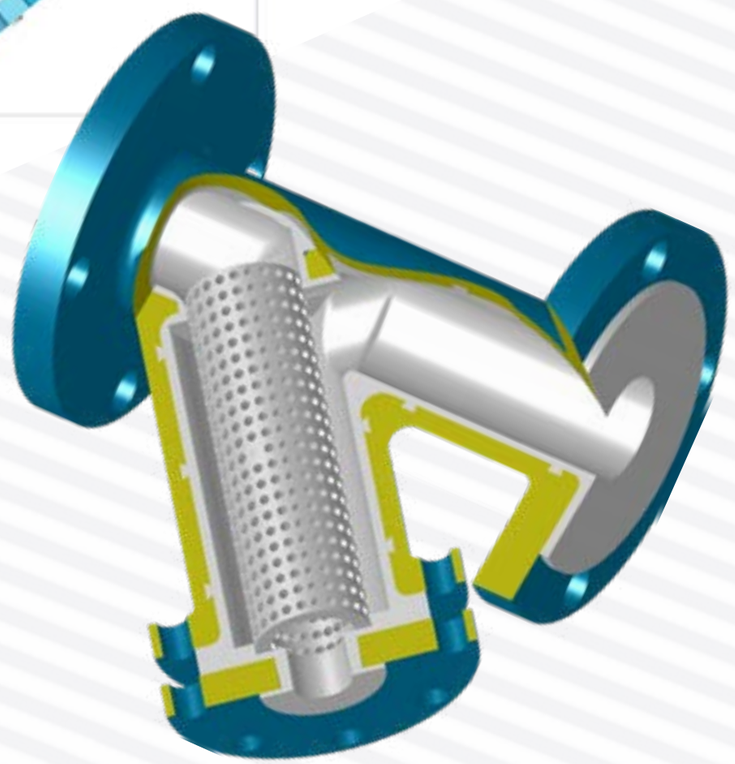
## LINING MATERIALS

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 (m³/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:

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

## MATERIALS (TYPICAL):

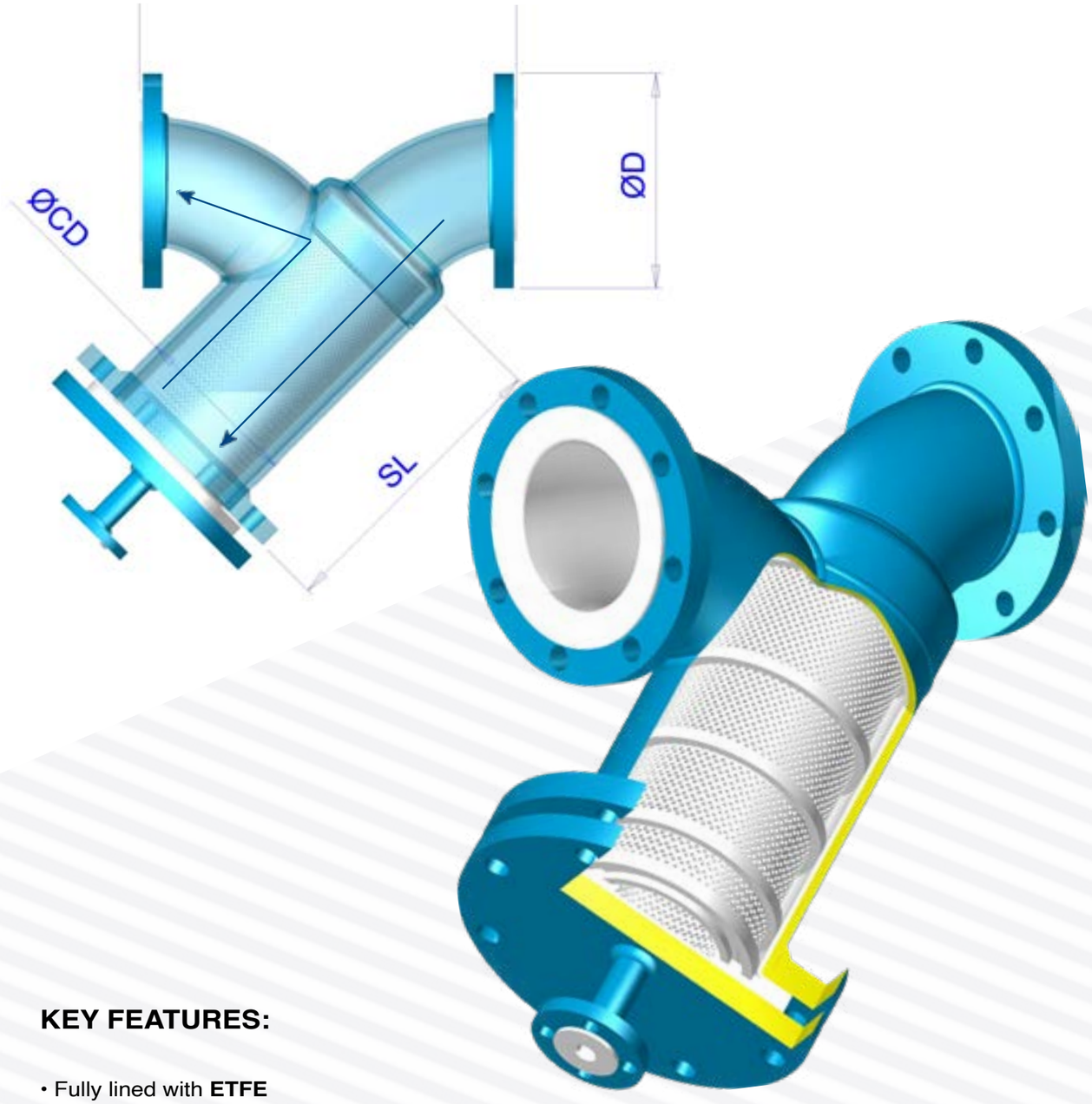
- Body: Ductile iron or carbon steel
- Lining: PTFE / PFA / FEP
- Filter basket: Perforated metal, fluoropolymer lined
- Gaskets: PTFE

## 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 (m3/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:

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

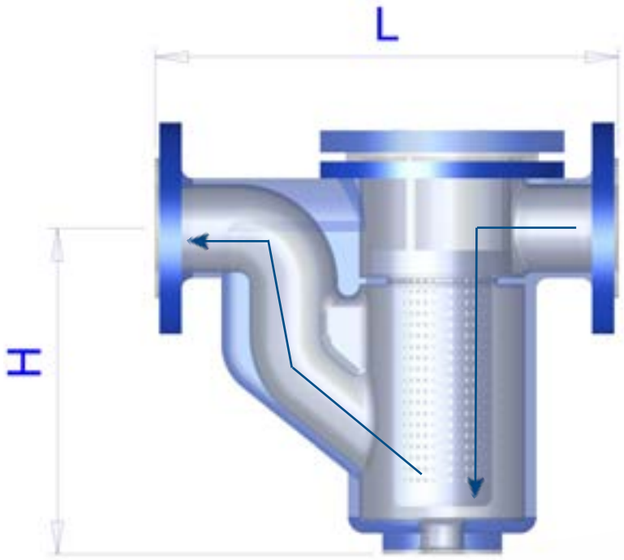
**Flow:** Recommended nominal values for clean water at 20°C.
**Drain:** Bottom drain outlet diameter is selected according to the specified drain valve size.
**Materials:** Stainless steel or other construction materials are available upon customer re-

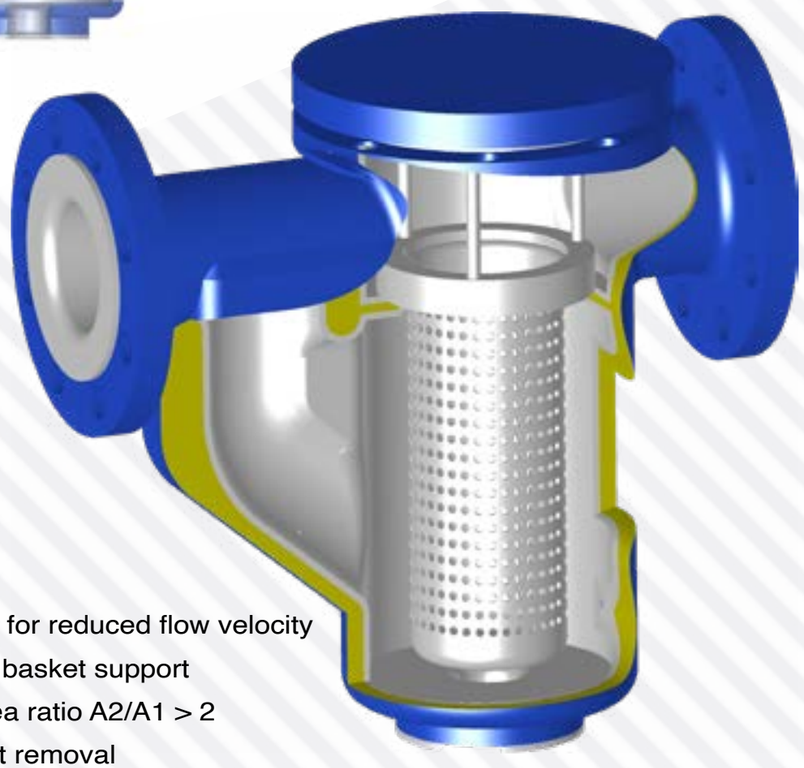
## TESTING & LINING DATA:

| | |
|---|---|
| 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:

| | |
|---|---|
| **Body** | Ductile iron or WCB A216GR |
| **Cover** | Ductile iron or WCB A216GR |
| **Lining** | ETFE, 3–4.5 mm |
| **Screen support** | PTFE |
| **Screen** | PTFE / PP / GRP |
| **Drain** | PTFE |

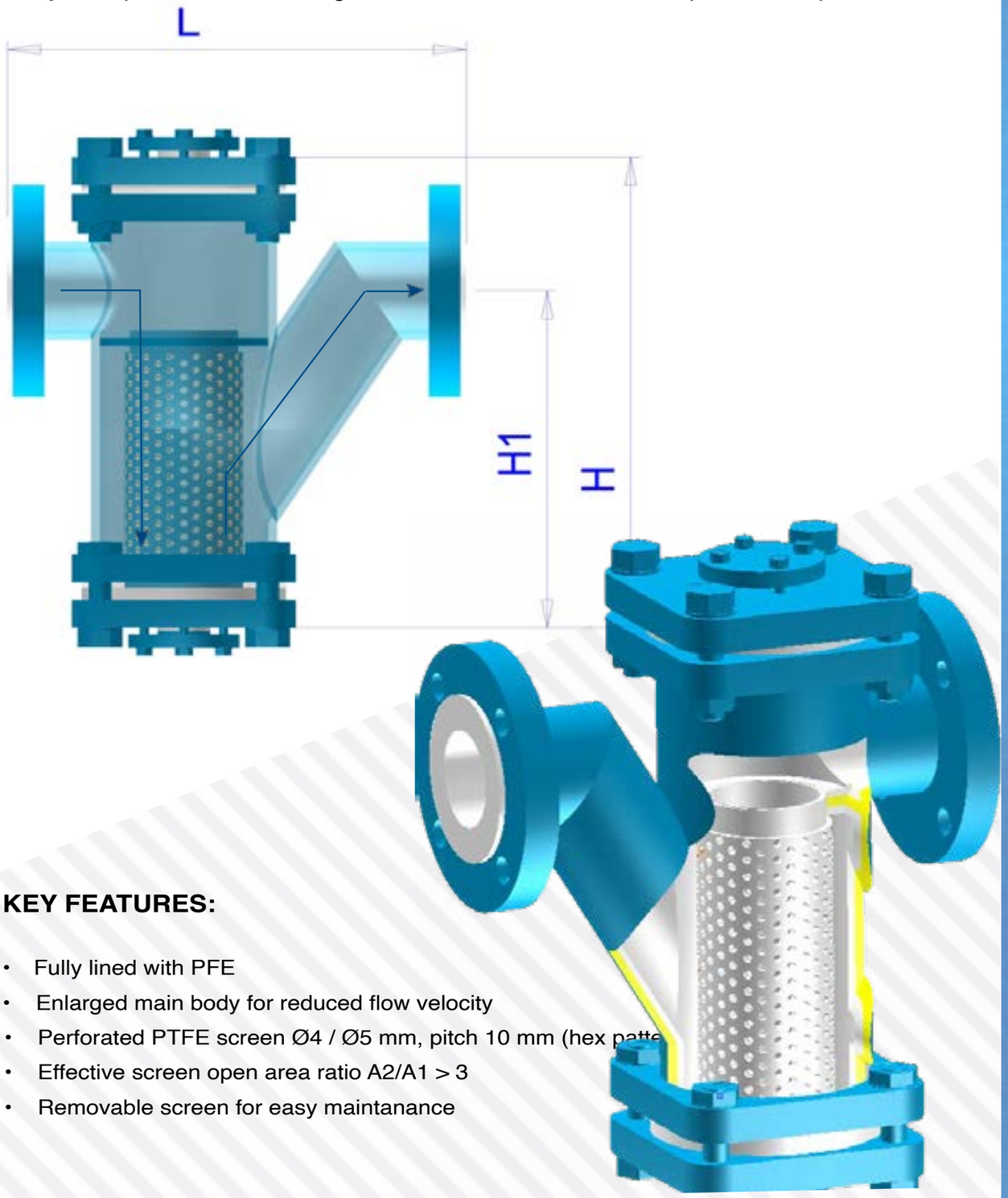
**Flow: Recommended nominal values for clean water at 20°C.**
**Drain: Bottom drain outlet diameter is selected according to the specified drain valve size.**

## 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 variouse 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 Ø4 / Ø5 mm, pitch 10 mm (hex patte
- Effective screen open area ratio A2/A1 > 3
- Removable screen for easy maintanance



## 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 ΔP≈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: ΔP ≈ 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**.



## IMPORTANT !!!

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All nominal flow rates are based on the following conditions:

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- Strainer condition: Clean screen / basket
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