Suction Filters

AS 010 · AS 025 · AS 040 · AS 060 · AS 080 · AS 100 · AS 150
In-tank mounting · Connection up to G2½ · Nominal flow rate up to 350 l/min / 92.5 gpm

Description

Application
In the suction line of pumps of hydraulic or lubricating circuits.

Performance features
Protection against malfunction:
By full-flow filtration in the suction line, particularly the pumps are protected from coarse dirt particles that have remained in the system after manufacture or repair, or enter the system when it is filled with oil.

Special features
The robust construction with end caps, inner core and mesh screen material, all out of metal, offers the following advantages:
› maximum reliability at increased operating temperatures
› enormous shock and vibration resistance

Construction
Flow direction from outside to center.
The star-shaped pleating of the filter material results in:
› large filter surfaces
› low pressure drop
› long service life

Filter maintenance
› Cleaning in ultrasonic bath for a few minutes.
  As an alternative, put suction filter in cleaning agent for approx. 15 minutes and remove dirt from the outside using a brush.
› Then flush with fresh cleaning fluid from the inside to the outside.
› Blow out with compressed air from the inside to the outside.

In any case, be careful that no dirt enters the inner side (clean oil side) of the suction filter.
Characteristics

Nominal flow rate
Up to 350 l/min / 92.5 gpm (see Selection Chart, column 2). The nominal flow rates indicated by ARGO-HYTOS are based on the following features:

› pressure drop $\Delta p < 0.035$ bar at $v = 35$ mm$^2$/s
  $< 0.507$ psi at $v = 162$ SUS

› closed by-pass valve at $v \leq 200$ mm$^2$/s / 927 SUS

› flow velocity in the connection lines $\leq 1.5$ m/s / 4.9 ft/s

Connection
Threaded ports according to ISO 228 or DIN 13. Sizes see Selection Chart, column 7, (other port threads on request).

Filter fineness
100 µm

Hydraulic fluids
Mineral oil and biodegradable fluids (HEES and HETG, see info-sheet 00.20).

Temperature range
-30 ºC ... +100 ºC (temporary -40 ºC ... +120 ºC)
-22 ºF ... +212 ºF (temporary -40 ºF ... +248 ºF)

Materials
› AS 010-00 / AS 025-01 / AS 040-01 / AS 060-01 / AS 150-01
  end caps out of steel, support mesh out of steel, zinc plated, filter mesh out of stainless steel (1.4301)

› AS 080-01 / AS 100-01
  end cap with hexagon out of aluminum, bottom end cap out of steel, support mesh out of steel, zinc plated, filter mesh out of stainless steel (1.4301)

› AS 040-71
  end caps out of steel, filter mesh out of stainless steel (1.4301)

› AS 080-81 / AS 100-81
  end cap with hexagon out of aluminum, bottom end cap out of steel, filter mesh out of stainless steel (1.4301)

Viscosity at nominal flow rate
› $v < 60$ mm$^2$/s / 280 SUS at operating temperature

› start-up viscosity $v_{\text{max}}$ equivalent to the permitted pump inlet pressure (refer to diagram D), $\Delta p$ to be determined as a function of the viscosity (take pressure loss in connection lines into account!).

Mounting position
Optional; versions equipped with bypass valve preferably in horizontal position.
Under all operating conditions (min. oil level, max. inclination) the suction must occur under the oil level.
\[ \Delta p \text{-curves for filters in Selection Chart, column 3} \]

**D1** Pressure drop as a function of the flow volume at \( v = 35 \text{ mm}^2/\text{s} / 162 \text{ SUS} \)

Pressure drop as a function of the kinematic viscosity at nominal flow

**D2** Pressure drop as a function of the flow volume at \( v = 35 \text{ mm}^2/\text{s} / 162 \text{ SUS} \)

Pressure drop as a function of the kinematic viscosity at nominal flow
## Selection Chart

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Nominal flow rate</th>
<th>Pressure drop curve no.</th>
<th>Filter surface</th>
<th>G,</th>
<th>Filter fineness</th>
<th>Filter surface</th>
<th>Connection B</th>
<th>Connection D</th>
<th>Length L₁</th>
<th>Length L₂</th>
<th>Dimension K</th>
<th>Symbol</th>
<th>Weight</th>
<th>Remarks</th>
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Remarks:
The filters listed in this chart are standard filters. Other designs, e.g. other filter finenesses, available on request.
Quality Assurance

Quality management according to DIN EN ISO 9001
To ensure constant quality in production and operation, ARGO-HYTOS filter elements undergo strict controls and tests according to the following ISO standards:

ISO 2941  Verification of collapse / burst pressure rating
ISO 2942  Verification of fabrication integrity (Bubble Point Test)
ISO 2943  Verification of material compatibility with fluids
ISO 3968  Evaluation of pressure drop versus flow characteristics
ISO 16889  Multi-Pass-Test (evaluation of filter fineness and dirt-holding capacity)
ISO 23181  Determination of resistance to flow fatigue using high viscosity fluid

Various quality controls during the production process guarantee the leakfree function and solidity of our filters.