

## Dewatering Units

# OPS2 010

Mobile device for dewatering, degassing and filtration of hydraulic and lubrication fluids



OPS2 Dewatering and filtration unit



Intuitively operated touch panel

### Key features

- › Optimized design, new functionalities
- › Increased water removal speed for 20%
- › Intuitively operated touch panel
- › Unbeatable ergonomics, comfortable handling
- › Integrated humidity sensor
- › Built in printer
- › Particle monitor and extra heater available on request
- › Manual and automatic operation modes

### Water contamination

Water has a negative impact on chemical and physical properties of lubricants. It fosters foaming, acid and varnish formation. Increased humidity dramatically accelerates additives depletion and leads to changes in the fluid viscosity. Water-contaminated oil loses its insulating properties (it becomes an electric conductor).

Oil moisture can dramatically alter machines performance and lifetime causing corrosion, pumps cavitation and valves stiction. Those problems result in reduced productivity, damages and costly repairs of equipment.

Oil dehydration can extend machine life by up to 4 times!

### OPS2 - Multifunctional service unit

With the OPS2 010 mobile dewatering unit, large quantities of free, emulsified and dissolved water can be removed efficiently. The OPS2 010 oil purification system uses a vacuum method for dewatering and degassing fluids. Additionally built-in filtration module eliminates solid contamination.

### Process under full control

Dewatering process is constantly monitored. Integrated sensors measure fluid parameters like humidity, temperature and conductivity.

Results stored in the internal memory can be printed immediately during the purification process or downloaded for further processing at any time.

Unit can be operated manually or work in automatic modes with predefined settings and parameters.

### Customer-specific configuration

Customer can expand the basic system with a particle monitor for cleanliness measurement.

The optional second heater increases the efficiency of the dewatering process.

Uniquely among manufacturers, ARGO-HYTOS has performed standardized performance tests of the OPS2 010 dewatering unit, demonstrating its exceptionally high efficiency in water removal from hydraulic fluids.

**Dehydrator performance measured in accordance with ISO 18237:**

› **WRC ISO 18237 6/26/13**

WRC (Water Removal Capability) indicates how effectively the dehydrator reduces the water content in hydraulic fluid during the three test stages defined by ISO 18237.

› **Ra 28**

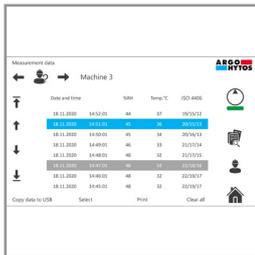
Free water removal rate specifies the average rate at which free (non-dissolved) water is separated and removed from the fluid. Based on this value, the OPS2 010 can remove approximately **1.2** liters of free water per hour, confirming its excellent dehydration performance.

**Advantages at a Glance**



**Self-explanatory**

The operating touch panel is clearly and simply designed. All settings and indications can be realized intuitively. Additional functions and automatic modes enrich the OPS2 unit, making it an extremely flexible device.



**Convenient data management**

The measuring data are stored in the internal memory of the OPS2. By assigning the results to individual PROFILES, it is possible to manage only selected data (e.g. selected customers or machines) conveniently and transparently.



**Quick reporting**

Selected results can be printed at any time.



**Data transfer**

Data can be easily copied to a USB stick at any time. The XML format allows for their easy processing in external devices.



**Multifunctionality**

Apart from dehydration the OPS can be used for solid particles removal. To realize this mode the filter element must be installed in the housing integrated in the device. The high separation efficiency of the EXAPOR®MAX filter elements guarantees maximum protection of the components. The large DIRT HOLDING CAPACITY makes the OPS2 an economical filtration tool. Apart from the EXAPOR®MAX technology, the customer can use the EXAPOR®SPARK PROTECT elements which are for hydraulic oils with low electrical conductivity (< 500 pS/m at 20 °C)

### Flow rate

up to 10 l/min / 2.6 gpm

Flow rate (time of 1 dewatering cycle) depends on the fluid viscosity and temperature.

### Viscosity range

10 - 800 mm<sup>2</sup>/s - continuous operation

### Temperature range of fluids

0 °C ... +80 °C / +32 °F ... +176 °F

### Ambient temperature range

10 °C ... +50 °C / +32 °F ... +122 °F

### Applicable filter elements

Dewatering process does not require any consumable filter elements. Optionally the device can be equipped with filter elements that remove solid particles.

Filter elements must be ordered separately (see table Filter elements)

The following types can be ordered:

- › EXAPOR®MAX - for separation of solid particles
- › EXAPOR®SPARK PROTECT - for separation of solid particles and protection against electrostatic discharges (oils with low electrical conductivity < 500 pS/m at 20 °C)

### Dirt holding capacity

The dirt-holding capacity values in grams from the ISO MTD test dust are in accordance with the ISO 16889 requirements (see table Filter element).

### Clogging indicator

Electrical clogging indicator is installed in each version of the OPS2 unit.

If the spare element is installed the indicator in the main screen of the touch display changes the color from green into red when the filter element is contaminated

### Compatible fluids

Mineral oil and biodegradable fluids (HEES and HETG, see info service sheet 00.20).  
Other fluids on request.

### Hydraulic connections

- › Oil suction side:
  - Inlet port 22L (M30x2, 24° cone end), plugged.
  - Hose not included - recommended size DN20
  - Suction hose could be ordered separately (see chapter Accessories)
- › Suction strainer:
  - coarse element 1 mm, ordering code **S1. 9801411**
- › Oil return side:
  - Outlet port 22L (M30x2, 24° cone end), plugged.
  - Hose not included - recommended size DN20
  - Return hose could be ordered separately (see chapter Accessories)
- › Vacuum pump exhaust:
  - DKOL 90 24° 15L/DN12 + transparent hose DN12, length approximately 0,15m.
  - Longer hose could be ordered on request
- › Water container outlet:
  - DKOL 90 24° 15L/DN12
  - Extension hose DN12 could be ordered on request

### Weight

- › basic version (no OPCom, no second heater): 180kg
- › version with OPCom & extra heater: 195 kg

### Operating and transport position

Operating position: upright  
Transport position: upright

### Input voltage

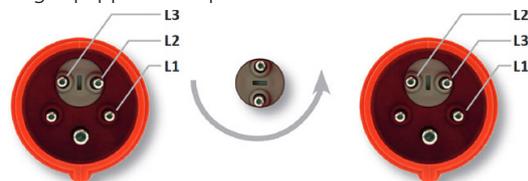
3 ~ 380-440V / 50/60 Hz

### Installed power

- › Basic version (with one heater): 7,5 kW
- › Version with two heaters (EH in the code): 13,5 kW

### Electrical connection

Wall mounted plug 32A 5p 6h (7725-6d) installed on the unit.  
Plug equipped with phase inverter:



Electric cable not included  
Could be ordered separately (see chapter Accessories)

## Ordering Code

|   |             | OPS2 | 010 | XXXX | / | 40050 | - | - |  |  |  |  |  |  |
|---|-------------|------|-----|------|---|-------|---|---|--|--|--|--|--|--|
| <b>Type of unit</b>   | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Mobile dewatering and filtration system 47008083                                  | OPS2        |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Nominal size</b>   | <b>010</b>  |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Filter element for removing solid particles</b>                                | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Without filter element  | XXXX        |      |     |      |   |       |   |   |  |  |  |  |  |  |
| *Filter elements must be ordered separately<br>See table Filter elements          |             |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Input voltage</b>  | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| 3~380-440 VAC   | 40050       |      |     |      |   |       |   |   |  |  |  |  |  |  |
| *Other on request   |             |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>OPCom Particle Monitor</b>   | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Installed   | PC          |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Not installed   | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Second heater H2</b>   | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Installed   | EH          |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Not installed   | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Suction &amp; return hose 3meter + lances 1meter</b>                           | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Installed   | SR          |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Not installed   | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Electric cable 10m with plug 32A/32A</b>                                       | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Included  | 1032        |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Not included  | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Transportation options (see the drawing)</b>                                   | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Forklift skids  | S           |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Wheels  | W           |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Forklift skids & Wheels   | SW          |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Without transport equipment   | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| <b>Customization</b>  | <b>Code</b> |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Not required  | No code     |      |     |      |   |       |   |   |  |  |  |  |  |  |
| Required special modifications should be discussed individually with the supplier | C           |      |     |      |   |       |   |   |  |  |  |  |  |  |

### Order examples:

**OPS2 010XXXX/40050-PC/SR/1032/SW** Mobile dewatering system OPS2. Version with OPCom Particle monitor, without second heater H2. Suction and return hoses & lances included, electric cable 10m 32A/32A included, forklift skids & wheels mounted.

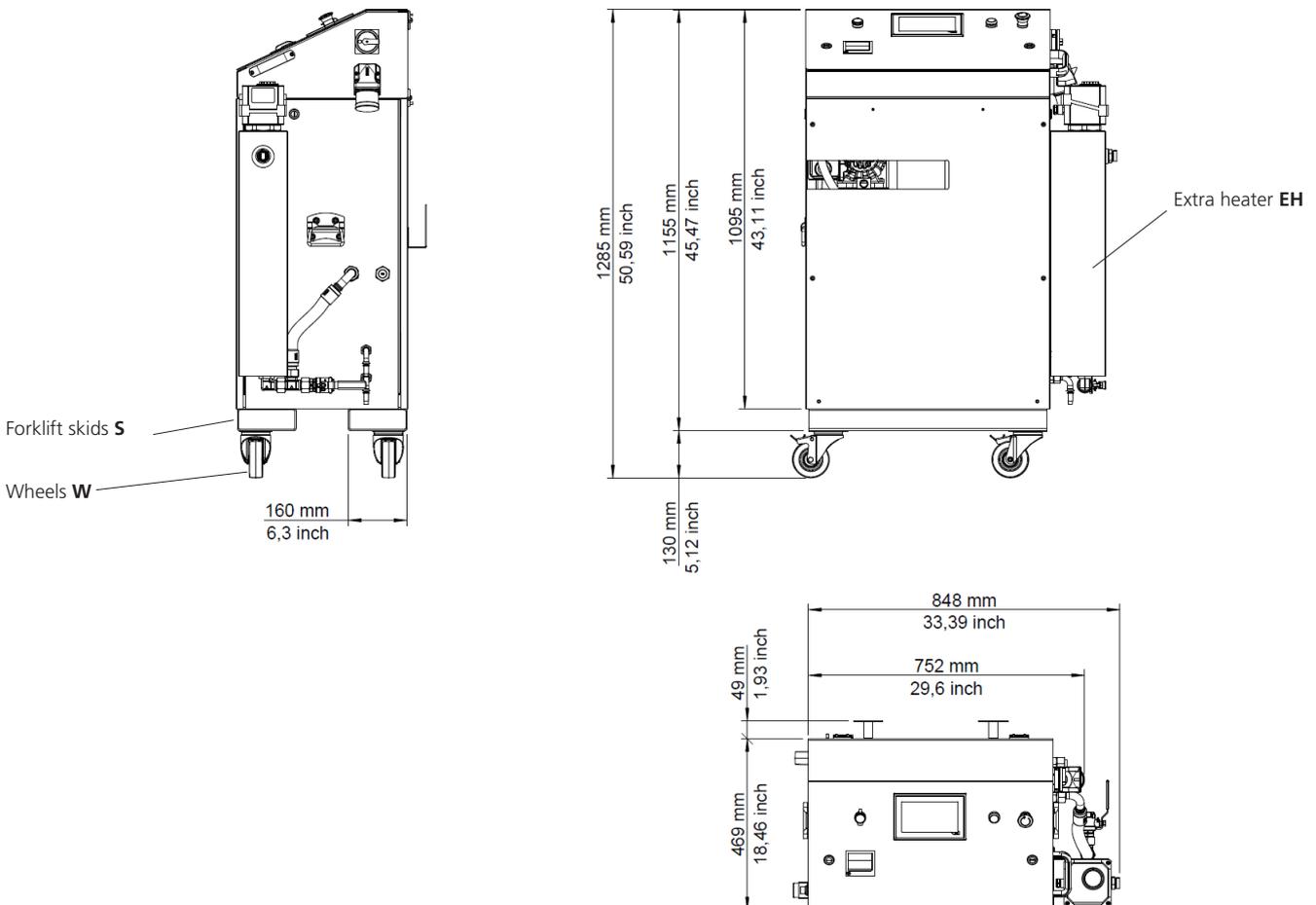
## Accessories & filter elements / Ordered separately

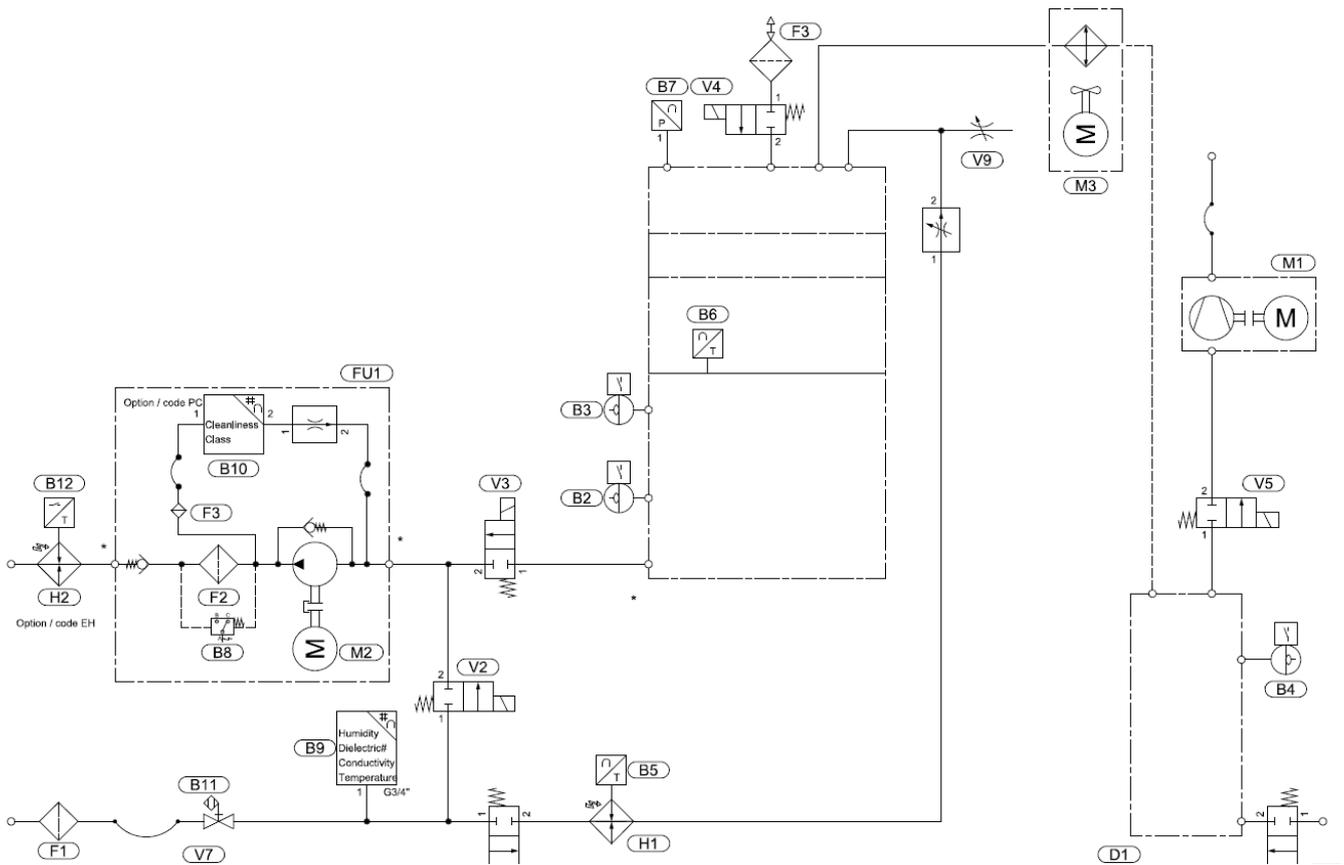
| Description  | Order code                          |
|--|-------------------------------------|
| Transparent hose, inner diameter 20 mm, length 3 m<br>Could be used as a suction and return hose | H-20/3<br>(other length on request) |
| Aluminum lance DN20 mm, length 1 m<br>Could be used as a suction and return lance                | LA 20X1000                          |
| Cable length 10m / version with 32A/32A plug   | EC 10-32/32                         |
| Cable length 20m / version with 32A/32A plug   | EC 20-32/32                         |
| Cable length 10m / version with 32A/16A<br>plug (only for versions without extra heater)         | EC 10-32/16                         |
| Cable length 20m / version with 32A/16A<br>(only for versions without extra heater)              | EC 20-32/16                         |
| Paper rolls for thermal printer  | SCSO 900-5075                       |

### Filter elements

| Type                 | Fineness ( $\beta=200$ ) | Dirt-holding capacity according to ISO 16889 / water capacity | Code        |
|----------------------|--------------------------|---|-------------|
| EXAPOR®MAX           | 3 $\mu\text{m}$          | 280 g   | V7.1220-113 |
| EXAPOR®MAX           | 5 $\mu\text{m}$          | 270 g   | V7.1220-13  |
| EXAPOR®MAX           | 10 $\mu\text{m}$         | 210 g   | V7.1220-06  |
| EXAPOR®SPARK PROTECT | 3 $\mu\text{m}$          | 280 g   | Z7.1220-113 |

## Dimensions





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 leak-free function and solidity of our filters.

Illustrations may sometimes differ from the original. ARGO-HYTOS is not responsible for any unintentional mistake in this specification sheet.