

# POP-I

The Landia POP-I 180 is a slow-speed mixer for mixing and flow-making with a low energy consumption. This can, for example, be in aeration tanks or anaerobic tanks at sewage treatment plants.

The Landia POP-I 360 is a flexible and efficient mixer that is typically used for mixing liquids with a high dry matter content, such as dewatered sludge or biomass. The relatively low speed means that the POP-I 360 is the ideal mixer for highly viscose liquids.

## APPLICATION EXAMPLES

POP-I 180/360:

- ▶ Aeration tanks
- ▶ Oxydation ditches
- ▶ Anoxic and anaerobic tanks
- ▶ MBBR reactors

POP-I 360:

- ▶ Sludge with a high dry matter content
- ▶ Liquid biomass

## PROPELLER RPM

180 rpm – gear 1:6 or 1:7.25

360 rpm – gear 1:4.5 or 1:5



**MATERIAL OF CONSTRUCTION POP-I 180 RPM**

|                               |   |
|-------------------------------|---|
| Motor housing and oil chamber | Cast iron AISI A48-40B  |
| Propeller                     | Steel A 570 GR 36<br>Domex 700 (optional)<br>Stainless steel AISI 304 (optional)<br>Steel AISI 316 (optional)                   |
| Gear                          | Cast iron AISI A48-40B  |
| Output shaft gear             | Shaft steel AISI 9840 (no contact with the liquid)  |
| Bolts                         | Steel AISI 316  |
| Exterior sealing system       | 3 oil sealing rings made of nitrile<br>Stainless steel wear bush AISI 304 (ceramic coating optional)<br>Steel wear bush AISI A2 |
| Interior sealing system       | Mechanical shaft seal: silicon carbide/silicon carbide  |
| Oil type                      | Liquid temperature 32–86 °F SP 100<br>Liquid temperature 86–140 °F GS 220<br>GS 220 (with moisture detection)                   |
| Grease type                   | High temperature grease   |

**MATERIAL OF CONSTRUCTION POP-I 360 RPM**

|                               |   |
|-------------------------------|---|
| Motor housing and oil chamber | Cast iron AISI A48-40B  |
| Propeller                     | Steel A 570 GR 36<br>Domex 700 (optional)<br>Stainless steel AISI 304 (optional)<br>Steel AISI 316 (optional)   |
| Gear                          | Cast iron AISI A48-40B  |
| Output shaft gear             | Shaft steel AISI 9840 (no contact with the liquid)  |
| Bolts                         | Steel AISI 316  |
| Exterior sealing system       | 1 oil sealing ring made of nitrile<br>Stainless steel wear bush AISI 304 (ceramic coating optional)<br>Mechanical shaft seal: silicon carbide/silicon carbide |
| Interior sealing system       | Mechanical shaft seal: silicon carbide/silicon carbide  |
| Oil type                      | Liquid temperature 32–86 °F SP 100<br>Liquid temperature 86–140 °F GS 220<br>GS 220 (with moisture detection)   |
| Grease type                   | High temperature grease   |

## SERVICE AND MAINTENANCE

|   |   |
|---|---|
| Recommended service interval/oil change | Max. 4,300 operating hours/minimum once a year                          |
| Motor                                   | Lifetime lubricated bearings  |
| Gear                                    | Periodic oil change<br>Calculated service life >100,000 operating hours |
| Propeller                               | Periodic grease lubrication   |

## SURFACE TREATMENT

|   |            |
|---|------------|
| Machinery enamel: RAL 9005 (Jet Black)                | Jet Black  |
| 2-component coating: RAL 7005 (Mouse Grey) (optional) | Mouse Grey |

## ELECTRICAL CABLE

Resistant to abrasion, oil and UV radiation.



Number of conductors:

SOOW 7AWG14

SOOW 10AWG10

23' (other lengths available upon request)

## MONITORING FUNCTIONS

Bimetal thermal sensors 248 °F

Moisture detection system (optional)



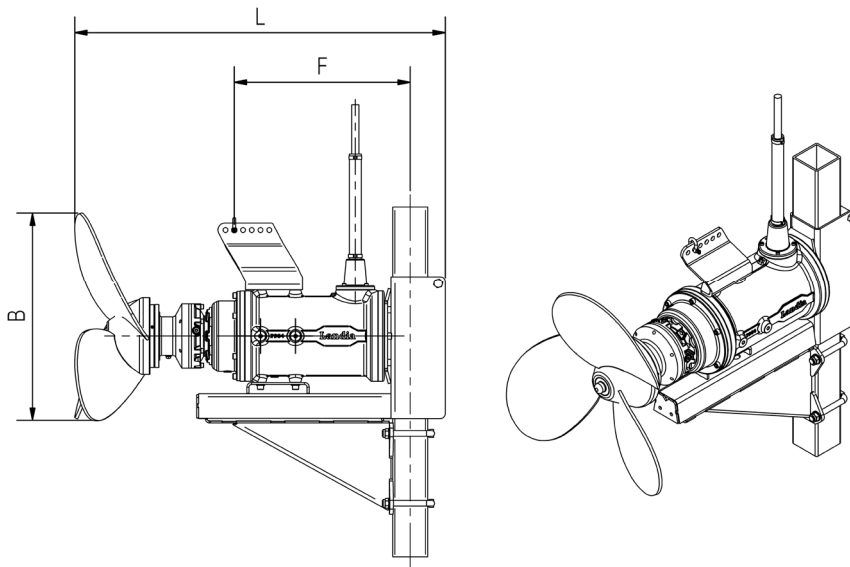
## ELECTRICAL DATA

|                            |  |
|----------------------------|--|
| Motor type                 | 3-phase AC motor                                   |
| Nominal voltage            | 460 V  |
| Minimum voltage allowed    | 415 V  |
| Nominal frequency          | 60 Hz  |
| Suitable for VFD-operation | Yes  |
| Cage class                 | IP 68  |
| Insulation class           | F  |
| ATEX classification        | Class I, Groups C & D (option for selected models) |
| Variable-speed drives      | Inverter Duty Rated                                |

| Model                         | Nominal power | Motor | Full load current<br>(460 V) | Connection<br>method |     | Start current<br>(DOL) | cos phi | Efficiency<br>(100%) |
|-------------------------------|---------------|-------|------------------------------|----------------------|-----|------------------------|---------|----------------------|
|                               | [HP]          |       |                              | [rpm]                | [A] |                        |         |                      |
| POP-I 1.8/1.2 HP-180 rpm IE2  | 1.8           | 1165  | 2.6                          | 460                  | Y   | 14                     | 0.78    | 81.0                 |
| POP-I 4.9/1.8 HP-180 rpm IE2  | 4.9           | 1165  | 6.8                          | 460                  | Δ   | 47                     | 0.79    | 84.0                 |
| POP-I 6.5/4.9 HP-180 rpm IE2  | 6.5           | 1165  | 8.7                          | 460                  | Δ   | 46                     | 0.79    | 87.5                 |
| POP-I 12.2/6.5 HP-180 rpm IE2 | 12.2          | 1170  | 15.5                         | 460                  | Δ   | 88                     | 0.81    | 89.0                 |
| POP-I 3.6 HP-360 rpm          | 3.6           | 1720  | 5.3                          | 460                  | Y   | 34                     | 0.75    | 81.0                 |
| POP-I 6.5 HP-360 rpm          | 6.5           | 1735  | 9.0                          | 460                  | Δ   | 66                     | 0.78    | 85.0                 |
| POP-I 9.0 HP-360 rpm          | 9.0           | 1745  | 11.0                         | 460                  | Δ   | 72                     | 0.88    | 86.0                 |
| POP-I 17.9 HP-360 rpm         | 17.9          | 1755  | 22.0                         | 460                  | Δ   | 152                    | 0.84    | 88.4                 |
| POP-I 30.2 HP-360 rpm         | 30.2          | 1760  | 36.0                         | 460                  | Δ   | 241                    | 0.85    | 90.0                 |



## OVERALL DIMENSIONS



| Model                         | Standard propeller diameter [inch] | B [inch] | F [inch] | L [inch] | Guide pipe [inch] | Weight [lb] |
|-------------------------------|------------------------------------|----------|----------|----------|-------------------|-------------|
| POP-I 1.8/1.2 HP-180 rpm IE2  | ø22,6                              | 20       | 15,7     | 35,0     | 3,1x3,1           | 247         |
| POP-I 4.9/1.8 HP-180 rpm IE2  | ø24.4                              | 20       | 13.8     | 37.0     | 3,1x3,1           | 287         |
| POP-I 4.9/1.8 HP-180 rpm IE2  | ø28.7                              | 23       | 14.6     | 38.0     | 3,1x3,1           | 287         |
| POP-I 4.9/1.8 HP-180 rpm IE2  | ø33,3                              | 27       | 15.4     | 39.0     | 3,1x3,1           | 287         |
| POP-I 6.5/4.9 HP-180 rpm IE2  | ø36,6                              | 30       | 19.5     | 46.2     | 3,9x3,9           | 397         |
| POP-I 12.2/6.5 HP-180 rpm IE2 | ø37.4                              | 32       | 20.9     | 46.5     | 3,9x3,9           | 551         |
| POP-I 12.2/6.5 HP-180 rpm IE2 | ø42.5                              | 36       | 20.9     | 48.0     | 3,9x3,9           | 551         |
| POP-I 3.6 HP-360 rpm          | ø16.9                              | 14       | 13.6     | 30.1     | 3,1x3,1           | 163         |
| POP-I 6.5 HP-360 rpm          | ø19.3                              | 19       | 15.0     | 34.8     | 3,1x3,1           | 218         |
| POP-I 9.0 HP-360 rpm          | ø21.5                              | 19       | 16.7     | 37.5     | 3,1x3,1           | 247         |
| POP-I 17.9 HP-360 rpm         | ø29.3                              | 25       | 18.7     | 43.1     | 3,9x3,9           | 428         |
| POP-I 30.2 HP-360 rpm         | ø33.1                              | 28       | 19.1     | 46.1     | 3,9x3,9           | 534         |

We reserve the right to make technical alterations.