

Grindex starter panel series GSP 110-185 is 3-phase starter panel for manual operation of one pump with option automatic duty with level regulators. The starter series is available with DOL- or Star-Delta- configuration and include a main supply switch with short circuit and motor overload protection, monitoring of built in thermal contacts with manual reset, phase guard indicating correct rotation/phase failure, supervision relay for detection of leakage, ampere meter in the front door.

#### Technical Data

|                           |   |
|---------------------------|---|
| Ampere range:             | 100 – 185 A (reference power 55 – 90 kW at 400V)<br>Ampere meter is mounted in front door   |
| Voltage:                  | Voltage range 230 – 500 V (3P+PE) Standard configuration is 400V. (Transformer in panel must be reconnected for other supply voltage). Control circuits 230 and 24VAC separately fused  |
| Frequency:                | 50 – 60 Hz  |
| Starting method:          | DOL or Star-delta start   |
| Short circuit protection: | Magnetic motor protection breaker   |
| Overload protection:      | Thermal overload relay  |
| Monitoring:               | Phase indicating guard for wrong rotation/phase failure.<br>Monitoring of thermal contacts with manual reset.<br><b>H-version</b> =Supervision relay MICS II for early detection of leakage. (For Bravo & Magnum, Resistance 1,5kohm is added to monitoring circuit when leakage sensor is not used)<br><b>E-version</b> = Bearing temperature monitoring with PT100 relay (For Mega pumps) |
| Level control:            | Panel prepared with terminal inputs for separate start, stop and high level alarm with level regulators connected to 24V  |
| Enclosure:                | Degree of protection: IP55<br>Material: 1,2 mm steel<br>Size 700 x 500 x 260 mm (HxWxD), 36kg (Type DOL)<br>Size 600 x 800 x 300 mm (HxWxD), 46 kg (Type Star-Delta)  |
| Cable glands:             | Metal glands with multi size cable seals for 1 x power supply cable, 1 or 2 x pump cable, 3 x level regulators  |
| Approvals:                | CE-mark   |



Part numbers for Grindex starter panel series GSP for DOL-start & Star-Delta start

| Denomination<br>(with MICS II)       | Part number | Starting<br>method | Current<br>range A | Voltage<br>range | Supply cable<br>Diameter mm | Pump cable<br>Diameter mm |
|--------------------------------------|-------------|--------------------|--------------------|------------------|-----------------------------|---------------------------|
| <b>GSP-D110H</b>                     | 51 631 07   | DOL                | <b>100-110</b>     | 230-500          | 1x 24-35                    | 1x 27-48                  |
| <b>GSP-D140H</b>                     | 51 631 08   | DOL                | <b>110-140</b>     | 230-500          | 1x 24-35                    | 1x 27-48                  |
| <b>GSP-D170H</b>                     | 51 631 09   | DOL                | <b>130-170</b>     | 230-500          | 1x 27-48                    | 1x 27-48                  |
| <b>GSP-D185H</b>                     | 51 631 10   | DOL                | <b>150-185</b>     | 230-500          | 1x 27-48                    | 1x 27-48                  |
| <b>GSP-Y110H</b>                     | 51 632 07   | Star-Delta         | <b>100-110</b>     | 230-500          | 1x 24-35                    | 2x24-35                   |
| <b>GSP-Y140H</b>                     | 51 632 08   | Star-Delta         | <b>110-140</b>     | 230-500          | 1x 24-35                    | 2x24-35                   |
| <b>GSP-Y170H</b>                     | 51 632 09   | Star-Delta         | <b>130-170</b>     | 230-500          | 1x 27-48                    | 2x24-35                   |
| <b>GSP-Y185H</b>                     | 51 632 10   | Star-Delta         | <b>150-185</b>     | 230-500          | 1x 27-48                    | 2x24-35                   |
| Denomination<br>(with MICS II+PT100) | Part number | Starting<br>method | Current<br>range A | Voltage<br>range | Supply cable<br>Diameter mm | Pump cable<br>Diameter mm |
| <b>GSP-D110E</b>                     | 51 631 17   | DOL                | <b>100-110</b>     | 230-500          | 1x 24-35                    | 1x27-48                   |
| <b>GSP-D140E</b>                     | 51 631 18   | DOL                | <b>110-140</b>     | 230-500          | 1x 24-35                    | 1x27-48                   |
| <b>GSP-D170E</b>                     | 51 631 19   | DOL                | <b>130-170</b>     | 230-500          | 1x 27-48                    | 1x27-48                   |
| <b>GSP-D185E</b>                     | 51 631 20   | DOL                | <b>150-185</b>     | 230-500          | 1x 27-48                    | 1x27-48                   |
| <b>GSP-Y110E</b>                     | 51 632 17   | Star-Delta         | <b>100-110</b>     | 230-500          | 1x 24-35                    | 2x 24-35                  |
| <b>GSP-Y140E</b>                     | 51 632 18   | Star-Delta         | <b>110-140</b>     | 230-500          | 1x 24-35                    | 2x 24-35                  |
| <b>GSP-Y170E</b>                     | 51 632 19   | Star-Delta         | <b>130-170</b>     | 230-500          | 1x 27-48                    | 2x24-35                   |
| <b>GSP-Y185E</b>                     | 51 632 20   | Star-Delta         | <b>150-185</b>     | 230-500          | 1x 27-48                    | 2x24-35                   |

#### How to select a starter

- Check Starting method, Voltage, Frequency, Nominal current, Cable configuration/diameter on the pump
- Select a starter panel for the pump from data sheet within suitable current range