

## Multicut submersible pumps

### Application:

Multicut submersible pumps are ideally suited for sewage and waste disposal in residential areas, such as housing estates, holiday parks or individual housing projects. These pumps are ideal for mounting in remote locations, such as motor way service stations and rural communities/farms etc. The great advantage of this pumping system is the use of small bore pipe work pumping over long distances, following the natural contours of the ground. The economic value of this type of system against conventional large diameter pumping mains are considerable. The minimal flow velocity in the press. pipe should be more then 0.7 m/s.

### Operating conditions:

up to 40 °C temperature of material to be pumped

Submerged motor:

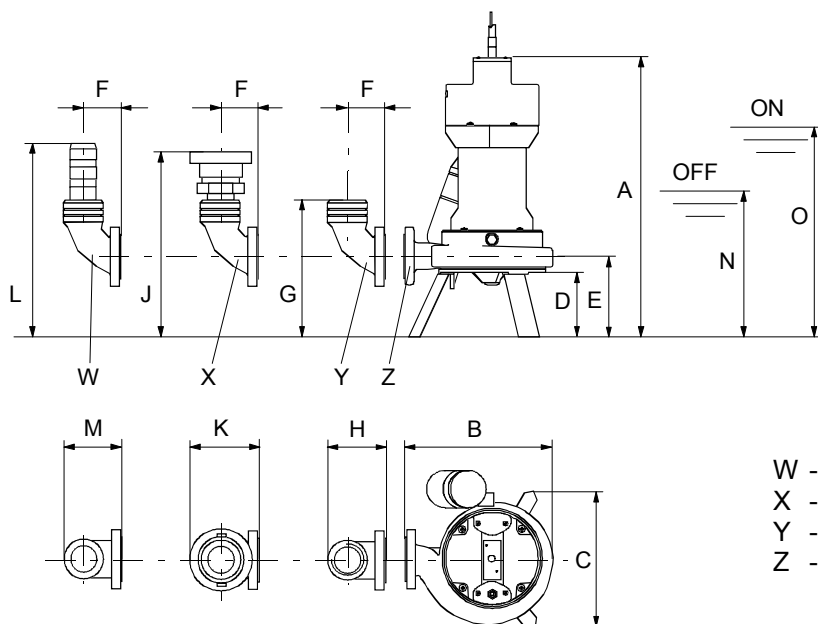
Continuous operation (S1)

Emerged motor:

Intermittent operation (S3)

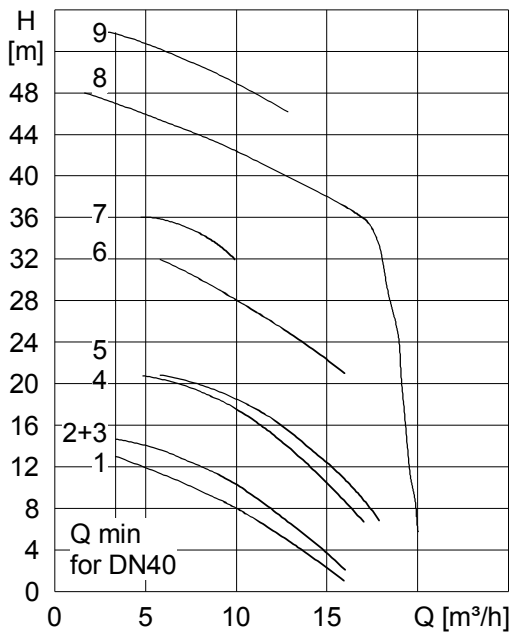
### Technical data:

- Pump:** Vertical, single-stage, submersible, pump case with vertical discharge, vortex impeller with external adjustable cutting system
- Bearings:** Common shaft for pump and motor, deep groove and inclined ball bearings, grease-packed
- Seal:** Silicon carbide mechanical seal independent of sense of rotation, oil chamber and artificial carbon mechanical seal or duplex rotary shaft seal as secondary seal, safe to run dry
- Motor:** Submersible, enclosure IP68, activation through special purpose plug or control unit, protected by winding thermostats, po-we types tested by PTB (German tech. inspection authority), type of protection EEx d IIB T4.
- Materials:** Pump and motor case in GG grey cast iron, vortex impeller and pump base in spheroidal graphite iron GGG, shaft in stainless steel, cutting system in stainless steel hardened
- Supply:** with 10 m cable and plug 16 A CEE-connector (**po-ws/we32/08M** and **MS**), three-pin plug (**po-ws/we 32/08ME** and **MES**), with 10 m cable without plug (**po-we 32/25** to **76/2M**).



| Type                          | main dimensions [mm] |     |     |     |     |    |     |    |     |     |     |    |     |     |
|-------------------------------|----------------------|-----|-----|-----|-----|----|-----|----|-----|-----|-----|----|-----|-----|
|                               | A                    | B   | C   | D   | E   | F  | G   | H  | J   | K   | L   | M  | N   | O   |
| <b>po-ws-32 08/2M + ME</b>    | 445                  | 235 | 230 | 100 | 128 | 60 | 220 | 90 | 300 | 110 | 310 | 90 |     |     |
| <b>po-ws-32 08/2MS + MES</b>  | 445                  | 340 | 255 | 100 | 128 | 60 | 220 | 90 | 300 | 110 | 310 | 90 | 190 | 310 |
| <b>po-we-32 08/2M</b>         | 395                  | 270 | 230 | 100 | 128 | 60 | 220 | 90 | 300 | 110 | 310 | 90 |     |     |
| <b>po-ws/we 32/25/2M</b>      | 485                  | 330 | 350 | 140 | 180 | 60 | 270 | 90 | 350 | 110 | 360 | 90 |     |     |
| <b>po-ws/we 32/25/2ME</b>     | 520                  | 330 | 350 | 140 | 180 | 60 | 270 | 90 | 350 | 110 | 360 | 90 |     |     |
| <b>po-ws/we 32/35 + 36/2M</b> | 520                  | 330 | 350 | 140 | 180 | 60 | 270 | 90 | 350 | 110 | 360 | 90 |     |     |
| <b>po-ws/we 32/75 + 76/2M</b> | 665                  | 430 | 400 | 150 | 210 | 60 | 300 | 90 | 380 | 110 |     |    |     |     |

Subject to alterations



## The Multicut System

The liquid flows into the impeller through a rigid, perforated cutter plate in which apertures are tapered to improve the suction performance. The sharpened three bladed cutter, rotating in front of the inlet, shears any solids present. The impeller then passes them through a counter flow system in the water plate, thence into the volute casing and out through the pump discharge. The cutter plate rejects any material such as stones or metal that it is unable to cut. The combined cutting and pumping system gives trouble-free, low-cost sewage disposal even with difficult ground conditions.

Main features:

- external adjustable cutting system
- controllable oil chamber
- mechanical seal independent of sense of rotation
- water proof cable connection with plug

**po-ws 32/08/2 MS+MES** with automatic switcher and plug

| Type                | K | Q [m³/h] | H [m] |      |    |      |    |    |    |    |     |     |    |     |    |     |    |
|---------------------|---|----------|-------|------|----|------|----|----|----|----|-----|-----|----|-----|----|-----|----|
|                     |   |          | 1     | 2    | 3  | 4    | 5  | 6  | 7  | 8  | 9   | 10  | 11 | 12  | 13 | 14  | 15 |
| po-ws-32/08/2ME+MES | 1 | 16       | 15.5  | 14.5 | 14 | 13   | 12 | 11 | 10 | 9  | 7.5 | 6.5 | 5  | 3.5 |    |     |    |
| po-ws-32/08/2 M+MS  | 2 | 16       | 16    | 15.5 | 15 | 14.5 | 14 | 13 | 12 | 11 | 10  | 9   | 8  | 6.5 | 5  | 3.5 |    |
| po-we-32/08/2 M+MS  | 3 | 16       | 16    | 15.5 | 15 | 14.5 | 14 | 13 | 12 | 11 | 10  | 9   | 8  | 6.5 | 5  | 3.5 |    |

| Type               | K | Q [m³/h] | H [m] |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------------|---|----------|-------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                    |   |          | 6     | 9  | 12 | 15 | 18 | 21 | 25 | 28 | 32 | 35 | 36 | 40 | 44 | 46 | 48 | 50 | 52 |
| po-we/ws-32/25/2ME | 4 | 17       | 16    | 15 | 12 | 9  | 5  |    |    |    |    |    |    |    |    |    |    |    |    |
| po-we/ws-32/25/2M  | 5 | 18       | 17    | 16 | 13 | 10 | 6  |    |    |    |    |    |    |    |    |    |    |    |    |
| po-we/ws-32/35/2M  | 6 |          |       |    |    | 16 | 13 | 10 | 6  |    |    |    |    |    |    |    |    |    |    |
| po-we/ws-32/36/2M  | 7 |          |       |    |    |    |    |    | 16 | 13 | 10 | 6  |    |    |    |    |    |    |    |
| po-we/ws-32/75/2M  | 8 | 20       | 20    | 19 | 19 | 19 | 19 | 19 | 18 | 18 | 18 | 17 | 13 | 8  | 5  | 2  |    |    |    |
| po-we/ws-32/76/2M  | 9 |          |       |    |    |    |    |    |    |    |    |    |    |    | 13 | 11 | 9  | 6  | 3  |

| Type                 | voltage   | current  | motor power |      | speed | cable  | weight | S3 operation |
|----------------------|-----------|----------|-------------|------|-------|--------|--------|--------------|
|                      | U (50 Hz) | I        | P1          | P2   | n     |        | m      | emerged      |
|                      | V         | A        | kW          | kW   | 1/min |        | kg     | %            |
| po-ws-32/08/2 M+MS   | 400       | 2.8      | 1.65        | 1.24 | 2.674 | 4G1    | 17     | 10           |
| po-ws-32/08/2 ME+MES | 1~ 230    | 6        | 1.37        | 0.98 | 2.705 | 3G1    | 17     | 10           |
| po-we-32/08/2 M      | 400       | 2.8      | 1.65        | 1.24 | 2.674 | 6G1.5  | 16.5   | 35           |
| po-we-32/08/2 MES    | 1~ 230    | 7.5      | 1.7         | 1.14 | 2.584 | 6G1.5  | 23.5   | 25           |
| po-we-32/08/2 MES    | 1~ 230    | 7.5      | 1.7         | 1.14 | 2.584 | 6G1.5  | 23.5   | 25           |
| po-we/ws-32/25/2ME   | 1~ 230    | 12.6     | 2.7         | 2    | 2.817 | 6G1.5  | 38     | 20           |
| po-we/ws-32/25/2M    | 400       | 4.4      | 2.6         | 2.1  | 2.800 | 6G1.5  | 38     | 25           |
| po-we/ws-32/35/2M    | 400       | 6.5      | 3.7         | 3.2  | 2.890 | 6G1.5  | 43     | 25           |
| po-we/ws-32/36/2M    | 400       | 6.5      | 3.7         | 3.2  | 2.890 | 6G1.5  | 43     | 25           |
| po-we/ws-32/75/2M    | 400/690   | 12.7/7.4 | 7.7         | 6.8  | 2.925 | 10G2.5 | 90     | 20           |
| po-we/ws-32/76/2M    | 400/690   | 12.7/7.4 | 7.7         | 6.8  | 2.925 | 10G2.5 | 90     | 20           |

K = Number of characteristic curve

Subject to alterations