



Soft Starter Electrical Data

For UPS supply sizing of AG & AGV residential fire sprinkler pump sets

BS 9251:2021 · Three-phase 400 V soft-start pump sets, 3 kW and above

This document collates the electrical data needed to size an uninterruptible power supply (UPS) for AquaGuard AG and AGV fire sprinkler pump sets fitted with a soft starter. For each range it gives a current/time profile and a data table covering the soft-start starting current, the starting (ramp) duration, the steady full load current and the calculated electrical input power.

Important notes

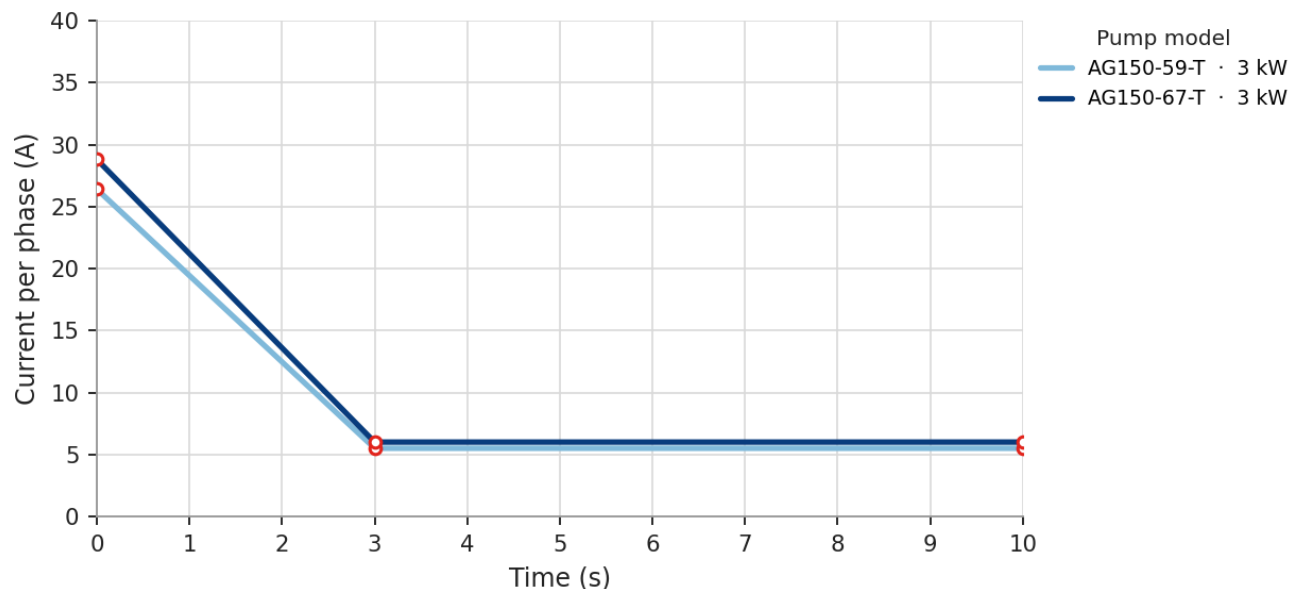
- **Currents are stated per line phase.** All pump sets listed are 400 V three-phase, so multiply the per-phase current by 3 to obtain the total supply current when sizing the UPS.
- **Soft starters are fitted to motors 3 kW and above only.** Motors of 2.2 kW and below start direct-on-line and are therefore not included in this document.
- **Starting current** is the limited soft-start current drawn while the motor ramps up to speed (taken at 0 s). After the ramp the motor settles to its **full load current**. A nominal starting (ramp) duration of 3 s is used; the actual ramp time is adjustable on the soft starter.
- **Input power** is the electrical power drawn. For AG (horizontal, EH) pump sets it is the input power stated in the EH technical data. For AGV (vertical, EV) pump sets it is calculated from the nominal motor (shaft) power divided by motor efficiency (IE3 three-phase 400 V data): e.g. $3 \text{ kW} \div 0.871 = 3.44 \text{ kW}$.
- Data derived from AquaGuard AG & AGV Series Technical Data Sheets (Rev 2) and AEG / E-Tech IE3 motor data.

Motor efficiency used for input power (AGV / EV ranges)

AG (EH) input powers are taken from the EH technical data and are not derived from this table.

Nominal motor power (kW)	Motor efficiency η (IE3)	Calculated input power (kW)
3	87.1%	3.44
4	88.1%	4.54
5.5	89.2%	6.17
7.5	90.1%	8.32
11	91.2%	12.06
15	91.9%	16.32

AG150 Series – Soft-Start / UPS Electrical Data

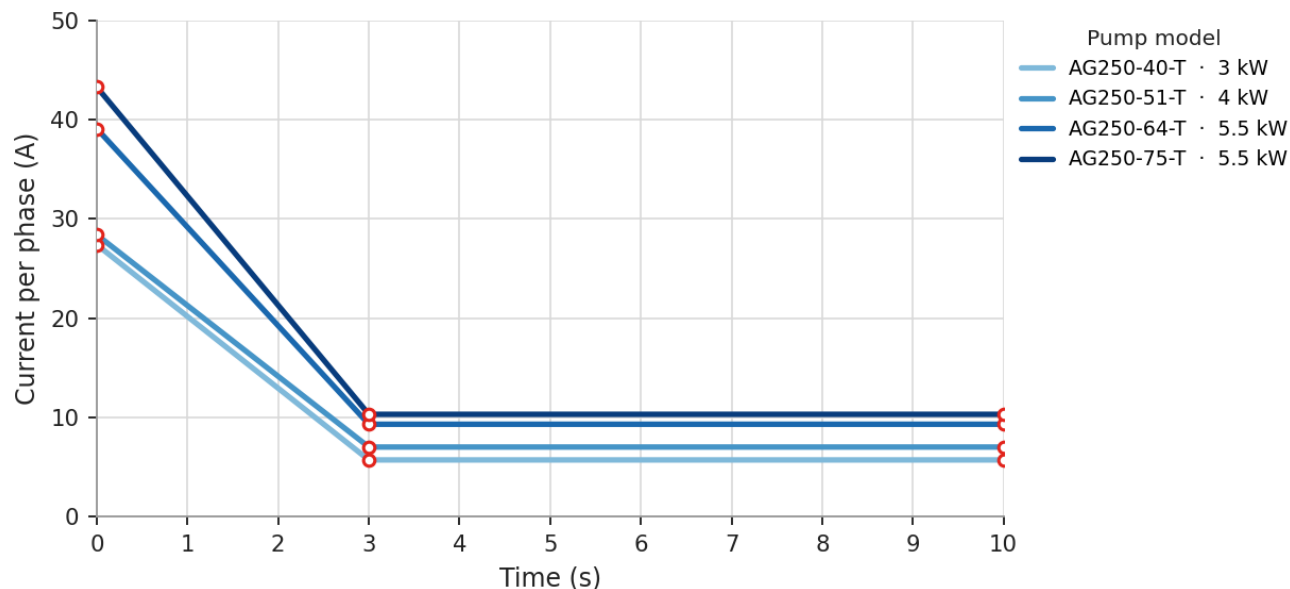


Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AG150-59-T	3	3.08	26.4	3	5.5
AG150-67-T	3	3.49	28.8	3	6

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.

AG250 Series – Soft-Start / UPS Electrical Data

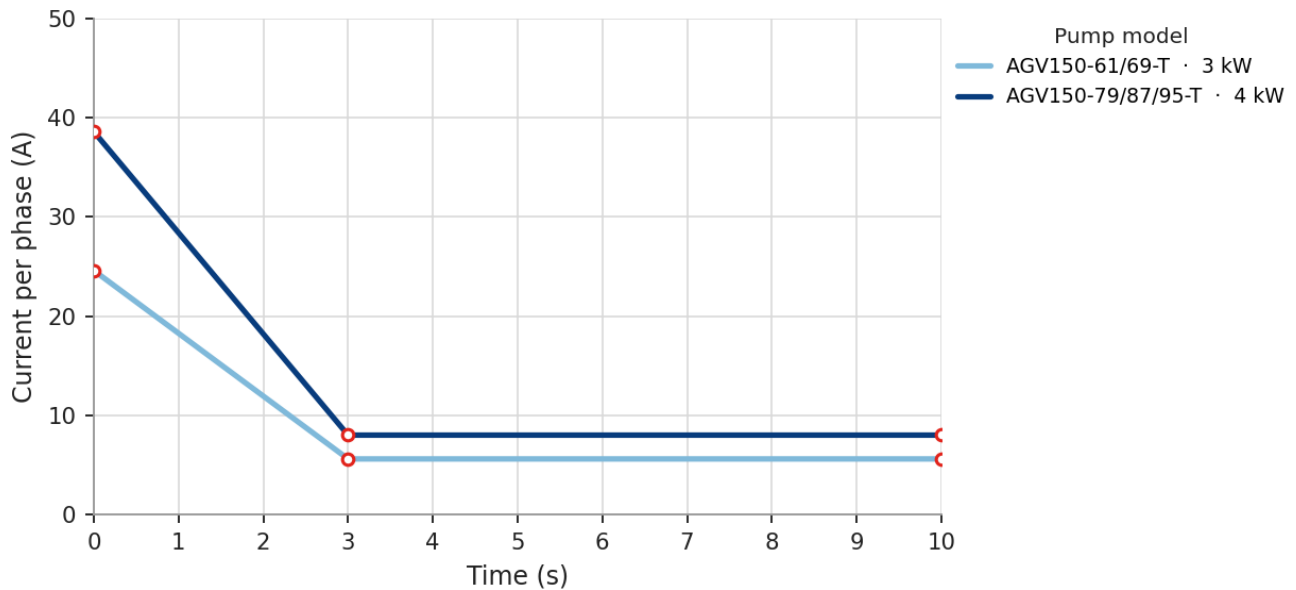


Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AG250-40-T	3	3.28	27.4	3	5.7
AG250-51-T	4	4.09	28.4	3	7
AG250-64-T	5.5	4.95	39.1	3	9.3
AG250-75-T	5.5	5.71	43.3	3	10.3

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.

AGV150 Series – Soft-Start / UPS Electrical Data

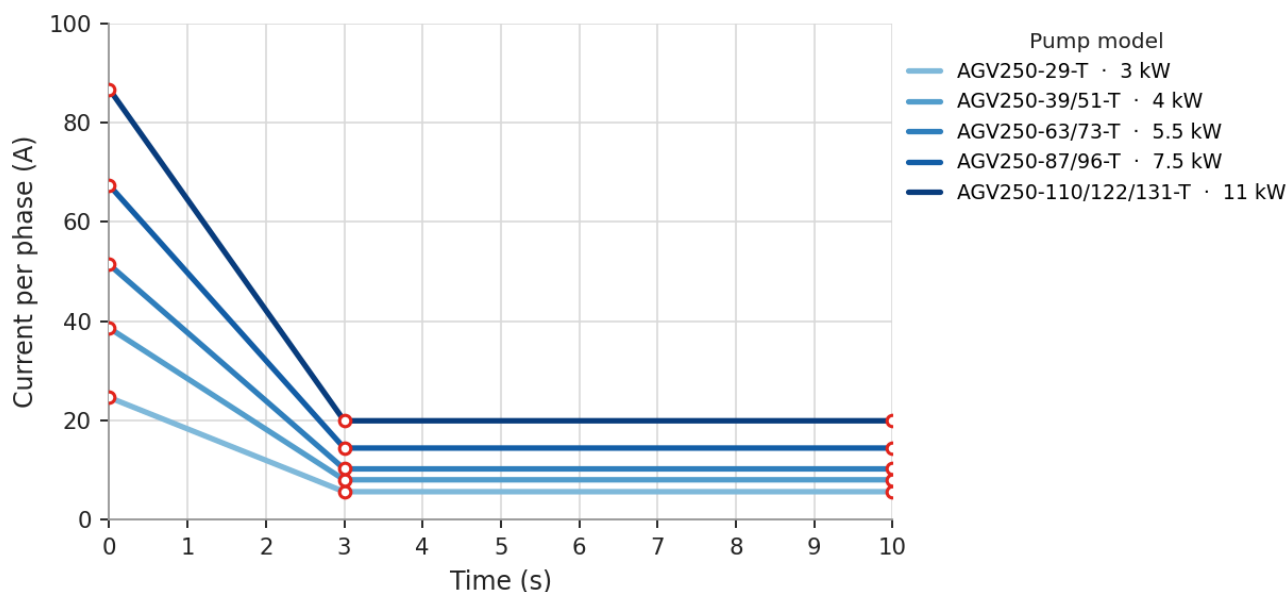


Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AGV150-61-T	3	3.44	24.6	3	5.6
AGV150-69-T	3	3.44	24.6	3	5.6
AGV150-79-T	4	4.54	38.6	3	8
AGV150-87-T	4	4.54	38.6	3	8
AGV150-95-T	4	4.54	38.6	3	8

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.

AGV250 Series – Soft-Start / UPS Electrical Data

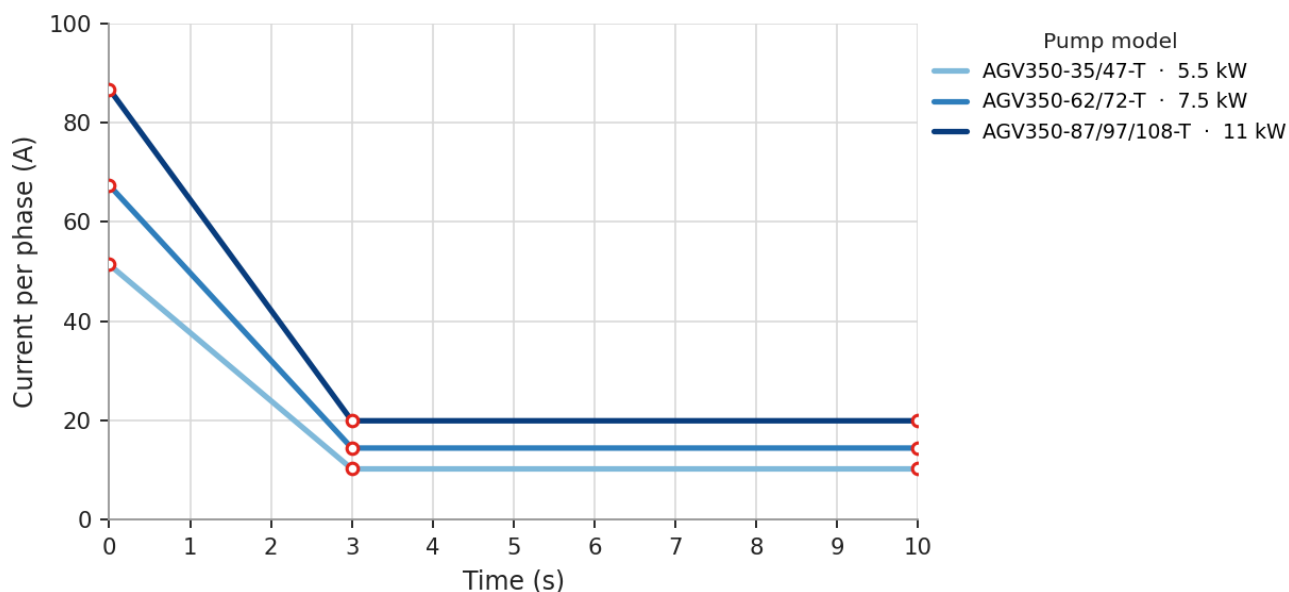


Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AGV250-29-T	3	3.44	24.6	3	5.6
AGV250-39-T	4	4.54	38.6	3	8
AGV250-51-T	4	4.54	38.6	3	8
AGV250-63-T	5.5	6.17	51.4	3	10.2
AGV250-73-T	5.5	6.17	51.4	3	10.2
AGV250-87-T	7.5	8.32	67.4	3	14.4
AGV250-96-T	7.5	8.32	67.4	3	14.4
AGV250-110-T	11	12.06	86.8	3	19.9
AGV250-122-T	11	12.06	86.8	3	19.9
AGV250-131-T	11	12.06	86.8	3	19.9

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.

AGV350 Series – Soft-Start / UPS Electrical Data

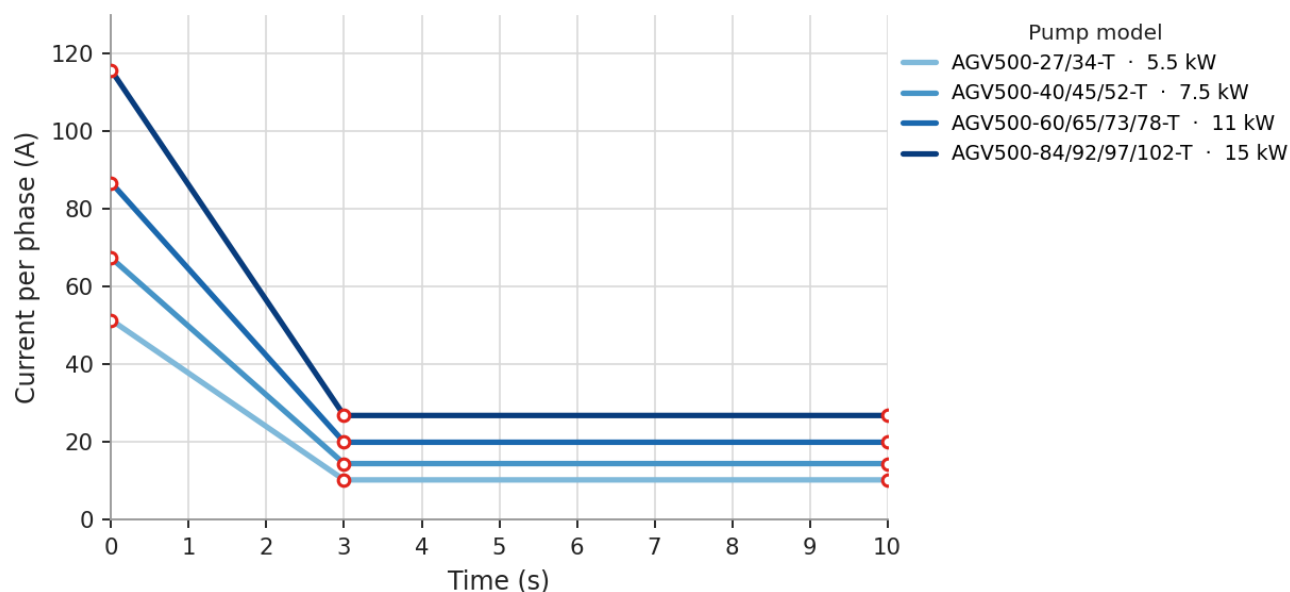


Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AGV350-35-T	5.5	6.17	51.4	3	10.2
AGV350-47-T	5.5	6.17	51.4	3	10.2
AGV350-62-T	7.5	8.32	67.4	3	14.4
AGV350-72-T	7.5	8.32	67.4	3	14.4
AGV350-87-T	11	12.06	86.8	3	19.9
AGV350-97-T	11	12.06	86.8	3	19.9
AGV350-108-T	11	12.06	86.8	3	19.9

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.

AGV500 Series – Soft-Start / UPS Electrical Data



Current/time profile per phase. Pumps that share a motor rating follow an identical profile and are grouped on one curve; every model is listed individually in the table below.

Pump model	Nominal power (kW)	Input power (kW)	Soft-start starting current (A)	Starting duration (s)	Full load current (A)
AGV500-27-T	5.5	6.17	51.4	3	10.2
AGV500-34-T	5.5	6.17	51.4	3	10.2
AGV500-40-T	7.5	8.32	67.4	3	14.4
AGV500-45-T	7.5	8.32	67.4	3	14.4
AGV500-52-T	7.5	8.32	67.4	3	14.4
AGV500-60-T	11	12.06	86.8	3	19.9
AGV500-65-T	11	12.06	86.8	3	19.9
AGV500-73-T	11	12.06	86.8	3	19.9
AGV500-78-T	11	12.06	86.8	3	19.9
AGV500-84-T	15	16.32	115.79	3	26.8
AGV500-92-T	15	16.32	115.79	3	26.8
AGV500-97-T	15	16.32	115.79	3	26.8
AGV500-102-T	15	16.32	115.79	3	26.8

* Current indicated is per line phase — multiply by 3 (three-phase) when sizing UPS supplies. Soft starters are an optional extra on motors over 3 kW.