

# VLT® AQUA Drive technical data

## Basic unit without extensions

| Main supply (L1, L2, L3)                                                                                                                                                               |                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage                                                                                                                                                                         | 1 x 200-240 V AC ..... 1.1-22 kW<br>1 x 380-480 V AC ..... 7.5-37 kW<br>3 x 200-240 V AC ..... 0.25-160 kW<br>3 x 380-480 V AC ..... 0.37-1000 kW<br>3 x 525-600 V AC ..... 0.75-90 kW<br>3 x 525-690 V AC ..... 11-1400 kW* |
| Supply frequency                                                                                                                                                                       | 50/60 Hz                                                                                                                                                                                                                     |
| Displacement power factor (cos φ) near unity                                                                                                                                           | > 0.98                                                                                                                                                                                                                       |
| True power factor (λ)                                                                                                                                                                  | ≥ 0.9                                                                                                                                                                                                                        |
| Switching on input supply L1, L2, L3                                                                                                                                                   | 1-2 times/min.                                                                                                                                                                                                               |
| Harmonic disturbance                                                                                                                                                                   | Meets EN 61000-3-12                                                                                                                                                                                                          |
| * Up to 2000 kW available on request                                                                                                                                                   |                                                                                                                                                                                                                              |
| Output data (U, V, W)                                                                                                                                                                  |                                                                                                                                                                                                                              |
| Output voltage                                                                                                                                                                         | 0 – 100% of supply voltage                                                                                                                                                                                                   |
| Output frequency (dependent on power size)                                                                                                                                             | 0-590 Hz                                                                                                                                                                                                                     |
| Switching on output                                                                                                                                                                    | Unlimited                                                                                                                                                                                                                    |
| Ramp times                                                                                                                                                                             | 0.1 – 3600 sec.                                                                                                                                                                                                              |
| Note: VLT® AQUA Drive can provide 110%, 150% or 160% current for 1 minute, dependent on power size and parameter settings. Higher overload rating is achieved by oversizing the drive. |                                                                                                                                                                                                                              |
| Digital inputs                                                                                                                                                                         |                                                                                                                                                                                                                              |
| Programmable digital inputs                                                                                                                                                            | 6*                                                                                                                                                                                                                           |
| Changeable to digital output                                                                                                                                                           | 2 (terminal 27, 29)                                                                                                                                                                                                          |
| Logic                                                                                                                                                                                  | PNP or NPN                                                                                                                                                                                                                   |
| Voltage level                                                                                                                                                                          | 0-24 V DC                                                                                                                                                                                                                    |
| Maximum voltage on input                                                                                                                                                               | 28 V DC                                                                                                                                                                                                                      |
| Input resistance, Ri                                                                                                                                                                   | Approx. 4 kΩ                                                                                                                                                                                                                 |
| Scan interval                                                                                                                                                                          | 5 ms                                                                                                                                                                                                                         |
| * Two of the inputs can be used as digital outputs.                                                                                                                                    |                                                                                                                                                                                                                              |
| Analog inputs                                                                                                                                                                          |                                                                                                                                                                                                                              |
| Analogue inputs                                                                                                                                                                        | 2                                                                                                                                                                                                                            |
| Modes                                                                                                                                                                                  | Voltage or current                                                                                                                                                                                                           |
| Voltage level                                                                                                                                                                          | 0 to +10 V (scaleable)                                                                                                                                                                                                       |
| Current level                                                                                                                                                                          | 0/4 to 20 mA (scaleable)                                                                                                                                                                                                     |
| Accuracy of analog inputs                                                                                                                                                              | Max. error: 0.5% of full scale                                                                                                                                                                                               |
| Pulse inputs                                                                                                                                                                           |                                                                                                                                                                                                                              |
| Programmable pulse inputs                                                                                                                                                              | 2*                                                                                                                                                                                                                           |
| Voltage level                                                                                                                                                                          | 0-24 V DC (PNP positive logic)                                                                                                                                                                                               |
| Pulse input accuracy (0.1-1 kHz)                                                                                                                                                       | Max. error: 0.1% of full scale                                                                                                                                                                                               |
| * Two of the digital inputs can be used for pulse inputs.                                                                                                                              |                                                                                                                                                                                                                              |
| Digital outputs                                                                                                                                                                        |                                                                                                                                                                                                                              |
| Programmable digital/pulse outputs                                                                                                                                                     | 2                                                                                                                                                                                                                            |
| Voltage level at digital/frequency output                                                                                                                                              | 0-24 V DC                                                                                                                                                                                                                    |
| Max. output current (sink or source)                                                                                                                                                   | 40 mA                                                                                                                                                                                                                        |
| Maximum output frequency at frequency output                                                                                                                                           | 0 to 32 kHz                                                                                                                                                                                                                  |
| Accuracy on frequency output                                                                                                                                                           | Max. error: 0.1% of full scale                                                                                                                                                                                               |
| Analogue output                                                                                                                                                                        |                                                                                                                                                                                                                              |
| Programmable analogue outputs                                                                                                                                                          | 1                                                                                                                                                                                                                            |
| Current range at analogue output                                                                                                                                                       | 0/4-20 mA                                                                                                                                                                                                                    |
| Max. load to common at analogue output (clamp 30)                                                                                                                                      | 500 Ω                                                                                                                                                                                                                        |
| Accuracy on analogue output                                                                                                                                                            | Max. error: 1% of full scale                                                                                                                                                                                                 |
| Control card                                                                                                                                                                           |                                                                                                                                                                                                                              |
| USB interface                                                                                                                                                                          | 1.1 (Full Speed)                                                                                                                                                                                                             |
| USB plug                                                                                                                                                                               | Type "B"                                                                                                                                                                                                                     |
| RS485 interface                                                                                                                                                                        | Up to 115 kbaud                                                                                                                                                                                                              |
| Max. load (10 V)                                                                                                                                                                       | 15 mA                                                                                                                                                                                                                        |
| Max. load (24 V)                                                                                                                                                                       | 200 mA                                                                                                                                                                                                                       |

| Relay output                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programmable relay outputs                                                                                                                                                                                                                                                                                         | 2                                                                                                                                                                           |
| Max. terminal load (AC) on 1-3 (break), 1-2 (make), 4-6 (break) power card                                                                                                                                                                                                                                         | 240 V AC, 2 A                                                                                                                                                               |
| Max. terminal load (AC) on 4-5 (make) power card                                                                                                                                                                                                                                                                   | 400 V AC, 2 A                                                                                                                                                               |
| Min. terminal load on 1-3 (break), 1-2 (make), 4-6 (break), 4-5 (make) power card                                                                                                                                                                                                                                  | 24 V DC 10 mA, 24 V AC 20 mA                                                                                                                                                |
| Surroundings/external                                                                                                                                                                                                                                                                                              |                                                                                                                                                                             |
| Enclosure                                                                                                                                                                                                                                                                                                          | IP: 20/21/54/55/66<br>UL Type: Chassis/1/12/4x Outdoor                                                                                                                      |
| Vibration test                                                                                                                                                                                                                                                                                                     | 1.0 g (D, E & F-enclosures: 0.7 g)                                                                                                                                          |
| Max. relative humidity                                                                                                                                                                                                                                                                                             | 5%-95% (IEC 721-3-3; Class 3K3 (non-condensing) during operation)                                                                                                           |
| Ambient temperature                                                                                                                                                                                                                                                                                                | -25 °C to 50 °C without derating up to 315 kW                                                                                                                               |
| Galvanic isolation of all                                                                                                                                                                                                                                                                                          | I/O supplies according to PELV                                                                                                                                              |
| Aggressive environment                                                                                                                                                                                                                                                                                             | Designed for coated/uncoated 3C3/3C2 (IEC 60721-3-3)                                                                                                                        |
| Fieldbus communication                                                                                                                                                                                                                                                                                             |                                                                                                                                                                             |
| Standard built-in:<br>FC Protocol<br>Modbus RTU                                                                                                                                                                                                                                                                    | Optional:<br>VLT® PROFIBUS DP V1 MCA 101<br>VLT® DeviceNet MCA 104<br>VLT® PROFINET MCA 120<br>VLT® EtherNet/IPMCA 121<br>VLT® Modbus TCP MCA 122<br>VLT® BACnet/IP MCA 125 |
| Ambient temperature                                                                                                                                                                                                                                                                                                |                                                                                                                                                                             |
| Electronic thermal motor protection against overload                                                                                                                                                                                                                                                               |                                                                                                                                                                             |
| -25 °C to 50 °C without derating up to 315 kW                                                                                                                                                                                                                                                                      |                                                                                                                                                                             |
| Temperature monitoring of the heatsink ensures that the AC drive trips in case of overtemperature                                                                                                                                                                                                                  |                                                                                                                                                                             |
| The AC drive is protected against short-circuits on motor terminals U, V, W                                                                                                                                                                                                                                        |                                                                                                                                                                             |
| The AC drive is protected against earth faults on motor terminals U, V, W                                                                                                                                                                                                                                          |                                                                                                                                                                             |
| Protection against mains phase loss                                                                                                                                                                                                                                                                                |                                                                                                                                                                             |
| Special version                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                             |
| Digital Cascade Controller                                                                                                                                                                                                                                                                                         |                                                                                                                                                                             |
| Condition based monitoring                                                                                                                                                                                                                                                                                         |                                                                                                                                                                             |
| Digital cascade controller + condition based monitoring                                                                                                                                                                                                                                                            |                                                                                                                                                                             |
| Application options                                                                                                                                                                                                                                                                                                |                                                                                                                                                                             |
| Extend the functionality of the drive with integrated options:                                                                                                                                                                                                                                                     |                                                                                                                                                                             |
| – VLT® General Purpose I/O MCB 101<br>– VLT® Extended Cascade Controller MCO 101<br>– VLT® Advanced Cascade Controller MCO 102<br>– VLT® 24 V External Supply MCB 107<br>– VLT® PTC Thermistor Card MCB 112<br>– VLT® Extended Relay Card MCB 113<br>– VLT® Sensor Input MCB 114<br>– VLT® Real-time Clock MCB 117 |                                                                                                                                                                             |
| Relay and analogue I/O option                                                                                                                                                                                                                                                                                      |                                                                                                                                                                             |
| – VLT® Relay Card MCB 105<br>– VLT® Analog I/O MCB109)                                                                                                                                                                                                                                                             |                                                                                                                                                                             |
| Power options                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                             |
| Choose from a wide range of external power options for use with our drive in critical networks or applications:                                                                                                                                                                                                    |                                                                                                                                                                             |
| – VLT® Low Harmonic Drive<br>– VLT® Advanced Active Filter<br>– VLT® Advanced Harmonic Filter<br>– VLT® dU/dt filter<br>– VLT® Sine wave filter (LC filter)                                                                                                                                                        |                                                                                                                                                                             |
| High power options                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                             |
| See the VLT® High Power Drive Selection Guide for a complete list.                                                                                                                                                                                                                                                 |                                                                                                                                                                             |
| PC software tools                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                             |
| – VLT® Motion Control Tool MCT 10<br>– VLT® Energy Box<br>– VLT® Motion Control Tool MCT 31                                                                                                                                                                                                                        |                                                                                                                                                                             |



Global Marine

# Enclosure overview **A, B** and **C**

## 3 phases

| VLT® AQUA Drive |      |      | T2 200-240 V |      |       |       | T4 380-480 V |      |       |       | T6 525-600 V |      |      |      | T7 525-690 V |      |      |
|-----------------|------|------|--------------|------|-------|-------|--------------|------|-------|-------|--------------|------|------|------|--------------|------|------|
| FC 200          | kW   |      | IP20         | IP21 | IP55  | IP66  | IP20         | IP21 | IP55  | IP66  | IP20         | IP21 | IP55 | IP66 | IP20         | IP21 | IP55 |
|                 | HO   | NO   |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| PK25            | 0.25 |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| PK37            | 0.37 |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| PK55            | 0.55 |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| PK75            | 0.75 |      | A2           | A2   | A4/A5 | A4/A5 | A2           | A2   | A4/A5 | A4/A5 |              |      |      |      |              |      |      |
| P1K1            | 1.1  |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P1K5            | 1.5  |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P2K2            | 2.2  |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P3K0            | 3.0  |      | A3           | A3   | A5    | A5    |              |      |       |       |              |      |      |      |              |      |      |
| P3K7            | 3.7  |      |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P4K0            | 4.0  |      |              |      |       |       | A2           | A2   | A4/A5 |       |              |      |      |      |              |      |      |
| P5K5            | 3.7  | 5.5  |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P7K5            | 5.5  | 7.5  | B3           | B1   | B1    | B1    | A3           | A3   | A5    | A5    | A3           | A3   | A5   | A5   | A3           |      |      |
| P11K            | 7.5  | 11   |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P15K            | 11   | 15   | B4           | B2   | B2    | B2    | B3           | B1   | B1    | B1    | B3           | B1   | B1   | B1   | B4           | B2   | B2   |
| P18K            | 15   | 18.5 |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P22K            | 18.5 | 22   |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P30K            | 22   | 30   | C3           | C1   | C1    | C1    | B4           | B2   | B2    | B2    | B4           | B2   | B2   | B2   | B4           | B2   | B2   |
| P37K            | 30   | 37   |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P45K            | 37   | 45   | C4           | C2   | C2    | C2    |              |      |       |       |              |      |      |      |              |      |      |
| P55K            | 45   | 55   |              |      |       |       | C3           | C1   | C1    | C1    | C3           | C1   | C1   | C1   | C3           | C2   | C2   |
| P75K            | 55   | 75   |              |      |       |       |              |      |       |       |              |      |      |      |              |      |      |
| P90K            | 75   | 90   |              |      |       |       | C4           | C2   | C2    | C2    | C4           | C2   | C2   | C2   |              |      |      |

## 1 phase

| VLT® AQUA Drive |      | S2 200-240 V |      |      |      | S4 380-480 V |      |      |
|-----------------|------|--------------|------|------|------|--------------|------|------|
| FC 200          | kW   | IP20         | IP21 | IP55 | IP66 | IP21         | IP55 | IP66 |
| P1K1            | 1.1  | A3           |      | A5   | A5   |              |      |      |
| P1K5            | 1.5  |              |      |      |      |              |      |      |
| P2K2            | 2.2  |              |      |      |      |              |      |      |
| P3K0            | 3.0  |              | B1   | B1   | B1   |              |      |      |
| P3K7            | 3.7  |              |      |      |      |              |      |      |
| P5K5            | 5.5  |              |      |      |      |              |      |      |
| P7K5            | 7.5  |              | B2   | B2   | B2   | B1           | B1   | B1   |
| P11K            | 11   |              |      |      |      | B2           | B2   | B2   |
| P15K            | 15   |              | C1   | C1   | C1   |              |      |      |
| P18K            | 18.5 |              |      |      |      | C1           | C1   | C1   |
| P22K            | 22   |              | C2   | C2   | C2   |              |      |      |
| P37K            | 37   |              |      |      |      | C2           | C2   | C2   |

- IP20/Chassis
- IP21/Type 1
- IP21 with upgrade kit  
– available in North America only
- IP55/Type 12
- IP66/NEMA 4X



# Electrical data – A, B and C enclosures

## [S2] 1 x 200-240 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                                |                                |                            |            |                          |                      | Enclosure size             |        |         |         |
|-------------------------------------|--------------------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                           | Output current (3 x 200-240 V) |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                     |                                |                                |                            |            |                          |                      | IP20                       | IP21   | IP55    | IP66    |
| FC-202                              | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 208 V                 | Hp @ 230 V | [A]                      | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| P1K1                                | 6.6                            | 7.3                            | 1.1                        | 1.5        | 12.5                     | 44                   | A3                         | –      | A5      | A5      |
| P1K5                                | 7.5                            | 8.3                            | 1.5                        | 2.0        | 15                       | 30                   | –                          | B1     | B1      | B1      |
| P2K2                                | 10.6                           | 11.7                           | 2.2                        | 2.9        | 21                       | 44                   | –                          | B1     | B1      | B1      |
| P3K0                                | 12.5                           | 13.8                           | 3                          | 4.0        | 24                       | 60                   | –                          | B1     | B1      | B1      |
| P3K7                                | 16.7                           | 18.4                           | 3.7                        | 4.9        | 32                       | 74                   | –                          | B1     | B1      | B1      |
| P5K5                                | 24.2                           | 26.6                           | 5.5                        | 7.5        | 46.0                     | 110                  | –                          | B1     | B1      | B1      |
| P7K5                                | 30.8                           | 33.4                           | 7.5                        | 10         | 59                       | 150                  | –                          | B2     | B2      | B2      |
| P15K                                | 59.4                           | 65.3                           | 15                         | 20         | 111                      | 300                  | –                          | C1     | C1      | C1      |
| P22K                                | 88                             | 96.8                           | 22                         | 30         | 172                      | 440                  | –                          | C2     | C2      | C2      |

## [T2] 3 x 200-240 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                                |                                |                            |           |                          |                      | Enclosure size             |        |         |         |
|-------------------------------------|--------------------------------|--------------------------------|----------------------------|-----------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                           | Output current (3 x 200-240 V) |                                | Typical shaft output power |           | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                     |                                |                                |                            |           |                          |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                              | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 208 V                 | Hp @ 230V | [A]                      | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK25                                | 1.8                            | 2                              | 0.25                       | 0.34      | 1.6                      | 21                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK37                                | 2.4                            | 2.6                            | 0.37                       | 0.5       | 2.2                      | 29                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK55                                | 3.5                            | 3.9                            | 0.55                       | 0.75      | 3.2                      | 42                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK75                                | 4.6                            | 5.1                            | 0.75                       | 1         | 4.1                      | 54                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K1                                | 6.6                            | 7.3                            | 1.1                        | 1.5       | 5.9                      | 63                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K5                                | 7.5                            | 8.3                            | 1.5                        | 2         | 6.8                      | 82                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P2K2                                | 10.6                           | 11.7                           | 2.2                        | 3         | 9.5                      | 116                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P3K0                                | 12.5                           | 13.8                           | 3                          | 4         | 11.3                     | 155                  | A3                         | A3*    | A5      | A5      |
| P3K7                                | 16.7                           | 18.4                           | 3.7                        | 5         | 15                       | 185                  | A3                         | A3*    | A5      | A5      |
| P5K5                                | 24.2                           | 26.6                           | 5.5                        | 7.5       | 22                       | 310                  | B3                         | B1     | B1      | B1      |
| P7K5                                | 30.8                           | 33.9                           | 7.5                        | 10        | 28                       | 310                  | B3                         | B1     | B1      | B1      |
| P11K                                | 46.2                           | 50.8                           | 11                         | 15        | 42                       | 514                  | B3                         | B1     | B1      | B1      |
| P15K                                | 59.4                           | 65.3                           | 15                         | 20        | 54                       | 602                  | B4                         | B2     | B2      | B2      |
| P18K                                | 74.8                           | 82.3                           | 18.5                       | 25        | 68                       | 737                  | B4                         | C1     | C1      | C1      |
| P22K                                | 88                             | 96.8                           | 22                         | 30        | 80                       | 845                  | C3                         | C1     | C1      | C1      |
| P30K                                | 115                            | 127                            | 30                         | 40        | 104                      | 1140                 | C3                         | C1     | C1      | C1      |
| P37K                                | 143                            | 157                            | 37                         | 50        | 130                      | 1353                 | C4                         | C2     | C2      | C2      |
| P45K                                | 170                            | 187                            | 45                         | 60        | 154                      | 1636                 | C4                         | C2     | C2      | C2      |

\* Requires an IP21/Type 1 kit. Available in North America only.

\*\* A4 does not accept any C options

## [T2] 3 x 200-240 V AC – high overload

| High overload (160% 1 min/10 min) |                                |                                |                            |            |                          |                      | Enclosure size             |        |         |         |
|-----------------------------------|--------------------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                         | Output current (3 x 200-240 V) |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                   | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 208 V                 | Hp @ 230 V |                          |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                            | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 208 V                 | Hp @ 230 V | [A]                      | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK25                              | 1.8                            | 2.7                            | 0.25                       | 0.34       | 1.6                      | 21                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK37                              | 2.4                            | 3.6                            | 0.37                       | 0.5        | 2.2                      | 29                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK55                              | 3.5                            | 5.3                            | 0.55                       | 0.75       | 3.2                      | 42                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK75                              | 4.6                            | 6.9                            | 0.75                       | 1          | 4.1                      | 54                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K1                              | 6.6                            | 9.9                            | 1.1                        | 1.5        | 5.9                      | 63                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K5                              | 7.5                            | 11.3                           | 1.5                        | 2          | 6.8                      | 82                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P2K2                              | 10.6                           | 15.9                           | 2.2                        | 3          | 9.5                      | 116                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P3K0                              | 12.5                           | 18.8                           | 3                          | 4          | 11.3                     | 155                  | A3                         | A3*    | A5      | A5      |
| P3K7                              | 16.7                           | 25                             | 3.7                        | 5          | 15.0                     | 185                  | A3                         | A3*    | A5      | A5      |
| P5K5                              | 16.7                           | 26.7                           | 3.7                        | 5          | 15.0                     | 239                  | B3                         | B1     | B1      | B1      |
| P7K5                              | 24.2                           | 38.7                           | 5.5                        | 7.5        | 22                       | 239                  | B3                         | B1     | B1      | B1      |
| P11K                              | 30.8                           | 49.3                           | 7.5                        | 10         | 28                       | 371                  | B3                         | B1     | B1      | B1      |
| P15K                              | 46.2                           | 73.9                           | 11                         | 15         | 42                       | 463                  | B4                         | B2     | B2      | B2      |
| P18K                              | 59.4                           | 89.1                           | 15                         | 20         | 54                       | 624                  | B4                         | C1     | C1      | C1      |
| P22K                              | 74.8                           | 112                            | 18.5                       | 25         | 68                       | 740                  | C3                         | C1     | C1      | C1      |
| P30K                              | 88                             | 132                            | 22                         | 30         | 80                       | 874                  | C3                         | C1     | C1      | C1      |
| P37K                              | 115                            | 173                            | 30                         | 40         | 104                      | 1143                 | C4                         | C2     | C2      | C2      |
| P45K                              | 143                            | 215                            | 37                         | 50         | 130                      | 1400                 | C4                         | C2     | C2      | C2      |

\* Requires an IP21/Type 1 kit. Available in North America only.

\*\* A4 does not accept any C options

## [S4] 1 x 380-480 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                |                     |                                |                            |            |                            |                        | Enclosure size             |        |         |         |
|-------------------------------------|---------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|----------------------------|------------------------|----------------------------|--------|---------|---------|
| Type code                           | Output current      |                                |                     |                                | Typical shaft output power |            | Con- tinuous input current | Esti- mated power loss | Protection rating [IEC/UL] |        |         |         |
|                                     | (3 x 380-440 V)     |                                | (3 x 441-480 V)     |                                |                            |            |                            |                        | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 400 V                 | Hp @ 460 V | [A] @ 400 V                | [W]                    | Chassis                    | Type 1 | Type 12 | Type 4X |
| P7K5                                | 16                  | 17.6                           | 14.5                | 15.4                           | 7.5                        | 10         | 33                         | 300                    | –                          | B1     | B1      | B1      |
| P11K                                | 24                  | 26.4                           | 21                  | 23.1                           | 11                         | 15         | 48                         | 440                    | –                          | B2     | B2      | B2      |
| P18K                                | 37.5                | 41.2                           | 34                  | 37.4                           | 18.5                       | 25         | 78                         | 740                    | –                          | C1     | C1      | C1      |
| P37K                                | 73                  | 80.3                           | 65                  | 71.5                           | 37                         | 50         | 151                        | 1480                   | –                          | C2     | C2      | C2      |

## [T4] 3 x 380-480 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |            |                          |                      | Enclosure size             |        |         |         |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|------------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                     | (3 x 380-440 V)     |                                   | (3 x 441-500 V)     |                                   |                            |            |                          |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @ 400 V                 | Hp @ 460 V | [A] @ 400 V              | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK37                                | 1.3                 | 1.4                               | 1.2                 | 1.3                               | 0.37                       | 0.5        | 1.2                      | 35                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK55                                | 1.8                 | 2                                 | 1.6                 | 1.8                               | 0.55                       | 0.75       | 1.6                      | 42                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK75                                | 2.4                 | 2.6                               | 2.1                 | 2.3                               | 0.75                       | 1          | 2.2                      | 46                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K1                                | 3                   | 3.3                               | 2.7                 | 3                                 | 1.1                        | 1.5        | 2.7                      | 58                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K5                                | 4.1                 | 4.5                               | 3.4                 | 3.7                               | 1.5                        | 2          | 3.7                      | 62                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P2K2                                | 5.6                 | 6.2                               | 4.8                 | 5.3                               | 2.2                        | 3          | 5.0                      | 88                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P3K0                                | 7.2                 | 7.9                               | 6.3                 | 6.9                               | 3                          | 4          | 6.5                      | 116                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P4K0                                | 10                  | 11                                | 8.2                 | 9                                 | 4                          | 5          | 9.0                      | 124                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P5K5                                | 13                  | 14.3                              | 11                  | 12.1                              | 5.5                        | 7.5        | 11.7                     | 187                  | A3                         | A3*    | A5      | A5      |
| P7K5                                | 16                  | 17.6                              | 14.5                | 16                                | 7.5                        | 10         | 14.4                     | 225                  | A3                         | A3*    | A5      | A5      |
| P11K                                | 24                  | 26.4                              | 21                  | 23.1                              | 11                         | 15         | 22                       | 392                  | B3                         | B1     | B1      | B1      |
| P15K                                | 32                  | 35.2                              | 27                  | 29.7                              | 15                         | 20         | 29                       | 392                  | B3                         | B1     | B1      | B1      |
| P18K                                | 37.5                | 41.3                              | 34                  | 37.4                              | 18.5                       | 25         | 34                       | 465                  | B3                         | B1     | B1      | B1      |
| P22K                                | 44                  | 48.4                              | 40                  | 44                                | 22                         | 30         | 40                       | 525                  | B4                         | B2     | B2      | B2      |
| P30K                                | 61                  | 67.1                              | 52                  | 61.6                              | 30                         | 40         | 55                       | 739                  | B4                         | B2     | B2      | B2      |
| P37K                                | 73                  | 80.3                              | 65                  | 71.5                              | 37                         | 50         | 66                       | 698                  | B4                         | C1     | C1      | C1      |
| P45K                                | 90                  | 99                                | 80                  | 88                                | 45                         | 60         | 82                       | 843                  | C3                         | C1     | C1      | C1      |
| P55K                                | 106                 | 117                               | 105                 | 116                               | 55                         | 75         | 96                       | 1083                 | C3                         | C1     | C1      | C1      |
| P75K                                | 147                 | 162                               | 130                 | 143                               | 75                         | 100        | 133                      | 1384                 | C4                         | C2     | C2      | C2      |
| P90K                                | 177                 | 195                               | 160                 | 176                               | 90                         | 125        | 161                      | 1474                 | C4                         | C2     | C2      | C2      |

\* Requires an IP21/Type 1 kit. Available in North America only.

\*\* A4 does not accept any C options

## [T4] 3 x 380-480 V AC – high overload

| High overload (160% 1 min/10 min) |                     |                                |                     |                                |                            |            |                           |                      | Enclosure size             |        |         |         |
|-----------------------------------|---------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|---------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                         | Output current      |                                |                     |                                | Typical shaft output power |            | Continu-ous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                   | (3 x 380-440 V)     |                                | (3 x 441-500 V)     |                                |                            |            |                           |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 400 V                 | Hp @ 460 V | [A] @ 400 V               | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK37                              | 1.3                 | 2                              | 1.2                 | 1.8                            | 0.37                       | 0.5        | 1.2                       | 35                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK55                              | 1.8                 | 2.7                            | 1.6                 | 2.4                            | 0.55                       | 0.75       | 1.6                       | 42                   | A2                         | A2*    | A4/A5** | A4/A5** |
| PK75                              | 2.4                 | 3.6                            | 2.1                 | 3.2                            | 0.75                       | 1          | 2.2                       | 46                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K1                              | 3                   | 4.5                            | 2.7                 | 4.1                            | 1.1                        | 1.5        | 2.7                       | 58                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P1K5                              | 4.1                 | 6.2                            | 3.4                 | 5.1                            | 1.5                        | 2          | 3.7                       | 62                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P2K2                              | 5.6                 | 8.4                            | 4.8                 | 7.2                            | 2.2                        | 3          | 5.0                       | 88                   | A2                         | A2*    | A4/A5** | A4/A5** |
| P3K0                              | 7.2                 | 10.8                           | 6.3                 | 9.5                            | 3                          | 4          | 6.5                       | 116                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P4K0                              | 10                  | 15                             | 8.2                 | 12.3                           | 4                          | 5          | 9.0                       | 124                  | A2                         | A2*    | A4/A5** | A4/A5** |
| P5K5                              | 13                  | 19.5                           | 11                  | 16.5                           | 5.5                        | 7.5        | 11.7                      | 187                  | A3                         | A3*    | A5      | A5      |
| P7K5                              | 16                  | 24                             | 14.5                | 21.8                           | 7.5                        | 10         | 14.4                      | 225                  | A3                         | A3*    | A5      | A5      |
| P11K                              | 16                  | 25.6                           | 14.5                | 23.2                           | 7.5                        | 10         | 14                        | 291                  | B3                         | B1     | B1      | B1      |
| P15K                              | 24                  | 38.4                           | 21                  | 33.6                           | 11                         | 15         | 22                        | 291                  | B3                         | B1     | B1      | B1      |
| P18K                              | 32                  | 51.2                           | 27                  | 43.2                           | 15                         | 20         | 29                        | 379                  | B3                         | B1     | B1      | B1      |
| P22K                              | 37.5                | 60                             | 34                  | 54.4                           | 18.5                       | 25         | 34                        | 444                  | B4                         | B2     | B2      | B2      |
| P30K                              | 44                  | 70.4                           | 40                  | 64                             | 22                         | 30         | 40                        | 547                  | B4                         | B2     | B2      | B2      |
| P37K                              | 61                  | 91.5                           | 52                  | 78                             | 30                         | 40         | 55                        | 570                  | B4                         | C1     | C1      | C1      |
| P45K                              | 73                  | 110                            | 65                  | 97.5                           | 37                         | 50         | 66                        | 697                  | C3                         | C1     | C1      | C1      |
| P55K                              | 90                  | 135                            | 80                  | 120                            | 45                         | 60         | 82                        | 891                  | C3                         | C1     | C1      | C1      |
| P75K                              | 106                 | 159                            | 105                 | 158                            | 55                         | 75         | 96                        | 1022                 | C4                         | C2     | C2      | C2      |
| P90K                              | 147                 | 221                            | 130                 | 195                            | 75                         | 100        | 133                       | 1232                 | C4                         | C2     | C2      | C2      |

\* Requires an IP21/Type 1 kit. Available in North America only.

\*\* A4 does not accept any C options

## [T6] 3 x 525-600 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                                |                                |                            |            |                          |                      | Enclosure size             |        |         |         |
|-------------------------------------|--------------------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                           | Output current (3 x 525-600 V) |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                     | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 575 V                 | Hp @ 575 V |                          |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                              | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 575 V                 | Hp @ 575 V | [A] @ 575 V              | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK75                                | 1.7                            | 1.9                            | 0.75                       | 1          | 1.7                      | 35                   | A3                         | A3     | A5      | A5      |
| P1K1                                | 2.4                            | 2.6                            | 1.1                        | 1.5        | 2.4                      | 50                   | A3                         | A3     | A5      | A5      |
| P1K5                                | 2.7                            | 3                              | 1.5                        | 2          | 2.7                      | 65                   | A3                         | A3     | A5      | A5      |
| P2K2                                | 3.9                            | 4.3                            | 2.2                        | 3          | 4.1                      | 92                   | A3                         | A3     | A5      | A5      |
| P3K0                                | 4.9                            | 5.4                            | 3                          | 4          | 5.2                      | 122                  | A3                         | A3     | A5      | A5      |
| P4K0                                | 6.1                            | 6.7                            | 4                          | 5          | 5.8                      | 145                  | A3                         | A3     | A5      | A5      |
| P5K5                                | 9                              | 9.9                            | 5.5                        | 7.5        | 8.6                      | 195                  | A3                         | A3     | A5      | A5      |
| P7K5                                | 11                             | 12.1                           | 7.5                        | 10         | 10.4                     | 261                  | A3                         | A3     | A5      | A5      |
| P11K                                | 18                             | 20                             | 11                         | 15         | 16                       | 300                  | B3                         | B1     | B1      | B1      |
| P15K                                | 22                             | 24                             | 15                         | 20         | 20                       | 300                  | B3                         | B1     | B1      | B1      |
| P18K                                | 27                             | 30                             | 18.5                       | 25         | 24                       | 370                  | B3                         | B1     | B1      | B1      |
| P22K                                | 34                             | 37                             | 22                         | 30         | 31                       | 440                  | B4                         | B2     | B2      | B2      |
| P30K                                | 41                             | 45                             | 30                         | 40         | 37                       | 600                  | B4                         | B2     | B2      | B2      |
| P37K                                | 52                             | 57                             | 37                         | 50         | 47                       | 740                  | B4                         | C1     | C1      | C1      |
| P45K                                | 62                             | 68                             | 45                         | 60         | 56                       | 900                  | C3                         | C1     | C1      | C1      |
| P55K                                | 83                             | 91                             | 55                         | 75         | 75                       | 1100                 | C3                         | C1     | C1      | C1      |
| P75K                                | 100                            | 110                            | 75                         | 100        | 91                       | 1500                 | C4                         | C2     | C2      | C2      |
| P90K                                | 131                            | 144                            | 90                         | 125        | 119                      | 1800                 | C4                         | C2     | C2      | C2      |

## [T6] 3 x 525-600 V AC – high overload

| High overload (160% 1 min/10 min) |                                |                                |                            |            |                          |                      | Enclosure size             |        |         |         |
|-----------------------------------|--------------------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|----------------------------|--------|---------|---------|
| Type code                         | Output current (3 x 525-600 V) |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC/UL] |        |         |         |
|                                   | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 575 V                 | Hp @ 575 V |                          |                      | IP20/21                    | IP21   | IP55    | IP66    |
| FC-202                            | Con. I <sub>N</sub>            | Inter. I <sub>MAX</sub> (60 s) | kW @ 575 V                 | Hp @ 575 V | [A] @ 575 V              | [W]                  | Chassis                    | Type 1 | Type 12 | Type 4X |
| PK75                              | 1.7                            | 2.6                            | 0.75                       | 1          | 1.7                      | 35                   | A3                         | A3     | A5      | A5      |
| P1K1                              | 2.4                            | 3.6                            | 1.1                        | 1.5        | 2.4                      | 50                   | A3                         | A3     | A5      | A5      |
| P1K5                              | 2.7                            | 4.1                            | 1.5                        | 2          | 2.7                      | 65                   | A3                         | A3     | A5      | A5      |
| P2K2                              | 3.9                            | 5.9                            | 2.2                        | 3          | 4.1                      | 92                   | A3                         | A3     | A5      | A5      |
| P3K0                              | 4.9                            | 7.4                            | 3                          | 4          | 5.2                      | 122                  | A3                         | A3     | A5      | A5      |
| P4K0                              | 6.1                            | 9.2                            | 4                          | 5          | 5.8                      | 145                  | A3                         | A3     | A5      | A5      |
| P5K5                              | 9                              | 13.5                           | 5.5                        | 7.5        | 8.6                      | 195                  | A3                         | A3     | A5      | A5      |
| P7K5                              | 11                             | 16.5                           | 7.5                        | 10         | 10.4                     | 261                  | A3                         | A3     | A5      | A5      |
| P11K                              | 11                             | 17.6                           | 7.5                        | 10         | 9.8                      | 220                  | B3                         | B1     | B1      | B1      |
| P15K                              | 18                             | 29                             | 11                         | 15         | 16                       | 220                  | B3                         | B1     | B1      | B1      |
| P18K                              | 22                             | 35                             | 15                         | 20         | 20                       | 300                  | B3                         | B1     | B1      | B1      |
| P22K                              | 27                             | 43                             | 18.5                       | 25         | 24                       | 370                  | B4                         | B2     | B2      | B2      |
| P30K                              | 34                             | 54                             | 22                         | 30         | 31                       | 440                  | B4                         | B2     | B2      | B2      |
| P37K                              | 41                             | 62                             | 30                         | 40         | 37                       | 600                  | B4                         | C1     | C1      | C1      |
| P45K                              | 52                             | 78                             | 37                         | 50         | 47                       | 740                  | C3                         | C1     | C1      | C1      |
| P55K                              | 62                             | 93                             | 45                         | 60         | 56                       | 900                  | C3                         | C1     | C1      | C1      |
| P75K                              | 83                             | 125                            | 55                         | 75         | 75                       | 1100                 | C4                         | C2     | C2      | C2      |
| P90K                              | 100                            | 150                            | 75                         | 100        | 91                       | 1500                 | C4                         | C2     | C2      | C2      |

## [T7] 3 x 525-690 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                           |                       | Enclosure size           |      |      |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|---------------------------|-----------------------|--------------------------|------|------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |               | Continu-ous input current | Estimat-ed power loss | Protection rating [IEC]* |      |      |
|                                     | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |               |                           |                       |                          |      |      |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>690 V              | Hp @<br>575 V | [A] @<br>690 V            | [W]                   | IP20                     | IP21 | IP55 |
| P1K1                                | 2.1                 | 2.3                               | 1.6                 | 1.8                               | 1.1                        | 1.5           | 1.4                       | 44                    | A3                       | –    | –    |
| P1K5                                | 2.7                 | 3                                 | 2.2                 | 2.4                               | 1.5                        | 2             | 2.0                       | 60                    | A3                       | –    | –    |
| P2K2                                | 3.9                 | 4.3                               | 3.2                 | 3.5                               | 2.2                        | 3             | 2.9                       | 88                    | A3                       | –    | –    |
| P3K0                                | 4.9                 | 5.4                               | 4.5                 | 5                                 | 3                          | 4             | 4.0                       | 120                   | A3                       | –    | –    |
| P4K0                                | 6.1                 | 6.7                               | 5.5                 | 6.1                               | 4                          | 5             | 4.9                       | 160                   | A3                       | –    | –    |
| P5K5                                | 9                   | 9.9                               | 7.5                 | 8.3                               | 5.5                        | 7.5           | 6.7                       | 220                   | A3                       | –    | –    |
| P7K5                                | 11                  | 12.1                              | 10                  | 11                                | 7.5                        | 10            | 9.0                       | 300                   | A3                       | –    | –    |
| P11K                                | 14                  | 15.4                              | 13                  | 14.3                              | 11                         | 15            | 14.5                      | 220                   | B4                       | B2   | B2   |
| P15K                                | 19                  | 20.9                              | 18                  | 19.8                              | 15                         | 20            | 19.5                      | 220                   | B4                       | B2   | B2   |
| P18K                                | 23                  | 25.3                              | 22                  | 24.2                              | 18.5                       | 25            | 24                        | 300                   | B4                       | B2   | B2   |
| P22K                                | 28                  | 30.8                              | 27                  | 29.7                              | 22                         | 30            | 29                        | 370                   | B4                       | B2   | B2   |
| P30K                                | 36                  | 39.6                              | 34                  | 37.4                              | 30                         | 40            | 36                        | 440                   | B4                       | B2   | B2   |
| P37K                                | 43                  | 47.3                              | 41                  | 45.1                              | 37                         | 50            | 48                        | 740                   | B4                       | C2   | C2   |
| P45K                                | 54                  | 59.4                              | 52                  | 57.2                              | 45                         | 60            | 58                        | 900                   | C3                       | C2   | C2   |
| P55K                                | 65                  | 71.5                              | 62                  | 68.2                              | 55                         | 75            | 70                        | 1100                  | C3                       | C2   | C2   |
| P75K                                | 87                  | 95.7                              | 83                  | 91.3                              | 75                         | 100           | 86                        | 1500                  | –                        | C2   | C2   |
| P90K                                | 105                 | 115.5                             | 100                 | 110                               | 90                         | 125           |                           | 1800                  | –                        | C2   | C2   |

\*Note: T7 drives are not UL certified. Select T6 for UL certification.

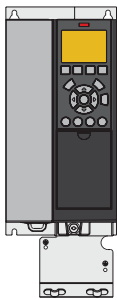
## [T7] 3 x 525-690 V AC – high overload

| High overload (160% 1 min/10 min) |                     |                                |                     |                                |                            |            |                          |                      | Enclosure size           |      |      |
|-----------------------------------|---------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|--------------------------|------|------|
| Type code                         | Output current      |                                |                     |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating [IEC]* |      |      |
|                                   | (3 x 525-550 V)     |                                | (3 x 551-690 V)     |                                |                            |            |                          |                      |                          |      |      |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 690 V                 | Hp @ 575 V | [A] @ 690 V              | [W]                  | IP20                     | IP21 | IP55 |
| P1K1                              | 2.1                 | 3.2                            | 1.6                 | 2.4                            | 1.1                        | 1.5        | 1.4                      | 44                   | A3                       | –    | –    |
| P1K5                              | 2.7                 | 4.1                            | 2.2                 | 3.3                            | 1.5                        | 2          | 2.0                      | 60                   | A3                       | –    | –    |
| P2K2                              | 3.9                 | 5.9                            | 3.2                 | 4.8                            | 2.2                        | 3          | 2.9                      | 88                   | A3                       | –    | –    |
| P3K0                              | 4.9                 | 7.4                            | 4.5                 | 6.8                            | 3                          | 4          | 4.0                      | 120                  | A3                       | –    | –    |
| P4K0                              | 6.1                 | 9.2                            | 5.5                 | 8.3                            | 4                          | 5          | 4.9                      | 160                  | A3                       | –    | –    |
| P5K5                              | 9                   | 13.5                           | 7.5                 | 11.3                           | 5.5                        | 7.5        | 6.7                      | 220                  | A3                       | –    | –    |
| P7K5                              | 11                  | 16.5                           | 10                  | 15                             | 7.5                        | 10         | 9.0                      | 300                  | A3                       | –    | –    |
| P11K                              | 11                  | 17.6                           | 10                  | 16                             | 7.5                        | 10         | 9.0                      | 150                  | B4                       | B2   | B2   |
| P15K                              | 14                  | 22.4                           | 13                  | 20.8                           | 11                         | 15         | 14.5                     | 150                  | B4                       | B2   | B2   |
| P18K                              | 19                  | 30.4                           | 18                  | 28.8                           | 15                         | 20         | 19.5                     | 220                  | B4                       | B2   | B2   |
| P22K                              | 23                  | 36.8                           | 22                  | 35.2                           | 18.5                       | 25         | 24                       | 300                  | B4                       | B2   | B2   |
| P30K                              | 28                  | 44.8                           | 27                  | 43.2                           | 22                         | 30         | 29                       | 370                  | B4                       | B2   | B2   |
| P37K                              | 36                  | 54                             | 34                  | 51                             | 30                         | 40         | 36                       | 600                  | B4                       | C2   | C2   |
| P45K                              | 43                  | 64.5                           | 41                  | 61.5                           | 37                         | 50         | 48                       | 740                  | C3                       | C2   | C2   |
| P55K                              | 54                  | 81                             | 52                  | 78                             | 45                         | 60         | 58                       | 900                  | C3                       | C2   | C2   |
| P75K                              | 65                  | 97.5                           | 62                  | 93                             | 55                         | 75         | 70                       | 1100                 | –                        | C2   | C2   |
| P90K                              | 87                  | 130.5                          | 83                  | 124.5                          | 75                         | 100        |                          | 1500                 | –                        | C2   | C2   |

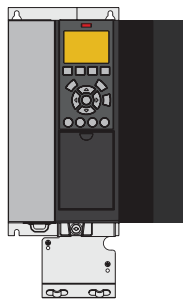
\*Note: T7 drives are not UL certified. Select T6 for UL certification.

## Dimensions enclosure sizes A, B and C

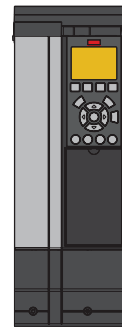
|                            |                              | VLT® AQUA Drive |             |              |             |                           |      |                                       |      |              |      |                                       |       |              |       |
|----------------------------|------------------------------|-----------------|-------------|--------------|-------------|---------------------------|------|---------------------------------------|------|--------------|------|---------------------------------------|-------|--------------|-------|
| Enclosure size             |                              | A2              |             | A3           |             | A4                        | A5   | B1                                    | B2   | B3           | B4   | C1                                    | C2    | C3           | C4    |
| Protection rating [IEC/UL] |                              | IP20 Chassis    | IP21 Type 1 | IP20 Chassis | IP21 Type 1 | IP55/Type 12 IP66/Type 4X |      | IP21/Type 1 IP55/Type 12 IP66/Type 4X |      | IP20/Chassis |      | IP21/Type 1 IP55/Type 12 IP66/Type 4X |       | IP20/Chassis |       |
| [mm]                       | Height                       | 268             | 375         | 268          | 375         | 390                       | 420  | 480                                   | 650  | 399          | 520  | 680                                   | 770   | 550          | 660   |
|                            | Height with decoupling plate | 374             | –           | 374          | –           | –                         | –    | –                                     | –    | 420          | 595  | –                                     | –     | 630          | 800   |
|                            | Width                        | 90              | 90          | 130          | 130         | 200                       | 242  | 242                                   | 242  | 165          | 230  | 308                                   | 370   | 308          | 370   |
|                            | Width with one C option      | 130             | 130         | 170          | 170         | –                         | 242  | 242                                   | 242  | 205          | 230  | 308                                   | 370   | 308          | 370   |
|                            | Depth                        | 205             | 207         | 205          | 207         | 175                       | 200  | 260                                   | 260  | 249          | 242  | 310                                   | 335   | 333          | 333   |
|                            | Depth with A, B option       | 220             | 222         | 220          | 222         | 175                       | 200  | 260                                   | 260  | 262          | 242  | 310                                   | 335   | 333          | 333   |
|                            | Depth with mains disconnect  | –               | –           | –            | –           | 206                       | 224  | 289                                   | 290  | –            | –    | 344                                   | 378   | –            | –     |
| [kg]                       | Weight                       | 4.9             | 5.3         | 6            | 7           | 9.7                       | 14.2 | 23                                    | 27   | 12           | 23.5 | 45                                    | 64    | 35           | 50    |
| [in]                       | Height                       | 10.6            | 14.8        | 10.6         | 14.8        | 15.4                      | 16.6 | 18.9                                  | 25.6 | 15.8         | 20.5 | 26.8                                  | 30.4  | 21.7         | 26    |
|                            | Height with decoupling plate | 14.8            | –           | 14.8         | –           | –                         | –    | –                                     | –    | 16.6         | 23.5 | –                                     | –     | 24.8         | 31.5  |
|                            | Width                        | 3.6             | 3.6         | 5.2          | 5.2         | 7.9                       | 9.6  | 9.6                                   | 9.6  | 6.5          | 9.1  | 12.2                                  | 14.6  | 12.2         | 14.6  |
|                            | Width with one C option      | 5.2             | 5.2         | 6.7          | 6.7         | –                         | 9.6  | 9.6                                   | 9.6  | 8.1          | 9.1  | 12.2                                  | 14.6  | 12.2         | 14.6  |
|                            | Depth                        | 8.1             | 18.2        | 8.1          | 8.2         | 6.9                       | 7.9  | 10.3                                  | 10.3 | 9.8          | 9.6  | 12.3                                  | 13.2  | 13           | 13    |
|                            | Depth with mains disconnect  | –               | –           | –            | –           | 8.2                       | 8.9  | 11.4                                  | 11.5 | –            | –    | 13.6                                  | 14.9  | –            | –     |
|                            | Depth with A, B option       | 8.7             | 8.8         | 8.7          | 8.8         | 6.9                       | 7.9  | 10.3                                  | 10.3 | 10.4         | 9.6  | 12.3                                  | 13.2  | 13           | 13    |
| [lb]                       | Weight                       | 10.8            | 11.7        | 14.6         | 15.5        | 21.5                      | 31.5 | 50.7                                  | 59.6 | 26.5         | 52   | 99.3                                  | 143.3 | 77.2         | 110.2 |



A3 IP20/Chassis  
with decoupling plate



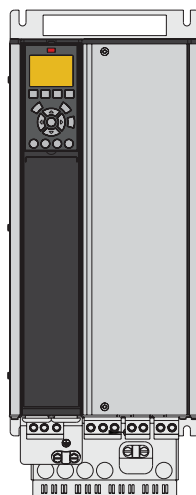
A3 IP20 with option C



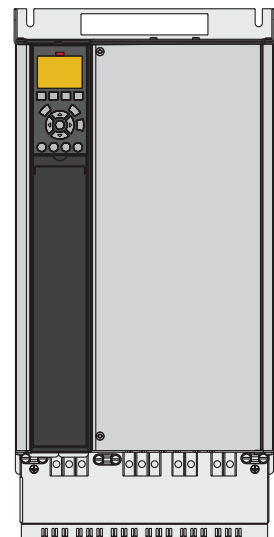
A3 with IP21/Type 12 NEMA 1 Kit



A4 IP55 with mains disconnect



B4 IP20



C3 IP20

# Ordering **typecode** for **A**, **B** and **C** enclosures

|     |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
|     | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] |
| FC- |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |

| [1] Application (character 4-6)                |                                                           |
|------------------------------------------------|-----------------------------------------------------------|
| 202                                            | VLT® AQUA Drive FC 202                                    |
| [2] Power size (character 7-10)                |                                                           |
| PK25                                           | 0.25 kW / 0.33 Hp                                         |
| PK37                                           | 0.37 kW / 0.50 Hp                                         |
| PK55                                           | 0.55 kW / 0.75 Hp                                         |
| PK75                                           | 0.75 kW / 1.0 Hp                                          |
| P1K1                                           | 1.1 kW / 1.5 Hp                                           |
| P1K5                                           | 1.5 kW / 2.0 Hp                                           |
| P2K2                                           | 2.2 kW / 3.0 Hp                                           |
| P3K0                                           | 3.0 kW / 4.0 Hp                                           |
| P3K7                                           | 3.7 kW / 5.0 Hp                                           |
| P4K0                                           | 4.0 kW / 5.5 Hp                                           |
| P5K5                                           | 5.5 kW / 7.5 Hp                                           |
| P7K5                                           | 7.5 kW / 10 Hp                                            |
| P11K                                           | 11 kW / 15 Hp                                             |
| P15K                                           | 15 kW / 20 Hp                                             |
| P18K                                           | 18.5 kW / 25 Hp                                           |
| P22K                                           | 22 kW / 30 Hp                                             |
| P30K                                           | 30 kW / 40 Hp                                             |
| P37K                                           | 37 kW / 50 Hp                                             |
| P45K                                           | 45 kW / 60 Hp                                             |
| P55K                                           | 55 kW / 75 Hp                                             |
| P75K                                           | 75 kW / 100 Hp                                            |
| P90K                                           | 90 kW / 125 Hp                                            |
| [3] AC Line Voltage (character 11-12)          |                                                           |
| S2                                             | 1 x 200/240 V AC                                          |
| T2                                             | 3 x 200-240 V AC                                          |
| S4                                             | 1 x 380/480 V AC                                          |
| T4                                             | 3 x 380-480 V AC                                          |
| T6                                             | 3 x 525-600 V AC                                          |
| T7                                             | 3 x 525-690 V AC <sup>2)</sup>                            |
| [4] IP/UL protection ratings (character 13-15) |                                                           |
| IP20 / Chassis enclosures                      |                                                           |
| E20                                            | IP20/Chassis                                              |
| P20                                            | IP20/Chassis + backplate                                  |
| IP21 / UL Type 1 enclosures                    |                                                           |
| E21                                            | IP21 / Type 1                                             |
| P21                                            | IP21 / Type 1 + backplate                                 |
| IP55 / UL Type 12 enclosures                   |                                                           |
| E55                                            | IP55/Type 12                                              |
| P55                                            | IP55/Type 12 + backplate                                  |
| Y55                                            | IP55/ Type 12 + backplate<br>(A4 enclosure, no C-options) |
| Z55                                            | IP55/Type 12 (A4 enclosure, no C-options)                 |
| UL Type 3R enclosures                          |                                                           |
| E3R                                            | UL Type 3R (North America only)                           |
| P3R                                            | UL Type 3R + backplate<br>(North America only)            |
| IP66 / UL Type 4X enclosures                   |                                                           |
| E66                                            | IP66/Type 4X                                              |
| Y66                                            | IP66/Type 4X + backplate<br>(A4 enclosure, no C-options)  |
| Z66                                            | IP66/Type 4X (A4 enclosure, no C-options)                 |

| [5] RFI filter, terminal and monitoring options<br>– EN/IEC 61800-3 (character 16-17) |                                                                                                                 |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| H1                                                                                    | RFI-Filter Class A1/B (C1)                                                                                      |
| H2                                                                                    | RFI-Filter, Class A2 (C3)                                                                                       |
| H3                                                                                    | RFI-Filter Class A1/B <sup>1)</sup>                                                                             |
| H4                                                                                    | RFI-Filter, Class A1 (C2)                                                                                       |
| H5                                                                                    | RFI-Filter, Class A2 (C3)<br>Marine ruggedized                                                                  |
| HX                                                                                    | No RFI-Filter                                                                                                   |
| [6] Braking and safety (character 18)                                                 |                                                                                                                 |
| X                                                                                     | No brake IGBT                                                                                                   |
| B                                                                                     | Brake IGBT                                                                                                      |
| T                                                                                     | Safe Stop without brake                                                                                         |
| U                                                                                     | Brake IGBT plus Safe Torque Off                                                                                 |
| [7] LCP Display (character 19)                                                        |                                                                                                                 |
| X                                                                                     | Blank faceplate, no LCP installed                                                                               |
| N                                                                                     | Numerical Local Control Panel (LCP 101)                                                                         |
| G                                                                                     | Graphical Local Control Panel (LCP 102)                                                                         |
| W                                                                                     | VLT® Wireless Communication Panel LCP 103                                                                       |
| [8] PCB Coating – IEC 721-3-3 (character 20)                                          |                                                                                                                 |
| X                                                                                     | Standard coated PCB Class 3C2                                                                                   |
| C                                                                                     | Coated PCB Class 3C3                                                                                            |
| [9] Mains input (character 21)                                                        |                                                                                                                 |
| X                                                                                     | No mains option                                                                                                 |
| 1                                                                                     | Mains disconnect<br>(A4, A5, B1, B2, C1 and C2 enclosures only)                                                 |
| 8                                                                                     | Mains disconnect and load sharing<br>(B1, B2, C1 and C2 enclosures only)                                        |
| D                                                                                     | Load sharing terminals<br>(B1, B2, C1, C2 enclosures only)                                                      |
| [10] Hardware option A (character 22)                                                 |                                                                                                                 |
| X                                                                                     | Standard cable entries                                                                                          |
| O                                                                                     | Metric cable entry (threaded)                                                                                   |
| S                                                                                     | Imperial cable entry                                                                                            |
| [11] Hardware option B (character 23)                                                 |                                                                                                                 |
| X                                                                                     | No adaptation                                                                                                   |
| [12] Special version (character 24-27)                                                |                                                                                                                 |
| SXXX                                                                                  | Latest released standard software                                                                               |
| LXX1                                                                                  | Digital Cascade Controller                                                                                      |
| LX1X                                                                                  | Condition based monitoring                                                                                      |
| LX11                                                                                  | Digital Cascade Controller + conditional<br>based monitoring                                                    |
| [13] LCP language (character 28)                                                      |                                                                                                                 |
| X                                                                                     | Standard language package including<br>English, German, French, Spanish, Danish,<br>Italian, Finnish and others |
| Contact factory for other language options                                            |                                                                                                                 |
| [14] A-options: Fieldbus (character 29-30)                                            |                                                                                                                 |
| AX                                                                                    | No option                                                                                                       |
| A0                                                                                    | VLT® PROFIBUS DP V1 MCA 101                                                                                     |
| A4                                                                                    | VLT® DeviceNet MCA 104                                                                                          |
| AL                                                                                    | VLT® PROFINET MCA 120                                                                                           |
| AN                                                                                    | VLT® EtherNet/IP MCA 121                                                                                        |
| AQ                                                                                    | VLT® Modbus TCP MCA 122                                                                                         |
| AK                                                                                    | VLT® BACnet/IP MCA 125                                                                                          |

| [15] B-options (character 31-32)          |                                          |
|-------------------------------------------|------------------------------------------|
| BX                                        | No option                                |
| BK                                        | VLT® General Purpose MCB 101             |
| BP                                        | VLT® Relay Option MCB 105                |
| B2                                        | VLT® PTC Thermistor Card MCB 112         |
| B4                                        | VLT® Sensor Input Card MCB 114           |
| BY                                        | VLT® Extended Cascade Controller MCO 101 |
| [16] C0-option (character 33-34)          |                                          |
| CX                                        | No option                                |
| [17] C1-option (character 35)             |                                          |
| X                                         | No option                                |
| 5                                         | VLT® Advanced Cascade Controller MCO 102 |
| R                                         | VLT® Extended Relay Card MCB 113         |
| [18] C1-option software (character 36-37) |                                          |
| XX                                        | No software option                       |
| [19] D-option (character 38-39)           |                                          |
| DX                                        | No DC input installed                    |
| D0                                        | VLT® 24 V DC Supply Option MCB 107       |
| D1                                        | VLT® Real-time Clock Option MCB 117      |

1) Reduced motor cable length

2) Note: T7 drives are not UL certified.  
Select T6 for UL certification.

Please beware that not all combinations are possible.  
Find help configuring your drive with the online  
configurator found under: [driveconfig.danfoss.com](https://driveconfig.danfoss.com)

# Enclosure overview D, E and F

## 6-pulse

| VLT® AQUA Drive |      |      | T2 3 x 200-240 V |      |      | T4 380-480 V |             |             | T7 525-690 V |             |             |
|-----------------|------|------|------------------|------|------|--------------|-------------|-------------|--------------|-------------|-------------|
| FC 200          | kW   |      | IP20             | IP21 | IP54 | IP20         | IP21        | IP54        | IP20         | IP21        | IP54        |
|                 | NO   | HO   |                  |      |      |              |             |             |              |             |             |
| N55K            | 55   | 45   | D3h              | D1h  | D1h  |              |             |             |              |             |             |
| N75K            | 75   | 55   |                  |      |      |              |             |             |              |             |             |
| N90K            | 90   | 75   |                  |      |      |              |             |             |              |             |             |
| N110            | 110  | 90   |                  |      |      |              |             |             |              |             |             |
| N132            | 132  | 110  | D4h              | D2h  | D2h  | D3h          | D1h D5h D6h | D1h D5h D6h | D3h          | D1h D5h D6h | D1h D5h D6h |
| N160            | 160  | 132  |                  |      |      |              |             |             |              |             |             |
| N200            | 200  | 160  |                  |      |      |              |             |             |              |             |             |
| N250            | 250  | 200  |                  |      |      | D4h          | D2h D7h D8h | D2h D7h D8h | D4h          | D2h D7h D8h | D2h D7h D8h |
| N315            | 315  | 250  |                  |      |      |              |             |             |              |             |             |
| N355            | 355  | 315  |                  |      |      |              |             |             |              |             |             |
| N400            | 400  | 355  |                  |      |      | E3h          | E1h         | E1h         | D4h          | D2h D7h D8h | D2h D7h D8h |
| N450            | 450  | 400  |                  |      |      |              |             |             |              |             |             |
| N500            | 500  | 450  |                  |      |      | E4h          | E2h         | E2h         | E3h          | E1h         | E1h         |
| N560            | 560  | 500  |                  |      |      |              |             |             |              |             |             |
| N630            | 630  | 560  |                  |      |      |              |             |             |              |             |             |
| N710            | 710  | 630  |                  |      |      |              |             |             | E4h          | E2h         | E2h         |
| N800            | 800  | 710  |                  |      |      |              |             |             |              |             |             |
| P500            | 500  | 450  |                  |      |      |              |             |             |              |             |             |
| P560            | 560  | 500  |                  |      |      |              |             |             |              |             |             |
| P630            | 630  | 560  |                  |      |      |              | F1/F3       | F1/F3       |              |             |             |
| P710            | 710  | 630  |                  |      |      |              |             |             |              |             |             |
| P800            | 800  | 710  |                  |      |      |              | F2/F4       | F2/F4       |              | F1/F3       | F1/F3       |
| P900            | 900  | 800  |                  |      |      |              |             |             |              |             |             |
| P1M0            | 1000 | 900  |                  |      |      |              | F2/F4       | F2/F4       |              |             |             |
| P1M2            | 1200 | 1000 |                  |      |      |              |             |             |              | F2/F4       | F2/F4       |
| P1M4            | 1400 | 1200 |                  |      |      |              |             |             |              |             |             |

## 12-pulse

| VLT® AQUA Drive |      |      | T4 380-480 V |                |      |                | T7 525-690 V |                |      |                |
|-----------------|------|------|--------------|----------------|------|----------------|--------------|----------------|------|----------------|
| FC 200          | kW   |      | IP21         | IP21 + options | IP54 | IP54 + options | IP21         | IP21 + options | IP54 | IP54 + options |
|                 | NO   | HO   |              |                |      |                |              |                |      |                |
| P315            | 315  | 250  |              |                |      |                |              |                |      |                |
| P355            | 355  | 315  |              |                |      |                |              |                |      |                |
| P400            | 400  | 355  | F8           | F9             | F8   | F9             |              |                |      |                |
| P450            | 450  | 400  |              |                |      |                |              |                |      |                |
| P500            | 500  | 450  |              |                |      |                |              |                |      |                |
| P560            | 560  | 500  | F10          | F11            | F10  | F11            | F8           | F9             | F8   | F9             |
| P630            | 630  | 560  |              |                |      |                |              |                |      |                |
| P710            | 710  | 630  |              |                |      |                |              |                |      |                |
| P800            | 800  | 710  | F12          | F13            | F12  | F13            | F10          | F11            | F10  | F12            |
| P900            | 900  | 800  |              |                |      |                |              |                |      |                |
| P1M0            | 1000 | 800  | F12          | F13            | F12  | F13            | F12          | F13            | F12  | F13            |
| P1M2            | 1200 | 1000 |              |                |      |                |              |                |      |                |
| P1M4            | 1400 | 1200 |              |                |      |                |              |                |      |                |

- IP20/Chassis
- IP21/Type 1
- IP54/Type 12



# Electrical data – D, E and F enclosures

## [T2] 3 x 200-240 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                                   |                                   |                               |            |                             |                         | Enclosure size             |        |         |
|-------------------------------------|-----------------------------------|-----------------------------------|-------------------------------|------------|-----------------------------|-------------------------|----------------------------|--------|---------|
| Type code                           | Output current<br>(3 x 200-240 V) |                                   | Typical shaft<br>output power |            | Continuous<br>input current | Estimated<br>power loss | Protection rating [IEC/UL] |        |         |
|                                     |                                   |                                   |                               |            |                             |                         | IP20                       | IP21   | IP54    |
| FC-202                              | Con. I <sub>N</sub>               | Inter. I <sub>MAX</sub><br>(60 s) | kW                            | HP @ 230 V | [A]                         | [W]                     | Chassis                    | Type 1 | Type 12 |
| N55K                                | 190                               | 209                               | 55                            | 75         | 183                         | 1505                    | D3h                        | D1h    |         |
| N75K                                | 240                               | 264                               | 75                            | 100        | 231                         | 2398                    | D3h                        | D1h    |         |
| N90K                                | 302                               | 332                               | 90                            | 120        | 291                         | 2623                    | D4h                        | D2h    |         |
| N110                                | 361                               | 397                               | 110                           | 150        | 348                         | 3284                    | D4h                        | D2h    |         |
| N150                                | 443                               | 487                               | 150                           | 200        | 427                         | 4117                    | D4h                        | D2h    |         |
| N160                                | 535                               | 589                               | 160                           | 215        | 516                         | 5209                    | D4h                        | D2h    |         |

## [T2] 3 x 200-240 V AC – high overload

| High overload (150% 1 min/10 min) |                                   |                                   |                               |            |                             |                         | Enclosure size             |        |         |
|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------|------------|-----------------------------|-------------------------|----------------------------|--------|---------|
| Type code                         | Output current<br>(3 x 200-240 V) |                                   | Typical shaft<br>output power |            | Continuous<br>input current | Estimated<br>power loss | Protection rating [IEC/UL] |        |         |
|                                   |                                   |                                   |                               |            |                             |                         | IP20                       | IP21   | IP54    |
| FC-202                            | Con. I <sub>N</sub>               | Inter. I <sub>MAX</sub><br>(60 s) | kW                            | HP @ 230 V | [A]                         | [W]                     | Chassis                    | Type 1 | Type 12 |
| N55K                              | 160                               | 240                               | 45                            | 60         | 154                         | 1482                    | D3h                        | D1h    |         |
| N75K                              | 190                               | 285                               | 55                            | 75         | 183                         | 1794                    | D3h                        | D1h    |         |
| N90K                              | 240                               | 360                               | 75                            | 100        | 231                         | 1990                    | D4h                        | D2h    |         |
| N110                              | 302                               | 453                               | 90                            | 120        | 291                         | 2613                    | D4h                        | D2h    |         |
| N150                              | 361                               | 542                               | 110                           | 150        | 348                         | 3195                    | D4h                        | D2h    |         |
| N160                              | 443                               | 665                               | 150                           | 200        | 427                         | 4103                    | D4h                        | D2h    |         |

## [T4] 3 x 380-480 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                              | Enclosure size             |             |         |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|------------------------------|----------------------------|-------------|---------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimat-<br>ed power<br>loss | Protection rating [IEC/UL] |             |         |
|                                     | (3 x 380-440 V)     |                                   | (3 x 441-500 V)     |                                   |                            |               |                                     |                              | IP20                       | IP21        | IP54    |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>400 V              | Hp @<br>460 V | [A] @<br>400 V                      | [W]                          | Chassis                    | Type 1      | Type 12 |
| N110                                | 212                 | 233                               | 190                 | 209                               | 110                        | 150           | 204                                 | 2559                         | D3h                        | D1h/D5h/D6h |         |
| N132                                | 260                 | 286                               | 240                 | 264                               | 132                        | 200           | 251                                 | 2954                         | D3h                        | D1h/D5h/D6h |         |
| N160                                | 315                 | 347                               | 302                 | 332                               | 160                        | 250           | 304                                 | 3770                         | D3h                        | D1h/D5h/D6h |         |
| N200                                | 395                 | 435                               | 361                 | 397                               | 200                        | 300           | 381                                 | 4116                         | D4h                        | D2h/D7h/D8h |         |
| N250                                | 480                 | 528                               | 443                 | 487                               | 250                        | 350           | 463                                 | 5137                         | D4h                        | D2h/D7h/D8h |         |
| N315                                | 588                 | 647                               | 535                 | 588                               | 315                        | 450           | 567                                 | 6674                         | D4h                        | D2h/D7h/D8h |         |
| N355                                | 658                 | 724                               | 590                 | 649                               | 355                        | 500           | 634                                 | 6928                         | E3h                        | E1h         | E1h     |
| N400                                | 745                 | 820                               | 678                 | 746                               | 400                        | 600           | 718                                 | 8036                         | E3h                        | E1h         | E1h     |
| N450                                | 800                 | 880                               | 730                 | 803                               | 450                        | 600           | 771                                 | 8783                         | E3h                        | E1h         | E1h     |
| N500                                | 880                 | 968                               | 780                 | 858                               | 500                        | 650           | 848                                 | 9473                         | E4h                        | E2h         | E2h     |
| N560                                | 990                 | 1089                              | 890                 | 979                               | 560                        | 750           | 954                                 | 11102                        | E4h                        | E2h         | E2h     |
| P500                                | 880                 | 968                               | 780                 | 858                               | 500                        | 650           | 848                                 | 10162                        | –                          | F1/F3       | F1/F3   |
| P560                                | 990                 | 1089                              | 890                 | 979                               | 560                        | 750           | 954                                 | 11822                        | –                          | F1/F3       | F1/F3   |
| P630                                | 1120                | 1232                              | 1050                | 1155                              | 630                        | 900           | 1079                                | 12512                        | –                          | F1/F3       | F1/F3   |
| P710                                | 1260                | 1386                              | 1160                | 1276                              | 710                        | 1000          | 1214                                | 14674                        | –                          | F1/F3       | F1/F3   |
| P800                                | 1460                | 1606                              | 1380                | 1518                              | 800                        | 1200          | 1407                                | 17293                        | –                          | F2/F4       | F2/F4   |
| P1M0                                | 1720                | 1892                              | 1530                | 1683                              | 1000                       | 1350          | 1658                                | 19278                        | –                          | F2/F4       | F2/F4   |

## [T4] 3 x 380-480 V AC – high overload

| High overload (150% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                              | Enclosure size             |             |         |
|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|------------------------------|----------------------------|-------------|---------|
| Type code                         | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimat-<br>ed power<br>loss | Protection rating [IEC/UL] |             |         |
|                                   | (3 x 380-440 V)     |                                   | (3 x 441-500 V)     |                                   |                            |               |                                     |                              | IP20                       | IP21        | IP54    |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>400 V              | Hp @<br>460 V | [A] @<br>400 V                      | [W]                          | Chassis                    | Type 1      | Type 12 |
| N110                              | 177                 | 266                               | 160                 | 240                               | 90                         | 125           | 171                                 | 2031                         | D3h                        | D1h/D5h/D6h |         |
| N132                              | 212                 | 318                               | 190                 | 285                               | 110                        | 150           | 204                                 | 2289                         | D3h                        | D1h/D5h/D6h |         |
| N160                              | 260                 | 390                               | 240                 | 360                               | 132                        | 200           | 251                                 | 2923                         | D3h                        | D1h/D5h/D6h |         |
| N200                              | 315                 | 473                               | 302                 | 453                               | 160                        | 250           | 304                                 | 3093                         | D4h                        | D2h/D7h/D8h |         |
| N250                              | 395                 | 593                               | 361                 | 542                               | 200                        | 300           | 381                                 | 4039                         | D4h                        | D2h/D7h/D8h |         |
| N315                              | 480                 | 720                               | 443                 | 665                               | 250                        | 350           | 463                                 | 5005                         | D4h                        | D2h/D7h/D8h |         |
| N355                              | 600                 | 900                               | 540                 | 810                               | 315                        | 450           | 578                                 | 6178                         | E3h                        | E1h         | E1h     |
| N400                              | 658                 | 987                               | 590                 | 885                               | 355                        | 500           | 634                                 | 6851                         | E3h                        | E1h         | E1h     |
| N450                              | 695                 | 1043                              | 678                 | 1017                              | 400                        | 550           | 670                                 | 7297                         | E3h                        | E1h         | E1h     |
| N500                              | 800                 | 1200                              | 730                 | 1095                              | 450                        | 600           | 771                                 | 8352                         | E4h                        | E2h         | E2h     |
| N560                              | 880                 | 1320                              | 780                 | 1170                              | 500                        | 650           | 848                                 | 9449                         | E4h                        | E2h         | E2h     |
| P500                              | 800                 | 1200                              | 730                 | 1095                              | 450                        | 600           | 771                                 | 9031                         | –                          | F1/F3       | F1/F3   |
| P560                              | 880                 | 1320                              | 780                 | 1170                              | 500                        | 650           | 848                                 | 10146                        | –                          | F1/F3       | F1/F3   |
| P630                              | 990                 | 1485                              | 890                 | 1335                              | 560                        | 750           | 954                                 | 10649                        | –                          | F1/F3       | F1/F3   |
| P710                              | 1120                | 1680                              | 1050                | 1575                              | 630                        | 900           | 1079                                | 12490                        | –                          | F1/F3       | F1/F3   |
| P800                              | 1260                | 1890                              | 1160                | 1740                              | 710                        | 1000          | 1214                                | 14244                        | –                          | F2/F4       | F2/F4   |
| P1M0                              | 1460                | 2190                              | 1380                | 2070                              | 800                        | 1200          | 1407                                | 15466                        | –                          | F2/F4       | F2/F4   |

## [T7] 3 x 525-690 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                              | Enclosure size             |             |         |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|------------------------------|----------------------------|-------------|---------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimat-<br>ed power<br>loss | Protection rating [IEC/UL] |             |         |
|                                     | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |               |                                     |                              | IP20                       | IP21        | IP54    |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>690 V              | Hp @<br>575 V | [A] @<br>690 V                      | [W]                          | Chassis                    | Type 1      | Type 12 |
| N75K                                | 90                  | 99                                | 86                  | 95                                | 75                         | 75            | 83                                  | 1162                         | D3h                        | D1h/D5h/D6h |         |
| N90K                                | 113                 | 124                               | 108                 | 119                               | 90                         | 100           | 104                                 | 1428                         | D3h                        | D1h/D5h/D6h |         |
| N110                                | 137                 | 151                               | 131                 | 144                               | 110                        | 125           | 126                                 | 1740                         | D3h                        | D1h/D5h/D6h |         |
| N132                                | 162                 | 178                               | 155                 | 171                               | 132                        | 150           | 149                                 | 2101                         | D3h                        | D1h/D5h/D6h |         |
| N160                                | 201                 | 221                               | 192                 | 211                               | 160                        | 200           | 185                                 | 2649                         | D3h                        | D1h/D5h/D6h |         |
| N200                                | 253                 | 278                               | 242                 | 266                               | 200                        | 250           | 233                                 | 3074                         | D4h                        | D2h/D7h/D8h |         |
| N250                                | 303                 | 333                               | 290                 | 319                               | 250                        | 300           | 279                                 | 3723                         | D4h                        | D2h/D7h/D8h |         |
| N315                                | 360                 | 396                               | 344                 | 378                               | 315                        | 350           | 332                                 | 4465                         | D4h                        | D2h/D7h/D8h |         |
| N400                                | 418                 | 460                               | 400                 | 440                               | 400                        | 400           | 385                                 | 5028                         | D4h                        | D2h/D7h/D8h |         |
| N450                                | 470                 | 517                               | 450                 | 495                               | 450                        | 450           | 434                                 | 6062                         | E3h                        | E1h         | E1h     |
| N500                                | 523                 | 575                               | 500                 | 550                               | 500                        | 500           | 482                                 | 6879                         | E3h                        | E1h         | E1h     |
| N560                                | 596                 | 656                               | 570                 | 627                               | 560                        | 600           | 549                                 | 8076                         | E3h                        | E1h         | E1h     |
| N630                                | 630                 | 693                               | 630                 | 693                               | 630                        | 650           | 607                                 | 9208                         | E3h                        | E1h         | E1h     |
| N710                                | 763                 | 839                               | 730                 | 803                               | 710                        | 750           | 704                                 | 10346                        | E4h                        | E2h         | E2h     |
| N800                                | 889                 | 978                               | 850                 | 935                               | 800                        | 950           | 819                                 | 12723                        | E4h                        | E2h         | E2h     |
| P710                                | 763                 | 839                               | 730                 | 803                               | 710                        | 750           | 704                                 | 9212                         | –                          | F1/F3       | F1/F3   |
| P800                                | 889                 | 978                               | 850                 | 935                               | 800                        | 950           | 819                                 | 10659                        | –                          | F1/F3       | F1/F3   |
| P900                                | 988                 | 1087                              | 945                 | 1040                              | 900                        | 1050          | 911                                 | 12080                        | –                          | F1/F3       | F1/F3   |
| P1M0                                | 1108                | 1219                              | 1060                | 1166                              | 1000                       | 1150          | 1022                                | 13305                        | –                          | F2/F4       | F2/F4   |
| P1M2                                | 1317                | 1449                              | 1260                | 1386                              | 1200                       | 1350          | 1214                                | 15865                        | –                          | F2/F4       | F2/F4   |
| P1M4                                | 1479                | 1627                              | 1415                | 1557                              | 1400                       | 1550          | 1364                                | 18173                        | –                          | F2/F4       | F2/F4   |

## [T7] 3 x 525-690 V AC – high overload

| High overload (150% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                              | Enclosure size             |             |         |
|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|------------------------------|----------------------------|-------------|---------|
| Type code                         | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimat-<br>ed power<br>loss | Protection rating [IEC/UL] |             |         |
|                                   | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |               |                                     |                              | IP20                       | IP21        | IP54    |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>690 V              | Hp @<br>575 V | [A] @<br>690 V                      | [W]                          | Chassis                    | Type 1      | Type 12 |
| N75K                              | 76                  | 122                               | 73                  | 117                               | 55                         | 60            | 70                                  | 1098                         | D3h                        | D1h/D5h/D6h |         |
| N90K                              | 90                  | 135                               | 86                  | 129                               | 75                         | 75            | 83                                  | 1162                         | D3h                        | D1h/D5h/D6h |         |
| N110                              | 113                 | 170                               | 108                 | 162                               | 90                         | 100           | 104                                 | 1430                         | D3h                        | D1h/D5h/D6h |         |
| N132                              | 137                 | 206                               | 131                 | 197                               | 110                        | 125           | 126                                 | 1742                         | D3h                        | D1h/D5h/D6h |         |
| N160                              | 162                 | 243                               | 155                 | 233                               | 132                        | 150           | 149                                 | 2080                         | D3h                        | D1h/D5h/D6h |         |
| N200                              | 201                 | 302                               | 192                 | 288                               | 160                        | 200           | 185                                 | 2361                         | D4h                        | D2h/D7h/D8h |         |
| N250                              | 253                 | 380                               | 242                 | 363                               | 200                        | 250           | 233                                 | 3012                         | D4h                        | D2h/D7h/D8h |         |
| N315                              | 303                 | 455                               | 290                 | 435                               | 250                        | 300           | 279                                 | 3642                         | D4h                        | D2h/D7h/D8h |         |
| N400                              | 360                 | 540                               | 344                 | 516                               | 315                        | 350           | 332                                 | 4146                         | D4h                        | D2h/D7h/D8h |         |
| N450                              | 395                 | 593                               | 380                 | 570                               | 355                        | 400           | 366                                 | 4989                         | E3h                        | E1h         | E1h     |
| N500                              | 429                 | 644                               | 410                 | 615                               | 400                        | 400           | 395                                 | 5419                         | E3h                        | E1h         | E1h     |
| N560                              | 523                 | 785                               | 500                 | 750                               | 500                        | 500           | 482                                 | 6833                         | E3h                        | E1h         | E1h     |
| N630                              | 596                 | 894                               | 570                 | 855                               | 560                        | 600           | 549                                 | 8069                         | E3h                        | E1h         | E1h     |
| N710                              | 659                 | 989                               | 630                 | 945                               | 630                        | 650           | 607                                 | 8543                         | E4h                        | E2h         | E2h     |
| N800                              | 763                 | 1145                              | 730                 | 1095                              | 710                        | 750           | 704                                 | 10319                        | E4h                        | E2h         | E2h     |
| P710                              | 659                 | 989                               | 630                 | 945                               | 630                        | 650           | 607                                 | 7826                         | –                          | F1/F3       | F1/F3   |
| P800                              | 763                 | 1145                              | 730                 | 1095                              | 710                        | 750           | 704                                 | 8983                         | –                          | F1/F3       | F1/F3   |
| P900                              | 889                 | 1334                              | 850                 | 1275                              | 800                        | 950           | 819                                 | 10646                        | –                          | F1/F3       | F1/F3   |
| P1M0                              | 988                 | 1482                              | 945                 | 1418                              | 900                        | 1050          | 911                                 | 11681                        | –                          | F2/F4       | F2/F4   |
| P1M2                              | 1108                | 1662                              | 1060                | 1590                              | 1000                       | 1150          | 1022                                | 12997                        | –                          | F2/F4       | F2/F4   |
| P1M4                              | 1317                | 1976                              | 1260                | 1890                              | 1200                       | 1350          | 1214                                | 15763                        | –                          | F2/F4       | F2/F4   |



## Dimensions enclosure size D

|                            |        | VLT® AQUA Drive               |        |               |                    |        |                    |                               |                    |                    |                    |
|----------------------------|--------|-------------------------------|--------|---------------|--------------------|--------|--------------------|-------------------------------|--------------------|--------------------|--------------------|
| Enclosure size             |        | D1h                           | D2h    | D3h           | D3h <sup>(1)</sup> | D4h    | D4h <sup>(1)</sup> | D5h <sup>(2)</sup>            | D6h <sup>(3)</sup> | D7h <sup>(4)</sup> | D8h <sup>(5)</sup> |
| Protection rating [IEC/UL] |        | IP21 /Type 1<br>IP54 /Type 12 |        | IP20 /Chassis |                    |        |                    | IP21 /Type 1<br>IP54 /Type 12 |                    |                    |                    |
| [mm]                       | Height | 901.0                         | 1107.0 | 909.0         | 1027.0             | 1122.0 | 1294.0             | 1324.0                        | 1663.0             | 1978.0             | 2284.0             |
|                            | Width  | 325.0                         | 420.0  | 250.0         | 250.0              | 350.0  | 350.0              | 325.0                         | 325.0              | 420.0              | 420.0              |
|                            | Depth  | 378.4                         | 378.4  | 375.0         | 375.0              | 375.0  | 375.0              | 381.0                         | 381.0              | 386.0              | 406.0              |
| [kg]                       | Weight | 62.0                          | 125.0  | 62.0          | 108.0              | 125.0  | 179.0              | 99.0                          | 128.0              | 185.0              | 232.0              |
| [in]                       | Height | 35.5                          | 43.6   | 35.8          | 39.6               | 44.2   | 50.0               | 52.1                          | 65.5               | 77.9               | 89.9               |
|                            | Width  | 12.8                          | 12.8   | 19.8          | 9.9                | 14.8   | 13.8               | 12.8                          | 12.8               | 16.5               | 16.5               |
|                            | Depth  | 14.9                          | 14.9   | 14.8          | 14.8               | 14.8   | 14.8               | 15.0                          | 15.0               | 15.2               | 16.0               |
| [lb]                       | Weight | 136.7                         | 275.6  | 136.7         | 238.1              | 275.6  | 394.6              | 218.3                         | 282.2              | 407.9              | 511.5              |

<sup>(1)</sup> dimensions with regeneration or load share terminals

<sup>(2)</sup> D5h is used with disconnect and/or brake chopper options

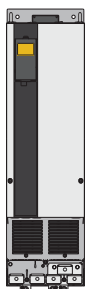
<sup>(3)</sup> D6h is used with contactor and/or circuit breaker options

<sup>(4)</sup> D7h is used with disconnect and/or brake chopper options

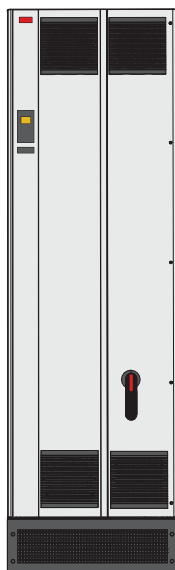
<sup>(5)</sup> D8h is used with contactor and/or circuit breaker options

## Dimensions enclosure sizes E and F

|                            |        | VLT® AQUA Drive               |        |               |        |                               |        |        |        |
|----------------------------|--------|-------------------------------|--------|---------------|--------|-------------------------------|--------|--------|--------|
| Frame                      |        | E1h                           | E2h    | E3h           | E4h    | F1                            | F2     | F3     | F4     |
| Protection rating [IEC/UL] |        | IP21 /Type 1<br>IP54 /Type 12 |        | IP20 /Chassis |        | IP21 /Type 1<br>IP54 /Type 12 |        |        |        |
| [mm]                       | Height | 2043.0                        | 2043.0 | 1578.0        | 1578.0 | 2204.0                        | 2204.0 | 2204.0 | 2204.0 |
|                            | Width  | 602.0                         | 698.0  | 506.0         | 604.0  | 1400.0                        | 1800.0 | 2000.0 | 2400.0 |
|                            | Depth  | 513.0                         | 513.0  | 482.0         | 482.0  | 606.0                         | 606.0  | 606.0  | 606.0  |
| [kg]                       | Weight | 295.0                         | 318.0  | 272.0         | 295.0  | 1017.0                        | 1260.0 | 1318.0 | 1561.0 |
| [in]                       | Height | 80.4                          | 80.4   | 62.1          | 62.1   | 86.8                          | 86.8   | 86.8   | 86.8   |
|                            | Width  | 23.7                          | 27.5   | 19.9          | 23.9   | 55.2                          | 70.9   | 78.8   | 94.5   |
|                            | Depth  | 20.2                          | 20.2   | 19.0          | 19.0   | 23.9                          | 23.9   | 23.9   | 23.9   |
| [lb]                       | Weight | 650.0                         | 700.0  | 600.0         | 650.0  | 2242.1                        | 2777.9 | 2905.7 | 3441.5 |



D3h/D4h



E1h



F

# Electrical data and dimensions

## – VLT® 12-Pulse

### [T4] 6 x 380-480 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                   |                      | Enclosure size             |           |              |           |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-----------------------------------|----------------------|----------------------------|-----------|--------------|-----------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous i<br>nput current | Estimated power loss | Protection rating [IEC/UL] |           |              |           |
|                                     | (3 x 380-440 V)     |                                   | (3 x 441-480 V)     |                                   |                            |               |                                   |                      | IP21/Type 1                |           | IP54/Type 12 |           |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>400 V              | Hp @<br>460 V | [A] @<br>400 V                    | [W]                  | AC drive                   | + options | AC drive     | + options |
| P315                                | 600                 | 660                               | 540                 | 594                               | 315                        | 450           | 590                               | 6790                 | F8                         | F9        | F8           | F9        |
| P355                                | 658                 | 724                               | 590                 | 649                               | 355                        | 500           | 647                               | 7701                 | F8                         | F9        | F8           | F9        |
| P400                                | 745                 | 820                               | 678                 | 746                               | 400                        | 600           | 733                               | 8879                 | F8                         | F9        | F8           | F9        |
| P450                                | 800                 | 880                               | 730                 | 803                               | 450                        | 600           | 787                               | 9670                 | F8                         | F9        | F8           | F9        |
| P500                                | 880                 | 968                               | 780                 | 858                               | 500                        | 650           | 857                               | 10647                | F10                        | F11       | F10          | F11       |
| P560                                | 990                 | 1089                              | 890                 | 979                               | 560                        | 750           | 964                               | 12338                | F10                        | F11       | F10          | F11       |
| P630                                | 1120                | 1232                              | 1050                | 1155                              | 630                        | 900           | 1090                              | 13201                | F10                        | F11       | F10          | F11       |
| P710                                | 1260                | 1386                              | 1160                | 1276                              | 710                        | 1000          | 1227                              | 15436                | F10                        | F11       | F10          | F11       |
| P800                                | 1460                | 1606                              | 1380                | 1518                              | 800                        | 1200          | 1422                              | 18084                | F12                        | F13       | F12          | F13       |
| P1M0                                | 1720                | 1892                              | 1530                | 1683                              | 1000                       | 1350          | 1675                              | 20358                | F12                        | F13       | F12          | F13       |

### [T4] 6 x 380-480 V AC – high overload

| High overload (150% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                         | Enclosure size             |              |              |              |
|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|-------------------------|----------------------------|--------------|--------------|--------------|
| Type code                         | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimated<br>power loss | Protection rating [IEC/UL] |              |              |              |
|                                   | (3 x 380-440 V)     |                                   | (3 x 441-480 V)     |                                   |                            |               |                                     |                         | IP21/Type 1                |              | IP54/Type 12 |              |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>400 V              | Hp @<br>460 V | [A] @<br>400 V                      | [W]                     | AC<br>drive                | +<br>options | AC<br>drive  | +<br>options |
| P315                              | 480                 | 720                               | 443                 | 665                               | 250                        | 350           | 472                                 | 5164                    | F8                         | F9           | F8           | F9           |
| P355                              | 600                 | 900                               | 540                 | 810                               | 315                        | 450           | 590                                 | 6960                    | F8                         | F9           | F8           | F9           |
| P400                              | 658                 | 987                               | 590                 | 885                               | 355                        | 500           | 647                                 | 7691                    | F8                         | F9           | F8           | F9           |
| P450                              | 695                 | 1043                              | 678                 | 1017                              | 400                        | 550           | 684                                 | 8178                    | F8                         | F9           | F8           | F9           |
| P500                              | 800                 | 1200                              | 730                 | 1095                              | 450                        | 600           | 779                                 | 9492                    | F10                        | F11          | F10          | F11          |
| P560                              | 880                 | 1320                              | 780                 | 1170                              | 500                        | 650           | 857                                 | 10631                   | F10                        | F11          | F10          | F11          |
| P630                              | 990                 | 1485                              | 890                 | 1335                              | 560                        | 750           | 964                                 | 11263                   | F10                        | F11          | F10          | F11          |
| P710                              | 1120                | 1680                              | 1050                | 1575                              | 630                        | 900           | 1090                                | 13172                   | F10                        | F11          | F10          | F11          |
| P800                              | 1260                | 1890                              | 1160                | 1740                              | 710                        | 1000          | 1227                                | 14967                   | F12                        | F13          | F12          | F13          |
| P1M0                              | 1460                | 2190                              | 1380                | 2070                              | 800                        | 1200          | 1422                                | 16392                   | F12                        | F13          | F12          | F13          |

## [T7] 6 x 525-690 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                         | Enclosure size             |              |              |              |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|-------------------------|----------------------------|--------------|--------------|--------------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimated<br>power loss | Protection rating [IEC/UL] |              |              |              |
|                                     | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |               |                                     |                         | IP21/Type 1                |              | IP54/Type 12 |              |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>690 V              | Hp @<br>575 V | [A] @<br>690 V                      | [W]                     | AC<br>drive                | +<br>options | AC<br>drive  | +<br>options |
| P450                                | 470                 | 517                               | 450                 | 495                               | 450                        | 450           | 434                                 | 5529                    | F8                         | F9           | F8           | F9           |
| P500                                | 523                 | 575                               | 500                 | 550                               | 500                        | 500           | 482                                 | 6239                    | F8                         | F9           | F8           | F9           |
| P560                                | 596                 | 656                               | 570                 | 627                               | 560                        | 600           | 549                                 | 7653                    | F8                         | F9           | F8           | F9           |
| P630                                | 630                 | 693                               | 630                 | 693                               | 630                        | 650           | 607                                 | 8495                    | F8                         | F9           | F8           | F9           |
| P710                                | 763                 | 839                               | 730                 | 803                               | 710                        | 750           | 711                                 | 9863                    | F10                        | F11          | F10          | F11          |
| P800                                | 889                 | 978                               | 850                 | 935                               | 800                        | 950           | 828                                 | 11304                   | F10                        | F11          | F10          | F11          |
| P900                                | 988                 | 1087                              | 945                 | 1040                              | 900                        | 1050          | 920                                 | 12798                   | F10                        | F11          | F10          | F11          |
| P1M0                                | 1108                | 1219                              | 1060                | 1166                              | 1000                       | 1150          | 1032                                | 13801                   | F12                        | F13          | F12          | F13          |
| P1M2                                | 1317                | 1449                              | 1260                | 1386                              | 1200                       | 1350          | 1227                                | 16821                   | F12                        | F13          | F12          | F13          |
| P1M4                                | 1479                | 1627                              | 1415                | 1557                              | 1400                       | 1550          | 1378                                | 19247                   | F12                        | F13          | F12          | F13          |

## [T7] 6 x 525-690 V AC – high overload

| High overload (150% 1 min/10 min) |                     |                                   |                     |                                   |                            |               |                                     |                         | Enclosure size             |              |              |              |
|-----------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|---------------|-------------------------------------|-------------------------|----------------------------|--------------|--------------|--------------|
| Type code                         | Output current      |                                   |                     |                                   | Typical shaft output power |               | Con-<br>tinuous<br>input<br>current | Estimated<br>power loss | Protection rating [IEC/UL] |              |              |              |
|                                   | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |               |                                     |                         | IP21/Type 1                |              | IP54/Type 12 |              |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @<br>690 V              | Hp @<br>575 V | [A] @<br>690 V                      | [W]                     | AC<br>drive                | +<br>options | AC<br>drive  | +<br>options |
| P450                              | 395                 | 593                               | 380                 | 570                               | 355                        | 400           | 366                                 | 4589                    | F8                         | F9           | F8           | F9           |
| P500                              | 429                 | 644                               | 410                 | 615                               | 400                        | 400           | 395                                 | 4970                    | F8                         | F9           | F8           | F9           |
| P560                              | 523                 | 785                               | 500                 | 750                               | 500                        | 500           | 482                                 | 6707                    | F8                         | F9           | F8           | F9           |
| P630                              | 596                 | 894                               | 570                 | 855                               | 560                        | 600           | 549                                 | 7633                    | F8                         | F9           | F8           | F9           |
| P710                              | 659                 | 989                               | 630                 | 945                               | 630                        | 650           | 613                                 | 8388                    | F10                        | F11          | F10          | F11          |
| P800                              | 763                 | 1145                              | 730                 | 1095                              | 710                        | 750           | 711                                 | 9537                    | F10                        | F11          | F10          | F11          |
| P900                              | 889                 | 1334                              | 850                 | 1275                              | 800                        | 950           | 828                                 | 11291                   | F10                        | F11          | F10          | F11          |
| P1M0                              | 988                 | 1482                              | 945                 | 1418                              | 900                        | 1050          | 920                                 | 12524                   | F12                        | F13          | F12          | F13          |
| P1M2                              | 1108                | 1662                              | 1060                | 1590                              | 1000                       | 1150          | 1032                                | 13801                   | F12                        | F13          | F12          | F13          |
| P1M4                              | 1317                | 1976                              | 1260                | 1890                              | 1200                       | 1350          | 1227                                | 16719                   | F12                        | F13          | F12          | F13          |

## Dimensions enclosure size F

|                            |        | VLT® AQUA Drive             |        |        |        |        |        |
|----------------------------|--------|-----------------------------|--------|--------|--------|--------|--------|
| Enclosure size             |        | F8                          | F9     | F10    | F11    | F12    | F13    |
| Protection rating [IEC/UL] |        | IP21/Type 1<br>IP54/Type 12 |        |        |        |        |        |
| [mm]                       | Height | 2204.0                      | 2204.0 | 2204.0 | 2204.0 | 2204.0 | 2204.0 |
|                            | Width  | 800.0                       | 1400.0 | 1600.0 | 2400.0 | 2000.0 | 2800.0 |
|                            | Depth  | 606.0                       | 606.0  | 606.0  | 606.0  | 606.0  | 606.0  |
| [kg]                       | Weight | 447.0                       | 669.0  | 893.0  | 1116.0 | 1037.0 | 1259.0 |
| [in]                       | Height | 86.8                        | 86.8   | 86.8   | 86.8   | 86.8   | 86.8   |
|                            | Width  | 31.5                        | 55.2   | 63.0   | 94.5   | 78.8   | 110.2  |
|                            | Depth  | 23.9                        | 23.9   | 23.9   | 23.9   | 23.9   | 23.9   |
| [lb]                       | Weight | 985.5                       | 1474.9 | 1968.8 | 2460.4 | 2286.4 | 2775.7 |

# Ordering **typecode** for **D**, **E** and **F** enclosures

|     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] |
| FC- |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |

| [1] Application (character 4-6) |                        |
|---------------------------------|------------------------|
| 202                             | VLT® AQUA Drive FC 202 |

| [2] Power size (character 7-10) |                  |
|---------------------------------|------------------|
| N75K                            | 75 kW / 100 Hp   |
| N90K                            | 90 kW / 125 Hp   |
| N110                            | 110 kW / 150 Hp  |
| N132                            | 132 kW / 200 Hp  |
| N160                            | 160 kW / 250 Hp  |
| N200                            | 200 kW / 300 Hp  |
| N250                            | 250 kW / 350 Hp  |
| N315                            | 315 kW / 450 Hp  |
| P315                            | 315 kW / 450 Hp  |
| N355                            | 355 kW / 500 Hp  |
| P355                            | 355 kW / 500 Hp  |
| N400                            | 400 kW / 550 Hp  |
| P400                            | 400 kW / 550 Hp  |
| N450                            | 450 kW / 600 Hp  |
| P450                            | 450 kW / 600 Hp  |
| N500                            | 500 kW / 650 Hp  |
| P500                            | 500 kW / 650 Hp  |
| N560                            | 560 kW / 750 Hp  |
| P560                            | 560 kW / 750 Hp  |
| N630                            | 630 kW / 900 Hp  |
| P630                            | 630 kW / 900 Hp  |
| N710                            | 710 kW / 1000 Hp |
| P710                            | 710 kW / 1000 Hp |
| N800                            | 800 kW / 1200 Hp |
| P800                            | 800 kW / 1200 Hp |
| P900                            | 900 kW / 1250 Hp |
| P1M0                            | 1.0 MW / 1350 Hp |
| P1M2                            | 1.2 MW / 1600 Hp |
| P1M4                            | 1.4 MW / 1900 Hp |

| [3] AC mains voltage (character 11-12) |                                                        |
|----------------------------------------|--------------------------------------------------------|
| T2                                     | 3 x 200-240 V AC                                       |
| T4                                     | 3 x 380-480 V AC                                       |
| T7                                     | 3 x 525-690 V AC<br>690 V kW. See manuals for 575 V Hp |

| [4] IP/UL protection ratings (character 13-15) |  |
|------------------------------------------------|--|
| IP20 Chassis enclosures                        |  |

|     |                                                               |
|-----|---------------------------------------------------------------|
| E20 | IP20 / Chassis                                                |
| E2S | IP20 / Chassis (D3h enclosure)                                |
| C20 | IP20 / Chassis – Stainless steel back channel                 |
| C2S | IP20 / Chassis – Stainless steel back channel (D3h enclosure) |

| IP21 / UL Type 1 enclosures |                                              |
|-----------------------------|----------------------------------------------|
| E21                         | IP21 / Type 1                                |
| E2M                         | IP21 / Type 1 + mains shield                 |
| E2D                         | IP21 / Type 1 (D1h, D5h, D6h enclosures)     |
| H21                         | IP21 / Type 1 + space heater                 |
| C21                         | IP21 / Type 1 – Stainless steel back channel |

|     |                                                                     |
|-----|---------------------------------------------------------------------|
| C2M | IP21 / Type 1 – Stainless steel back channel + mains shield         |
| C2H | IP21 / Type 1 – Stainless steel back channel + space heater         |
| L2A | IP21 / Type 1 + cabinet light + 115 V power outlet                  |
| L2X | IP21 / Type 1 + cabinet light + 230 V power outlet                  |
| R2A | IP21 / Type 1 + space heater + cabinet light + 115 V power outlet   |
| R2X | IP21 / Type 1 + space heater + cabinet light + 230 V power outlet   |
| C2E | IP21 / Type 1 – Stainless steel back channel + Cooling out the back |

| IP54 / UL Type 12 enclosures |                                                                                         |
|------------------------------|-----------------------------------------------------------------------------------------|
| E54                          | IP54 / Type 12                                                                          |
| E5D                          | IP54 / Type 12 (D1h, D5h, D6h frames)                                                   |
| E5M                          | IP54 / Type 12 + mains shield                                                           |
| E5S                          | IP54 / Type 12, NEMA 3R ready – Stainless steel screws + space heater (D1h, D2h frames) |
| H54                          | IP54 / Type 12 + space heater + thermostat                                              |
| C54                          | IP54 / Type 12 – Stainless steel back channel                                           |
| C5M                          | IP54 / Type 12 – Stainless steel back channel + mains shield                            |
| C5H                          | IP54 / Type 12 – Stainless steel back channel + space heater                            |
| L5A                          | IP54 / Type 12 + cabinet light + 115 V power outlet                                     |
| L5X                          | IP54 / Type 12 + cabinet light + 230 V power outlet                                     |
| R5A                          | IP54 / Type 12 + space heater + cabinet light + 115 V power outlet                      |
| R5X                          | IP54 / Type 12 + space heater + cabinet light + 230 V power outlet                      |

| [5] RFI filter, terminal and monitoring options – EN/IEC 61800-3 (character 16-17) |  |
|------------------------------------------------------------------------------------|--|
|------------------------------------------------------------------------------------|--|

|    |                                                                           |
|----|---------------------------------------------------------------------------|
| H2 | RFI filter, Class A2 (C3)                                                 |
| H4 | RFI filter, Class A1 (C2)<br>(Enclosure sizes D and F only)               |
| HG | IRM for IT mains with Class A2 RFI<br>(Enclosure sizes F1, F2, F3, F4)    |
| HE | RCD for TN/TT mains with Class A2 RFI<br>(Enclosure sizes F1, F2, F3, F4) |
| HX | No RFI filter                                                             |
| HF | RCD for TN/TT mains and Class A1 RFI<br>(Enclosure sizes F1, F2, F3, F4)  |
| HH | IRM for IT mains and Class A1 RFI<br>(Enclosure sizes F1, F2, F3, F4)     |

| VLT® Low Harmonic Drive |                                                                |
|-------------------------|----------------------------------------------------------------|
| N2                      | VLT® Low Harmonic Drive, active filter based with Class A2 RFI |
| N4                      | VLT® Low Harmonic Drive, active filter based with Class A1 RFI |

| VLT® 12-Pulse, encl. sizes F8, F9, F10, F11, F12, F13 |                            |
|-------------------------------------------------------|----------------------------|
| B2                                                    | 12-Pulse with Class A2 RFI |
| B4                                                    | 12-Pulse with Class A1 RFI |

|    |                            |
|----|----------------------------|
| BE | 12-Pulse with RCD / A2 RFI |
| BF | 12-Pulse with RCD / A1 RFI |
| BG | 12-Pulse with IRM / A2 RFI |
| BH | 12-Pulse with IRM / A1 RFI |

| [6] Braking and safety (character 18) |  |
|---------------------------------------|--|
|---------------------------------------|--|

|   |                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------|
| X | No brake IGBT                                                                                         |
| B | Brake IGBT                                                                                            |
| C | Safe Torque Off with Pilz Safety Relay<br>(enclosure sizes F1, F2, F3, F4)                            |
| D | Safe Torque Off with Pilz Safety Relay and brake IGBT<br>(enclosure sizes F1, F2, F3, F4)             |
| E | Safe Torque Off with Pilz Safety Relay and regeneration terminals<br>(enclosure sizes F1, F2, F3, F4) |
| T | Safe Torque Off without brake                                                                         |
| R | Regeneration terminals (enclosure sizes D & F)                                                        |
| S | Regeneration terminals and brake chopper                                                              |
| U | Brake IGBT plus Safe Torque Off                                                                       |

| Enclosure sizes F3, F4 |  |
|------------------------|--|
|------------------------|--|

|   |                                                                                                   |
|---|---------------------------------------------------------------------------------------------------|
| M | IEC Emergency Stop Pushbutton<br>(includes Pilz Relay)                                            |
| N | IEC Emergency Stop Pushbutton with brake IGBT and brake terminals<br>(includes Pilz Safety Relay) |
| P | IEC Emergency Stop Pushbutton with regeneration terminals<br>(includes Pilz Safety Relay)         |

| [7] LCP display (character 19) |  |
|--------------------------------|--|
|--------------------------------|--|

|   |                                           |
|---|-------------------------------------------|
| X | Blank faceplate, no LCP installed         |
| N | Numerical Local Control Panel (LCP 101)   |
| G | Graphical Local Control Panel (LCP 102)   |
| W | VLT® Wireless Communication Panel LCP 103 |

| Enclosure size D and E, IP21/IP54 only |  |
|----------------------------------------|--|
|----------------------------------------|--|

|   |                                                            |
|---|------------------------------------------------------------|
| J | No Local Control Panel + USB through door                  |
| L | Graphical Local Control Panel (LCP 102) + USB through door |
| K | Numerical Local Control Panel (LCP 101) + USB through door |

| [8] PCB coating – IEC 721-3-3 (character 20) |  |
|----------------------------------------------|--|
|----------------------------------------------|--|

|   |                                   |
|---|-----------------------------------|
| X | Standard coated PCB Class 3C2     |
| C | Coated PCB Class 3C3              |
| R | Coated PCB Class 3C3 + ruggedized |

| [9] Mains input (character 21) |  |
|--------------------------------|--|
|--------------------------------|--|

|   |                                                                                                 |
|---|-------------------------------------------------------------------------------------------------|
| X | No mains option                                                                                 |
| 7 | Fuses                                                                                           |
| A | Fuses and load sharing terminals<br>(enclosure sizes D/IP20 and F3, F4, F9, F11, F14, F18 only) |
| D | Load sharing terminals<br>(enclosure sizes D/IP20 and F3, F4, F9, F11, F14, F18 only)           |
| 3 | Mains disconnect + fuse<br>(enclosure sizes D, E and F3, F4, F9, F11, F14, F18)                 |

|     | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] | [13] | [14] | [15] | [16] | [17] | [18] | [19] |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| FC- |     |     |     |     |     |     |     |     |     |      |      |      |      |      |      |      |      |      |      |

|   |                                                                                                                |
|---|----------------------------------------------------------------------------------------------------------------|
| 4 | Mains contactor + fuse (enclosure size D)                                                                      |
| 5 | Mains disconnect, fuse and load sharing (Not available for enclosure size F18)                                 |
| E | Mains disconnect + contactor + fuse (enclosure sizes D, E and F3, F4, F9, F11, F14, F18)                       |
| J | Circuit breaker + fuse (enclosure sizes D, E and F3, F4, F9, F11, F14, F18)                                    |
| F | Mains circuit breaker, contactor and fuses (enclosure sizes F3, F4, F9, F11, F14, F18)                         |
| G | Mains disconnect, contactor, load sharing terminals and fuses (enclosure sizes F3, F4, F9, F11, F14, F18)      |
| H | Mains circuit breaker, contactor, load sharing terminals and fuses (enclosure sizes F3, F4, F9, F11, F14, F18) |
| K | Mains circuit breaker, load share and fuses (enclosure sizes F3, F4, F9, F11, F14, F18)                        |
| T | Cable connection cabinet (enclosure size D5h/D7h only)                                                         |
| W | Cable connection cabinet and fuse (enclosure size D5h/D7h only)                                                |

#### [10] Hardware option A (character 22)

|                                                                |                                                                       |
|----------------------------------------------------------------|-----------------------------------------------------------------------|
| X                                                              | Standard cable entries                                                |
| <b>Enclosure sizes F1, F2, F3, F4, F10, F11, F12, F13, F18</b> |                                                                       |
| E                                                              | 30 A fuse protected power terminals                                   |
| F                                                              | 30 A fuse protected power terminals and 2.5-4 A manual motor starter  |
| G                                                              | 30 A fuse protected power terminals and 4-6.3 A manual motor starter  |
| H                                                              | 30 A fuse protected power terminals and 6.3-10 A manual motor starter |
| J                                                              | 30 A fuse protected power terminals and 10-16 A manual motor starter  |
| K                                                              | Two 2.5-4 A manual motor starters                                     |
| L                                                              | Two 4-6.3 A manual motor starters                                     |
| M                                                              | Two 6.3-10 A manual motor starters                                    |
| N                                                              | Two 10-16 A manual motor starters                                     |

#### [11] Hardware option B (character 23)

|   |                                                      |
|---|------------------------------------------------------|
| X | No adaptation                                        |
| Q | Heat sink access panel (enclosure size D and E only) |

#### Enclosure sizes F1, F2, F3, F4, F10, F11, F12, F13, F18

|   |                                                                            |
|---|----------------------------------------------------------------------------|
| G | 5 A 24 V supply (customer use) and external temperature monitoring         |
| H | 5 A 24 V supply (customer use)                                             |
| J | External temperature monitoring                                            |
| K | Common motor terminals                                                     |
| L | 5 A 24 V supply + common motor terminals                                   |
| M | External temperature monitoring + common motor terminals                   |
| N | 5 A 24 V supply + external temperature monitoring + common motor terminals |

#### [12] Special version (character 24-27)

|      |                                                           |
|------|-----------------------------------------------------------|
| SXXX | Latest released standard software                         |
| LXX1 | Digital Cascade Controller                                |
| LX1X | Condition based monitoring                                |
| LX11 | Digital Cascade Controller + conditional based monitoring |

#### [13] LCP language (character 28)

|   |                                                                                                           |
|---|-----------------------------------------------------------------------------------------------------------|
| X | Standard language package including English, German, French, Spanish, Danish, Italian, Finnish and others |
|---|-----------------------------------------------------------------------------------------------------------|

#### Contact factory for other language options

#### [14] A-options: Fieldbus (character 29-30)

|    |                          |
|----|--------------------------|
| AX | No option                |
| A0 | VLT® PROFIBUS DP MCA 101 |
| A4 | VLT® DeviceNet MCA 104   |
| AL | VLT® PROFINET MCA 120    |
| AN | VLT® EtherNet/IP MCA 121 |
| AQ | VLT® Modbus TCP MCA 122  |
| AK | VLT® BACnet/IP MCA 125   |

#### [15] B-options (character 31-32)

|    |                                          |
|----|------------------------------------------|
| BX | No application option                    |
| BK | VLT® General Purpose MCB 101             |
| BP | VLT® Relay Option MCB 105                |
| B2 | VLT® PTC Thermistor Card MCB 112         |
| B4 | VLT® Sensor Input Card MCB 114           |
| BY | VLT® Extended Cascade Controller MCO 101 |

#### [16] C0-option (character 33-34)

|    |           |
|----|-----------|
| CX | No option |
|----|-----------|

#### [17] C1-option (character 35)

|   |                                          |
|---|------------------------------------------|
| X | No option                                |
| 5 | VLT® Advanced Cascade Controller MCO 102 |
| R | VLT® Extended Relay Card MCB 113         |

#### [18] C-option software (character 36-37)

|    |                    |
|----|--------------------|
| XX | No software option |
|----|--------------------|

#### [19] D-option (character 38-39)

|    |                                     |
|----|-------------------------------------|
| DX | No DC input installed               |
| D0 | VLT® 24 V DC Supply Option MCB 107  |
| D1 | VLT® Real-time Clock Option MCB 117 |

Please beware that not all combinations are possible.  
Find help configuring your drive with the online configurator found under: [driveconfig.danfoss.com](https://driveconfig.danfoss.com)

# Electrical data and dimensions

## – Enclosed Drive

### [T5] 3 x 380-500 V AC – high overload

| Type code | High overload (150% 1 min/10 min) |                                |                     |                                |                            |            |                          |                      | Protection rating |         |
|-----------|-----------------------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|-------------------|---------|
|           | Output current                    |                                |                     |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | IP21              | IP54    |
|           | (3 x 380-440 V)                   |                                | (3 x 441-480 V)     |                                |                            |            |                          |                      |                   |         |
| FC-202    | Con. I <sub>N</sub>               | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 400 V                 | Hp @ 460 V | [A] @ 400 V              | [W]                  | Type 1            | Type 12 |
| N110      | 177                               | 266                            | 160                 | 240                            | 90                         | 125        | 171                      | 2031                 | D9h               | D9h     |
| N132      | 212                               | 318                            | 190                 | 285                            | 110                        | 150        | 204                      | 2289                 | D9h               | D9h     |
| N160      | 260                               | 390                            | 240                 | 360                            | 132                        | 200        | 251                      | 2923                 | D9h               | D9h     |
| N200      | 315                               | 473                            | 302                 | 453                            | 160                        | 250        | 304                      | 3093                 | D10h              | D10h    |
| N250      | 395                               | 593                            | 361                 | 542                            | 200                        | 300        | 381                      | 4039                 | D10h              | D10h    |
| N315      | 480                               | 720                            | 443                 | 665                            | 250                        | 350        | 463                      | 5005                 | D10h              | D10h    |
| N355      | 600                               | 900                            | 540                 | 810                            | 315                        | 450        | 578                      | 6178                 | E5h               | E5h     |
| N400      | 658                               | 987                            | 590                 | 885                            | 355                        | 500        | 634                      | 6851                 | E5h               | E5h     |
| N450      | 695                               | 1043                           | 678                 | 1017                           | 400                        | 550        | 718                      | 7297                 | E5h               | E5h     |
| N500      | 800                               | 1200                           | 730                 | 1095                           | 450                        | 600        | 771                      | 8352                 | E6h               | E6h     |
| N560      | 880                               | 1320                           | 780                 | 1170                           | 500                        | 650        | 848                      | 9449                 | E6h               | E6h     |

### [T5] 3 x 380-500 V AC – normal overload

| Type code | Normal overload (110% 1 min/10 min) |                                |                     |                                |                            |            |                          |                      | Protection rating |         |
|-----------|-------------------------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|-------------------|---------|
|           | Output current                      |                                |                     |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | IP21              | IP54    |
|           | (3 x 380-440 V)                     |                                | (3 x 441-480 V)     |                                |                            |            |                          |                      |                   |         |
| FC-202    | Con. I <sub>N</sub>                 | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 400 V                 | Hp @ 460 V | [A] @ 400V               | [W]                  | Type 1            | Type 12 |
| N110      | 212                                 | 233                            | 190                 | 209                            | 110                        | 150        | 204                      | 2559                 | D9h               | D9h     |
| N132      | 260                                 | 286                            | 240                 | 264                            | 132                        | 200        | 251                      | 2954                 | D9h               | D9h     |
| N160      | 315                                 | 347                            | 302                 | 332                            | 160                        | 250        | 304                      | 3770                 | D9h               | D9h     |
| N200      | 395                                 | 435                            | 361                 | 397                            | 200                        | 300        | 381                      | 4116                 | D10h              | D10h    |
| N250      | 480                                 | 528                            | 443                 | 487                            | 250                        | 350        | 463                      | 5137                 | D10h              | D10h    |
| N315      | 588                                 | 647                            | 535                 | 588                            | 315                        | 450        | 578                      | 6674                 | D10h              | D10h    |
| N355      | 658                                 | 724                            | 590                 | 649                            | 355                        | 500        | 634                      | 6928                 | E5h               | E5h     |
| N400      | 745                                 | 820                            | 678                 | 746                            | 400                        | 600        | 718                      | 8036                 | E5h               | E5h     |
| N450      | 800                                 | 880                            | 730                 | 803                            | 450                        | 600        | 771                      | 8783                 | E5h               | E5h     |
| N500      | 880                                 | 968                            | 780                 | 858                            | 500                        | 650        | 848                      | 9473                 | E6h               | E6h     |
| N560      | 990                                 | 1089                           | 890                 | 979                            | 560                        | 750        | 954                      | 11102                | E6h               | E6h     |

## [T7] 3 x 525-690 V AC – high overload

| High overload (150% 1 min/10 min) |                     |                                |                     |                                |                            |            |                          |                      |                   |         |
|-----------------------------------|---------------------|--------------------------------|---------------------|--------------------------------|----------------------------|------------|--------------------------|----------------------|-------------------|---------|
| Type code                         | Output current      |                                |                     |                                | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating |         |
|                                   | (3 x 525-550 V)     |                                | (3 x 551-690 V)     |                                |                            |            |                          |                      | IP21              | IP54    |
| FC-202                            | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub> (60 s) | kW @ 690 V                 | Hp @ 575 V | [A] @ 690 V              | [W]                  | Type 1            | Type 12 |
| N110                              | 113                 | 170                            | 108                 | 162                            | 90                         | 100        | 109                      | 1479                 | D9h               | D9h     |
| N132                              | 137                 | 206                            | 131                 | 197                            | 110                        | 125        | 132                      | 1798                 | D9h               | D9h     |
| N160                              | 162                 | 243                            | 155                 | 233                            | 132                        | 150        | 156                      | 2157                 | D9h               | D9h     |
| N200                              | 201                 | 302                            | 192                 | 288                            | 160                        | 200        | 193                      | 2443                 | D10h              | D10h    |
| N250                              | 253                 | 380                            | 242                 | 363                            | 200                        | 250        | 244                      | 3121                 | D10h              | D10h    |
| N315                              | 303                 | 455                            | 290                 | 435                            | 250                        | 300        | 292                      | 3768                 | D10h              | D10h    |
| N355                              | 360                 | 540                            | 344                 | 516                            | 315                        | 350        | 347                      | 4254                 | D10h              | D10h    |
| N400                              | 395                 | 593                            | 380                 | 570                            | 355                        | 400        | 381                      | 4989                 | E5h               | E5h     |
| N500                              | 429                 | 644                            | 410                 | 615                            | 400                        | 400        | 413                      | 5419                 | E5h               | E5h     |
| N560                              | 523                 | 785                            | 500                 | 750                            | 500                        | 500        | 504                      | 6833                 | E5h               | E5h     |
| N630                              | 596                 | 894                            | 570                 | 855                            | 560                        | 600        | 574                      | 8069                 | E5h               | E5h     |
| N710                              | 659                 | 989                            | 630                 | 945                            | 630                        | 650        | 635                      | 8543                 | E6h               | E6h     |
| N800                              | 763                 | 1145                           | 730                 | 1095                           | 710                        | 750        | 735                      | 10319                | E6h               | E6h     |

## [T7] 3 x 525-690 V AC – normal overload

| Normal overload (110% 1 min/10 min) |                     |                                   |                     |                                   |                            |            |                          |                      |                   |         |
|-------------------------------------|---------------------|-----------------------------------|---------------------|-----------------------------------|----------------------------|------------|--------------------------|----------------------|-------------------|---------|
| Type code                           | Output current      |                                   |                     |                                   | Typical shaft output power |            | Continuous input current | Estimated power loss | Protection rating |         |
|                                     | (3 x 525-550 V)     |                                   | (3 x 551-690 V)     |                                   |                            |            |                          |                      | IP21              | IP54    |
| FC-202                              | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | Con. I <sub>N</sub> | Inter. I <sub>MAX</sub><br>(60 s) | kW @ 690 V                 | Hp @ 575 V | [A] @ 690 V              | [W]                  | Type 1            | Type 12 |
| N110                                | 137                 | 151                               | 131                 | 144                               | 110                        | 125        | 132                      | 1796                 | D9h               | D9h     |
| N132                                | 162                 | 178                               | 155                 | 171                               | 132                        | 150        | 156                      | 2165                 | D9h               | D9h     |
| N160                                | 201                 | 221                               | 192                 | 211                               | 160                        | 200        | 193                      | 2738                 | D9h               | D9h     |
| N200                                | 253                 | 278                               | 242                 | 266                               | 200                        | 250        | 244                      | 3172                 | D10h              | D10h    |
| N250                                | 303                 | 333                               | 290                 | 319                               | 250                        | 300        | 292                      | 3848                 | D10h              | D10h    |
| N315                                | 360                 | 396                               | 344                 | 378                               | 315                        | 350        | 347                      | 4610                 | D10h              | D10h    |
| N355                                | 418                 | 460                               | 400                 | 440                               | 400                        | 400        | 381                      | 5150                 | D10h              | D10h    |
| N400                                | 470                 | 517                               | 450                 | 495                               | 450                        | 450        | 413                      | 6062                 | E5h               | E5h     |
| N500                                | 523                 | 575                               | 500                 | 550                               | 500                        | 500        | 504                      | 6879                 | E5h               | E5h     |
| N560                                | 596                 | 656                               | 570                 | 627                               | 560                        | 600        | 574                      | 8076                 | E5h               | E5h     |
| N630                                | 630                 | 693                               | 630                 | 693                               | 630                        | 650        | 635                      | 9208                 | E5h               | E5h     |
| N710                                | 763                 | 839                               | 730                 | 803                               | 710                        | 750        | 735                      | 10346                | E6h               | E6h     |
| N800                                | 889                 | 978                               | 850                 | 935                               | 800                        | 950        | 857                      | 12723                | E6h               | E6h     |



## Dimensions for Enclosed Drive

| VLT® AQUA Drive                    |                             |                             |                             |                             |
|------------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
|                                    | D9h                         | D10h                        | E5h                         | E6h                         |
| <b>Enclosed Drive</b>              |                             |                             |                             |                             |
| Rated power at 380–500 V [kW (hp)] | 90–132 (125–200)            | 160–250 (250–350)           | 315–400 (450–550)           | 450–500 (600–650)           |
| Rated power at 525–690 V [kW (hp)] | 90–132 (100–150)            | 160–315 (200–350)           | 355–560 (400–600)           | 630–710 (650–950)           |
| Protection rating                  | IP21/Type 1<br>IP54/Type 12 | IP21/Type 1<br>IP54/Type 12 | IP21/Type 1<br>IP54/Type 12 | IP21/Type 1<br>IP54/Type 12 |
| <b>Drive cabinet</b>               |                             |                             |                             |                             |
| Height [mm (in)] <sup>1)</sup>     | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 |
| Width [mm (in)] <sup>2)</sup>      | 400 (15.8)                  | 600 (23.6)                  | 600 (23.6)                  | 800 (31.5)                  |
| Depth [mm (in)]                    | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  |
| Weight [kg (lb)] <sup>2)</sup>     | 280 (617)                   | 355 (783)                   | 400 (882)                   | 431 (950)                   |
| <b>Input filter cabinet</b>        |                             |                             |                             |                             |
| Height [mm (in)] <sup>1)</sup>     | –                           | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 |
| Width [mm (in)]                    | –                           | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  |
| Depth [mm (in)]                    | –                           | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  |
| Weight [kg (lb)]                   | –                           | 380 (838)                   | 380 (838)                   | 380 (838)                   |
| <b>Sine-wave filter cabinet</b>    |                             |                             |                             |                             |
| Height [mm (in)] <sup>1)</sup>     | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 |
| Width [mm (in)]                    | 600 (23.6)                  | 600 (23.6)                  | 1200 (47.2)                 | 1200 (47.2)                 |
| Depth [mm (in)]                    | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  |
| Weight [kg (lb)]                   |                             |                             |                             |                             |
| <b>dV/dt filter cabinet</b>        |                             |                             |                             |                             |
| Height [mm (in)] <sup>1)</sup>     | –                           | –                           | 2100 (82.7)                 | 2100 (82.7)                 |
| Width [mm (in)] <sup>3)</sup>      | –                           | –                           | 400 (15.8)                  | 400 (15.8)                  |
| Depth [mm (in)]                    | –                           | –                           | 600 (23.6)                  | 600 (23.6)                  |
| Weight [kg (lb)]                   | –                           | –                           | 240 (529)                   | 240 (529)                   |
| <b>Top entry/exit cabinet</b>      |                             |                             |                             |                             |
| Height [mm (in)] <sup>1)</sup>     | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 | 2100 (82.7)                 |
| Width [mm (in)] <sup>3)</sup>      | 400 (15.8)                  | 400 (15.8)                  | 400 (15.8)                  | 400 (15.8)                  |
| Depth [mm (in)]                    | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  | 600 (23.6)                  |
| Weight [kg (lb)]                   | 164 (362)                   | 164 (362)                   | 164 (362)                   | 164 (362)                   |

<sup>1)</sup> Cabinet height includes standard 100 mm (3.9 in) plinth. A 200 mm (7.9 in) or 400 mm (15.8 in) plinth is optional.

<sup>2)</sup> Without options.

<sup>3)</sup> The E5h and E6h enclosures contain 2 sine wave cabinets. The provided width is the total of both cabinets.

