# CD

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS
in AISI 304

Single impeller centrifugal electric pumps made entirely of AISI 304 stainless steel.

### APPLICATIONS
- Domestic pressure boosting
- Small-scale garden irrigation
- Washing
- Treating water
- Cooling towers
- Pumping clean water in general

### TECHNICAL DETAILS
- Sturdy hydraulic frame
- Small dimensions

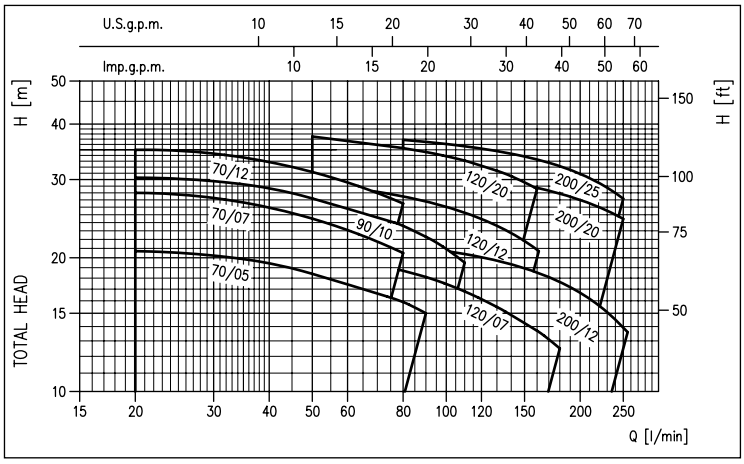
### PUMP TECHNICAL DATA
- Maximum working pressure: 8 bar
- Maxim temperature of the liquid:
  -5°C ÷ +60°C for CD, CDE, Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG and U3CEGG 70/05-70/07-90/10 models
  -5°C ÷ +90°C for the rest of the CD range
  -5°C ÷ +110°C for the H, HS, HW, HSW version
  -5°C ÷ +120°C for the rest of the CDE range and for the Q1AEGG, VAEGG, U3U3EGG, Q1U3EGG and U3CEGG versions
- G1½ suction connection for CD 200, G1¼ for the rest of the range
- G1 discharge connection
- MEI > 0.4
  For further information please see our Technical Data Sheet on the web site www.ebaraeurope.com

### MOTOR TECHNICAL DATA
- IE3 high energy-efficiency motors starting from 0.75kW
- 2-pole self-ventilated enclosed fan-cooled asynchronous motor
- Class of insulation F
- IP55 protection degree
- 230V ± 10% 50 Hz single phase voltage, 230/400V ±10% 50Hz three phase voltage
- Permanent capacitor inserted and thermo-amperometric protection with automatic rearm incorporated for the single phase motor
- Protection under user's responsibility for the three phase version

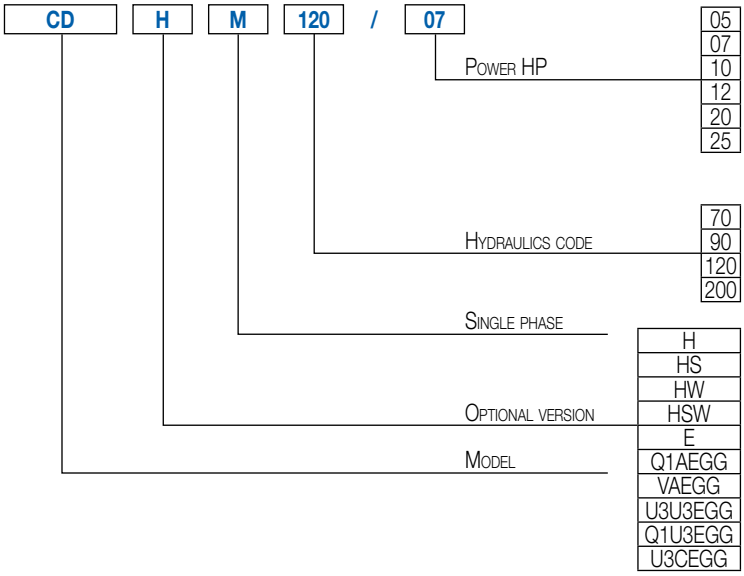
### MATERIALS
- Pump casing, impeller, diffuser, seal housing disc, bracket, motor case and fan cover in EN 1.4301 (AISI 304)
- Mechanical seal in:
  - Ceramic/Carbon/NBR (standard)
  - special versions: see p. 8
- Shaft in AISI 303 (part in contact with the liquid)

### ACCESSORIES (On request)
- Electric panels
- Vessels
- Floats
- Pressure switches
- Presscomfort - Pressure regulator
- E-power - Variable speed control system
- E-*drive* - Variable speed control system

### PERFORMANCE RANGE (according to ISO 9906 Attachment A)




### IDENTIFICATION CODE

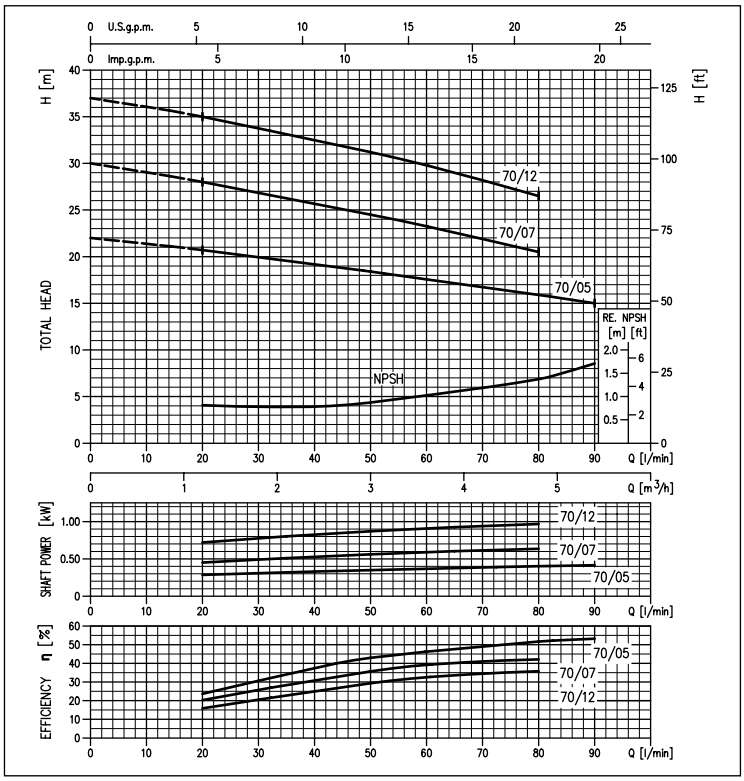


# SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

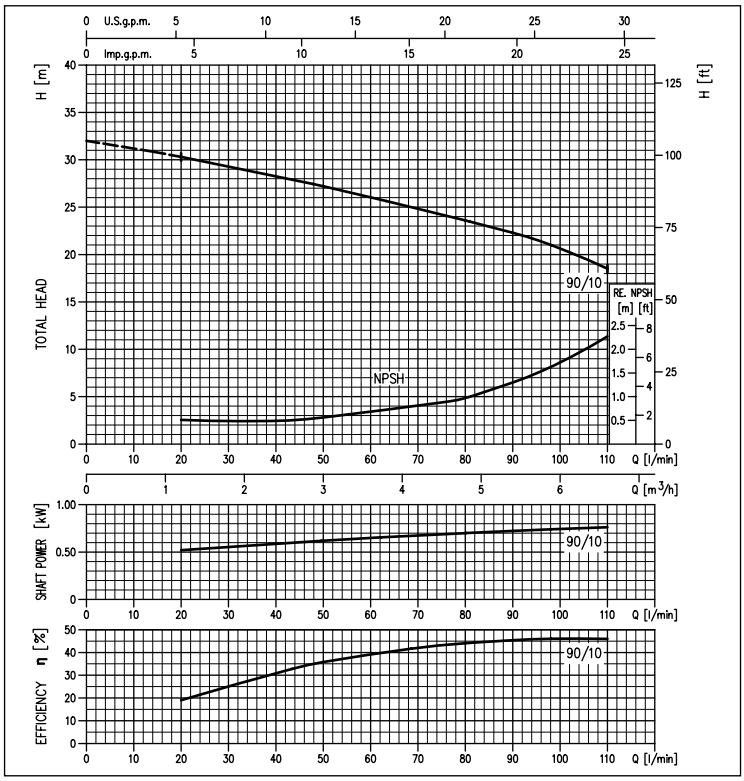
## PERFORMANCE CURVES CD 70 series

(according to ISO 9906 Attachment A)



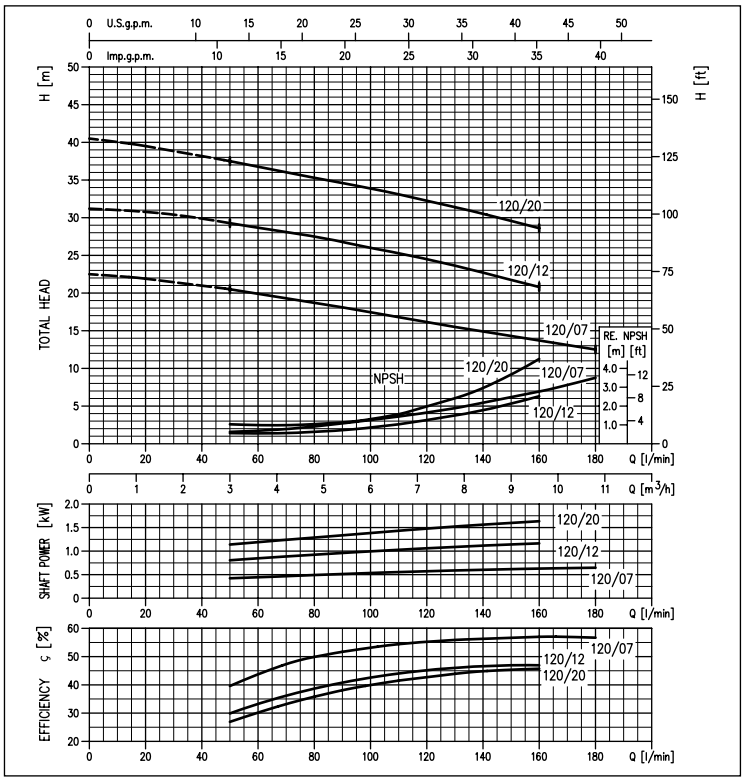

## PERFORMANCE CURVES CD 90 series

(according to ISO 9906 Attachment A)



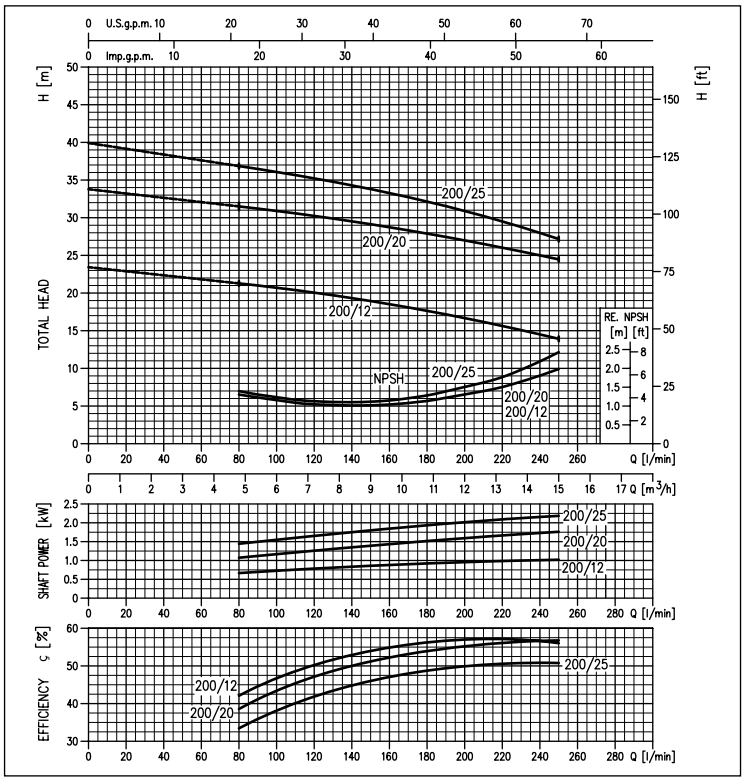

## PERFORMANCE CURVES CD 120 series

(according to ISO 9906 Attachment A)




## PERFORMANCE CURVES CD 200 series

(according to ISO 9906 Attachment A)



# CD

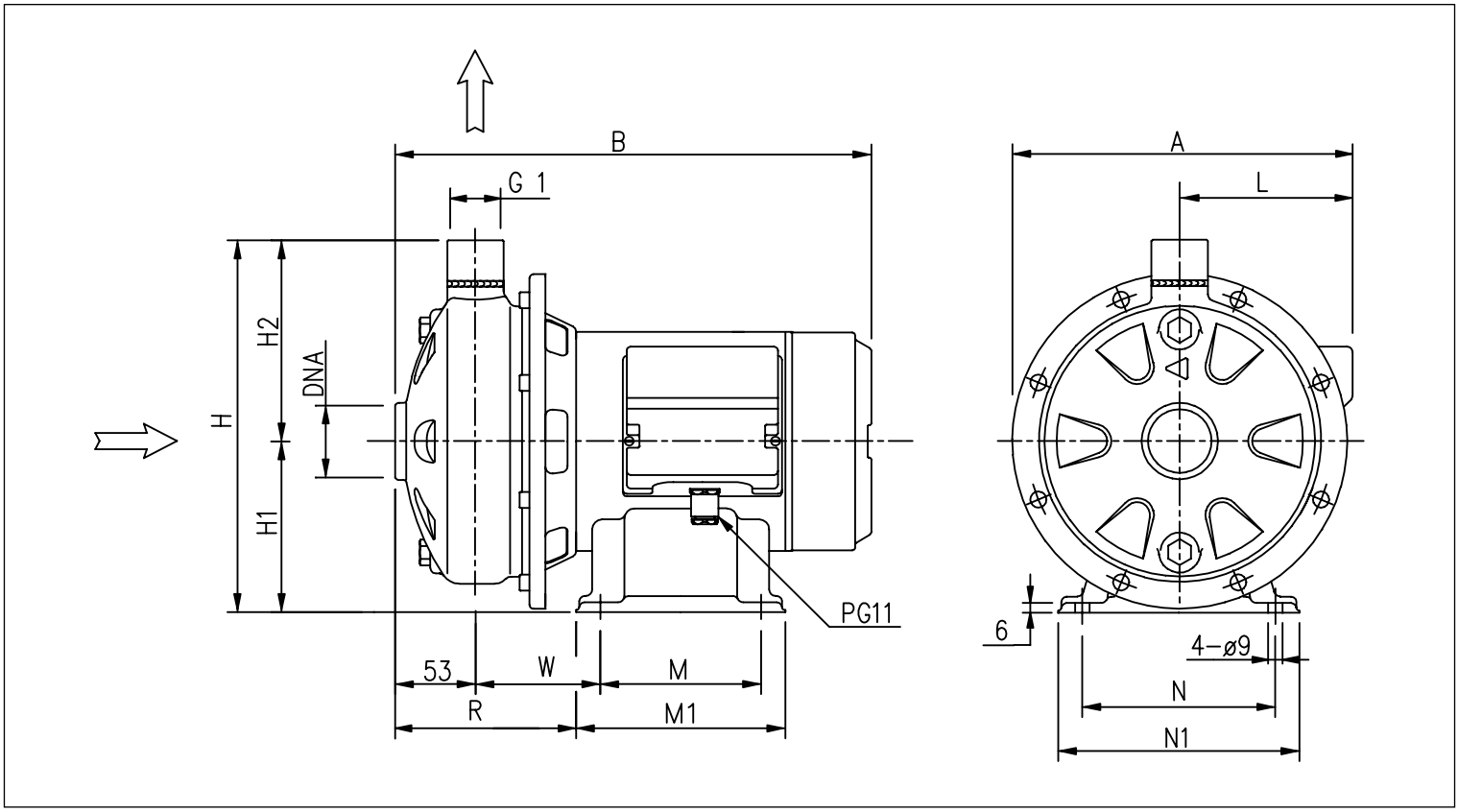
## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### PERFORMANCE CHART

| Model | | $P_2$ | | Q = Flow Rate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Single phase 230V | Three phase 230/400V | [HP] | [kW] | l/min 20 | 50 | 80 | 90 | 110 | 130 | 160 | 180 | 210 | 250 |
| | | | | $m^3/h$ 1.2 | 3 | 4.8 | 5.4 | 6.6 | 7.8 | 9.6 | 10.8 | 12.6 | 15 |
| | | | | H=Head [m] | | | | | | | | | |
| CDM 70/05 | CD 70/05 | 0.5 | 0.37 | 20.7 | 18.4 | 15.9 | 15.0 | - | - | - | - | - | - |
| CDM 70/07 | CD 70/07 | 0.8 | 0.55 | 28.0 | 24.5 | 20.5 | - | - | - | - | - | - | - |
| CDM 70/12 | CD 70/12 | 1.2 | 0.9 | 35.0 | 31.2 | 26.5 | - | - | - | - | - | - | - |
| CDM 90/10 | CD 90/10 | 1 | 0.75 | 30.3 | 27.2 | 23.6 | 22.3 | 19.5 | - | - | - | - | - |
| CDM 120/07 | CD 120/07 | 0.8 | 0.55 | - | 20.5 | 18.7 | 18.1 | 16.8 | 15.5 | 13.7 | 12.5 | - | - |
| CDM 120/12 | CD 120/12 | 1.2 | 0.9 | - | 29.3 | 27.5 | 26.8 | 25.2 | 23.6 | 21.0 | - | - | - |
| CDM 120/20 | CD 120/20 | 2 | 1.5 | - | 37.5 | 35.3 | 34.6 | 33.1 | 31.4 | 28.6 | - | - | - |
| CDM 200/12 | CD 200/12 | 1.2 | 0.9 | - | - | 21.3 | 21.0 | 20.4 | 19.7 | 18.5 | 17.6 | 16.0 | 14.0 |
| CDM 200/20 | CD 200/20 | 2 | 1.5 | - | - | 31.5 | 31.2 | 30.6 | 30.0 | 28.7 | 27.9 | 26.5 | 24.5 |
| - | CD 200/25 | 2.5 | 1.8 | - | - | 36.8 | 36.5 | 35.6 | 34.7 | 33.3 | 32.0 | 30.0 | 27.2 |

### DIMENSIONS




### DIMENSIONAL TABLE

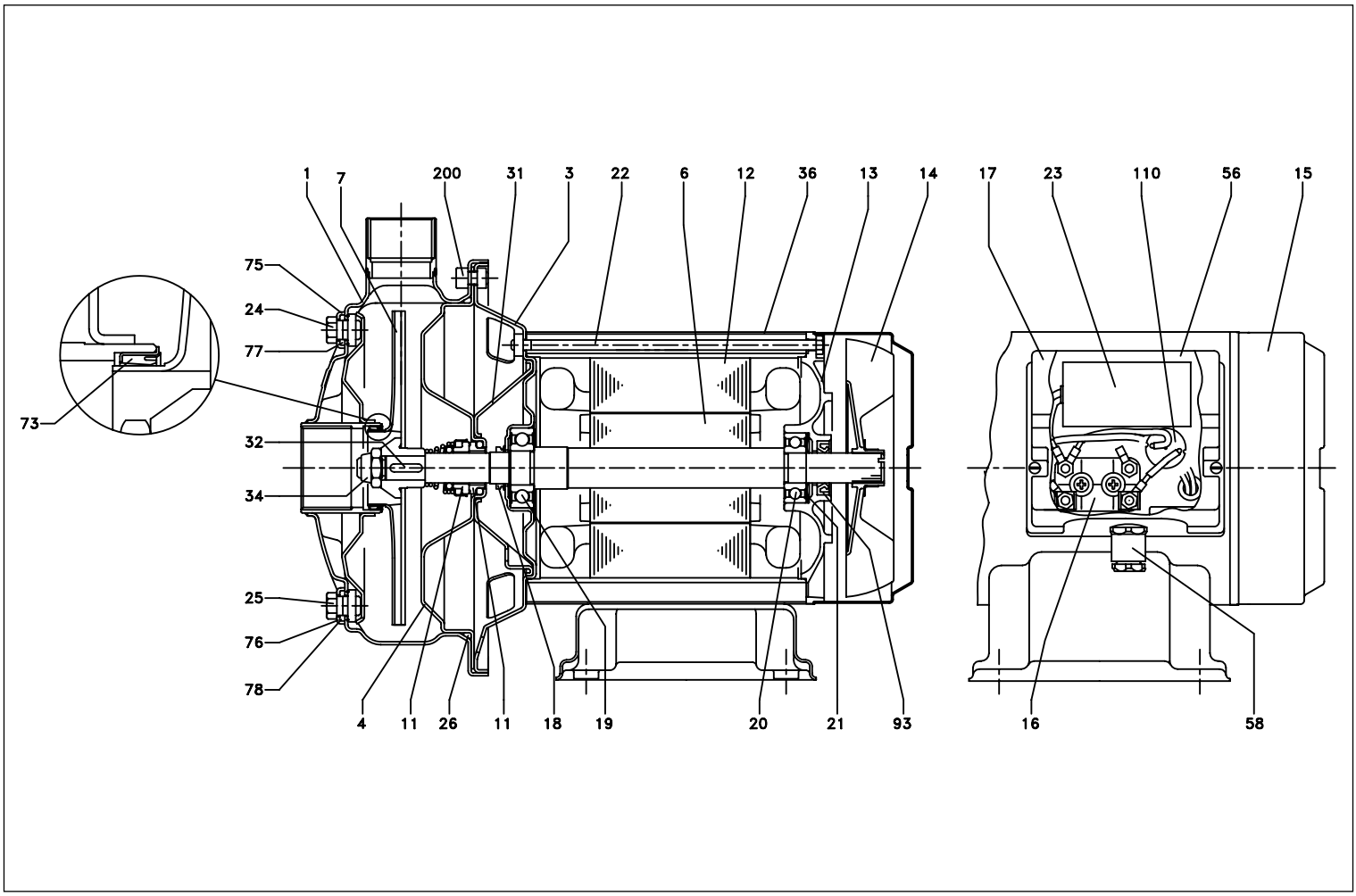
| Modello | Dimensioni [mm] | | | | | | | | | | | | | | | | | | | Peso [kg] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | B | | H | H1 | H2 | L | | M | | M1 | | N | N1 | R | W | DNA | | | |
| | [2] | [1] | [2] | [1] | | | | [2] | [1] | [2] | [1] | [2] | [1] | | | | | | | [2] | [1] |
| CD(M) 70/05 | 209 | 208 | 298 | 298 | 229,5 | 106 | 123,5 | 105 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 115,5 | 77,5 | G1¼ | | 8,7 | 8,7 |
| CD(M) 70/07 | 209 | 208 | 298 | 298 | 229,5 | 106 | 123,5 | 105 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 115,5 | 77,5 | G1¼ | | 10,0 | 10,0 |
| CD(M) 70/12 | 208 | 208 | 328 | 338 | 229,5 | 106 | 123,5 | 104 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 130,5 | 92,5 | G1¼ | | 13,2 | 13,7 |
| CD(M) 90/10 | 209 | 208 | 328 | 328 | 229,5 | 106 | 123,5 | 105 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 130,5 | 92,5 | G1¼ | | 11,5 | 11,6 |
| CD(M) 120/07 | 209 | 208 | 298 | 298 | 229,5 | 106 | 123,5 | 105 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 115,5 | 77,5 | G1¼ | | 10,0 | 10,5 |
| CD(M) 120/12 | 208 | 208 | 328 | 338 | 229,5 | 106 | 123,5 | 104 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 130,5 | 92,5 | G1¼ | | 12,3 | 12,9 |
| CD(M) 120/20 | 232 | 232 | 356 | 376 | 250 | 118 | 132 | 116 | 116 | 120 | 120 | 150 | 150 | 140 | 170 | 133 | 95 | G1¼ | | 15,3 | 18,3 |
| CD(M) 200/12 | 208 | 208 | 328 | 338 | 229,5 | 106 | 123,5 | 104 | 104 | 100 | 100 | 130 | 130 | 120 | 150 | 130,5 | 92,5 | G1½ | | 12,0 | 12,6 |
| CD(M) 200/20 | 213 | 213 | 356 | 376 | 229,5 | 106 | 123,5 | 109 | 109 | 120 | 120 | 150 | 150 | 140 | 170 | 133 | 95 | G1½ | | 15,8 | 17,5 |
| CD 200/25 | - | 232 | - | 376 | 250 | 118 | 132 | - | 116 | - | 120 | - | 150 | 140 | 170 | 138 | 100 | G1½ | | - | 18,3 |

[1]= Three phase only
[2]= Single phase only

# SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

## SECTIONAL VIEW




## TABLE OF MATERIALS

| Ref. | Name | Materials | Ref. | Name | Materials |
|---|---|---|---|---|---|
| 1 | Pump casing | EN 1.4301 (AISI 304) | 24 | Plug | EN 1.4301 (AISI 304) |
| 3 | Motor bracket | EN 1.4301 (AISI 304) | 25 | Plug | EN 1.4301 (AISI 304) |
| 4 | Casing cover | EN 1.4301 (AISI 304) | 26 | O-Ring [2] | NBR |
| 6 | Shaft | AISI 303<br>Part in contact with the liquid | 31 | Seal disc spacer | EN 1.4301 (AISI 304) |
| 7 | Impeller | EN 1.4301 (AISI 304) | 32 | Key | AISI 316 |
| 11 | Mechanical seal | Ceramic/Carbon/NBR | 34 | Impeller nut | Stainless Steel A2-70 |
| 12 | Motor frame | - | 36 | Motor casing | EN 1.4301 (AISI 304) |
| 13 | Motor cover | Aluminium | 56 | Terminal box cover gasket | NBR |
| 14 | Fan | PA | 58 | Cable input | - |
| 15 | Fan cover | EN 1.4301 (AISI 304) | 73 | Casing ring [3] | NBR |
| 16 | Terminal Box | - | 75 | Washer | EN 1.4301 (AISI 304) |
| 17 | Terminal Box cover | PA66 reinforced with fibreglass | 76 | Washer | EN 1.4301 (AISI 304) |
| 18 | Seal ring | NBR | 77 | O-Ring [2] | NBR |
| 19 | Bearing (pump side) | - | 78 | O-Ring [2] | NBR |
| 20 | Bearing (motor side) | - | 93 | Seal ring | NBR |
| 21 | Adjustment ring | Steel C70 | 110 | Motor protector [1] | - |
| 22 | Tie-rod | Galvanised Fe 42 | 200 | Screw (pump body) | Stainless Steel A2-70 |
| 23 | Capacitor [1] | - | | | |

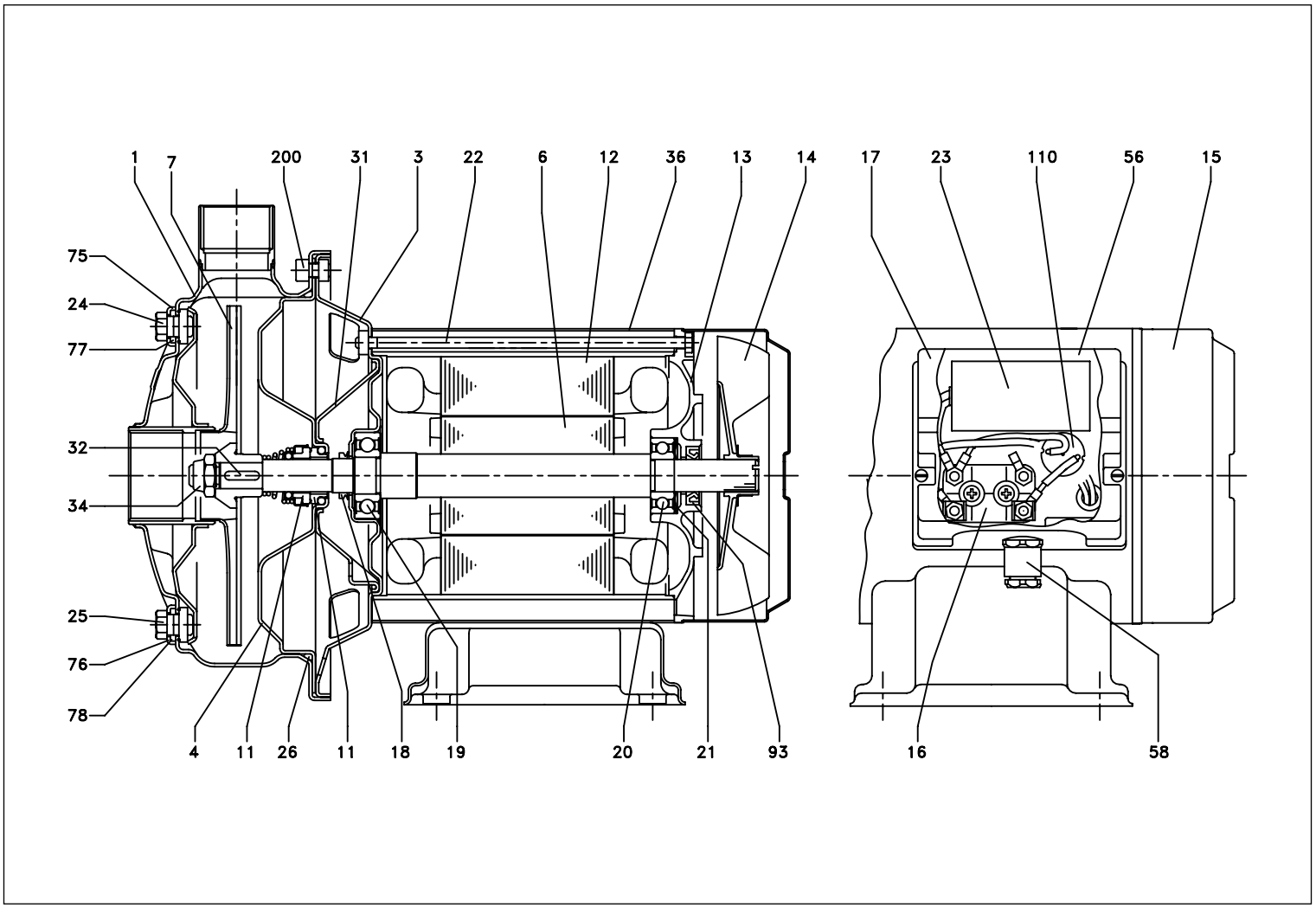
[1]= Single phase only
[2]= FKM for CDH-CDHS-CDHW-CDHSW
EPDM for CDE, CD Q1AEGG, CD VAEGG, CD U3U3EGG, CD Q1U3EGG, CD U3CEGG
[3]= FKM for CDH-CDHS-CDHW-CDHSW
NBR for CDE, CD Q1AEGG, CD VAEGG, CD U3U3EGG, CD Q1U3EGG, CD U3CEGG

# CD

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### SECTIONAL VIEW CD 70/12 - 120/07 - 120/20




### MATERIALS TABLE

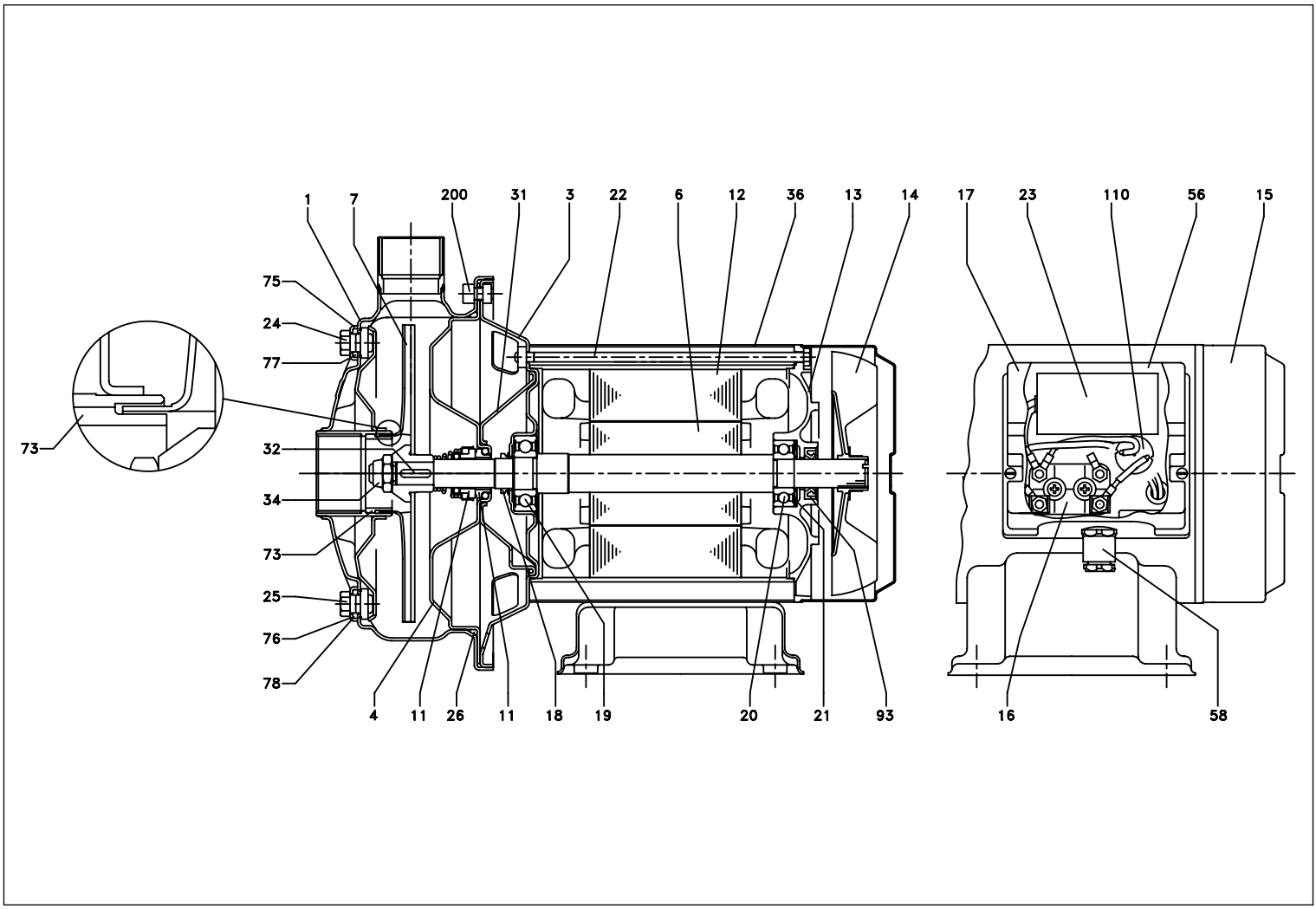
| Ref. | Name | Materials | Ref. | Name | Materials |
|---|---|---|---|---|---|
| 1 | Pump casing | EN 1.4301 (AISI 304) | 24 | Plug | EN 1.4301 (AISI 304) |
| 3 | Motor bracket | EN 1.4301 (AISI 304) | 25 | Plug | EN 1.4301 (AISI 304) |
| 4 | Casing cover | EN 1.4301 (AISI 304) | 26 | O-Ring [2] | NBR |
| 6 | Shaft | AISI 303<br>Part in contact with the liquid | 31 | Seal disc spacer | EN 1.4301 (AISI 304) |
| 7 | Impeller | EN 1.4301 (AISI 304) | 32 | Key | AISI 316 |
| 11 | Mechanical seal | Ceramic/Carbon/NBR | 34 | Impeller nut | Stainless Steel A2-70 |
| 12 | Motor frame | - | 36 | Motor casing | EN 1.4301 (AISI 304) |
| 13 | Motor cover | Aluminium | 56 | Terminal box cover gasket | NBR |
| 14 | Fan | PA | 58 | Cable entry | - |
| 15 | Fan cover | EN 1.4301 (AISI 304) | 73 | Casing ring | - |
| 16 | Terminal Box | - | 75 | Washer | EN 1.4301 (AISI 304) |
| 17 | Terminal Box cover | PA66 reinforced with fibreglass | 76 | Washer | EN 1.4301 (AISI 304) |
| 18 | Seal ring | NBR | 77 | O-Ring [2] | NBR |
| 19 | Bearing (pump side) | - | 78 | O-Ring [2] | NBR |
| 20 | Bearing (motor side) | - | 93 | Seal ring | NBR |
| 21 | Adjustment ring | Steel C70 | 110 | Motor protector [1] | - |
| 22 | Tie-rod | Galvanised Fe 42 | 200 | Screw (pump body) | Stainless Steel A2-70 |
| 23 | Capacitor [1] | - | | | |

[1]= Single phase only
[2]= FKM for CDH-CDHS-CDHW-CDHSW
EPDM for CDE, CD Q1AEGG, CD VAEGG, CD U3U3EGG, CD Q1U3EGG, CD U3CEGG

# SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

## SECTIONAL VIEW CD 120/12 - 200/12 - 200/20 - 200/25




## TABLE OF MATERIALS

| Ref. | Name | Materials | Ref. | Name | Materials |
|---|---|---|---|---|---|
| 1 | Pump casing | EN 1.4301 (AISI 304) | 24 | Plug | EN 1.4301 (AISI 304) |
| 3 | Motor bracket | EN 1.4301 (AISI 304) | 25 | Plug | EN 1.4301 (AISI 304) |
| 4 | Casing cover | EN 1.4301 (AISI 304) | 26 | O-Ring [2] | NBR |
| 6 | Shaft | AISI 303<br>Part in contact with the liquid | 31 | Seal disc spacer | EN 1.4301 (AISI 304) |
| 7 | Impeller | EN 1.4301 (AISI 304) | 32 | Key | AISI 316 |
| 11 | Mechanical seal | Ceramic/Carbon/NBR | 34 | Impeller nut | Stainless Steel A2-70 |
| 12 | Motor frame | - | 36 | Motor casing | EN 1.4301 (AISI 304) |
| 13 | Motor cover | Aluminium | 56 | Terminal box cover gasket | NBR |
| 14 | Fan | PA | 58 | Cable entry | - |
| 15 | Fan cover | EN 1.4301 (AISI 304) | 73 | Double casing ring | EN 1.4301 (AISI 304) |
| 16 | Terminal Box | - | 75 | Washer | EN 1.4301 (AISI 304) |
| 17 | Terminal Box cover | PA66 reinforced with fibreglass | 76 | Washer | EN 1.4301 (AISI 304) |
| 18 | Seal ring | NBR | 77 | O-Ring [2] | NBR |
| 19 | Bearing (pump side) | - | 78 | O-Ring [2] | NBR |
| 20 | Bearing (motor side) | - | 93 | Seal ring | NBR |
| 21 | Adjustment ring | Steel C70 | 110 | Motor protector [1] | - |
| 22 | Tie-rod | Galvanised Fe 42 | 200 | Screw (pump body) | Stainless Steel A2-70 |
| 23 | Capacitor [1] | - | | | |

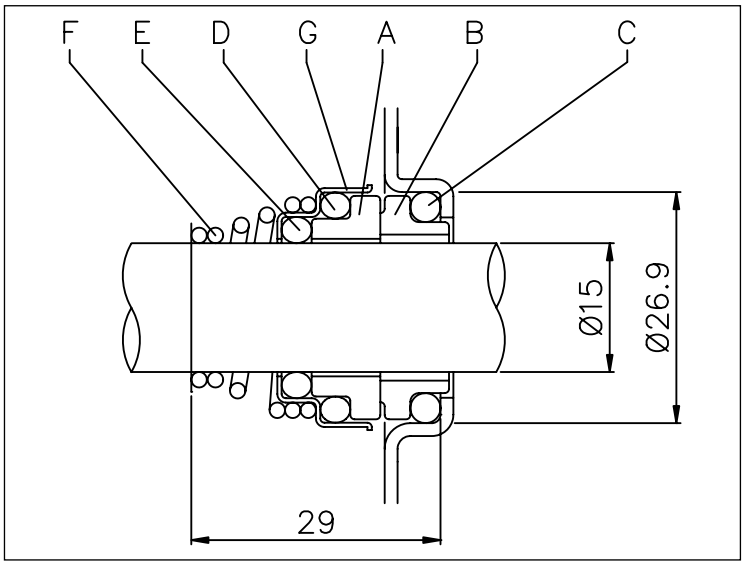
[1]= Single phase only
[2]= FKM for CDH-CDHS-CDHW-CDHSW
EPDM for CDE, CD Q1AEGG, CD VAEGG, CD U3U3EGG, CD Q1U3EGG, CD U3CEGG

# CD

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### MECHCANICAL SEAL standard




### MATERIALS TABLE

| Ref. | Name | Materials |
|---|---|---|
| A | Rotating part | Ceramic |
| B | Fixed part | Carbon |
| C | O-Ring | NBR |
| D | O-Ring | NBR |
| E | O-Ring | NBR |
| F | Spring | AISI 316 |
| G | Structure/frame | AISI 304 |

### SPECIAL MECHANICAL SEALS (on request)

| Ref. | Name | Materials | | | | |
|---|---|---|---|---|---|---|
| | | H Version | HS Version | HW Version | HSW Version | E Version |
| A | Rotating part | Ceramic | Silicon Carbide | Tungsten Carbide | Silicon Carbide | Ceramic |
| B | Fixed part | Carbon | Silicon Carbide | Tungsten Carbide | Tungsten Carbide | Carbon |
| C | O-Ring | FKM | FKM | FKM | FKM | EPDM |
| D | O-Ring | FKM | FKM | FKM | FKM | EPDM |
| E | O-Ring | FKM | FKM | FKM | FKM | EPDM |
| F | Spring | AISI 316 | AISI 316 | AISI 316 | AISI 316 | AISI 316 |
| G | Structure/frame | AISI 304 | AISI 316 | AISI 316 | AISI 316 | AISI 316 |

| Ref. | Name | Materials | | | | |
|---|---|---|---|---|---|---|
| | | Q1AEGG Version | VAEGG Version | U3U3EGG Version | Q1U3EGG Version | U3CEGG Version |
| A | Rotating part | Silicon Carbide | Ceramic | Tungsten Carbide | Silicon Carbide | Tungsten Carbide |
| B | Fixed part | Metallised carbon | Metallised carbon | Tungsten Carbide | Tungsten Carbide | Special Carbon |
| C | O-Ring | EPDM | EPDM | EPDM | EPDM | EPDM |
| D | O-Ring | EPDM | EPDM | EPDM | EPDM | EPDM |
| E | O-Ring | EPDM | EPDM | EPDM | EPDM | EPDM |
| F | Spring | AISI 316 | AISI 316 | AISI 316 | AISI 316 | AISI 316 |
| G | Structure/frame | AISI 316 | AISI 316 | AISI 316 | AISI 316 | AISI 316 |

# CD

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### ELECTRIC DATA TABLE

| Model Single phase 230V | Model Three phase 230/400V | $P_2$ [HP] | $P_2$ [kW] | Efficiency Single phase | Efficiency Three phase | Capacitor Single phase µF | Capacitor Single phase $V_c$ | Efficiency (%) Three phase η % 50% | Efficiency (%) Three phase η % 75% | Efficiency (%) Three phase η % 100% | $P_1$ Single phase [kW] | $P_1$ Three phase [kW] | Absorbed Current [A] Single phase 230V | Absorbed Current [A] Three phase 230V | Absorbed Current [A] Three phase 400V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CDM 70/05 | CD 70/05 | 0,5 | 0,37 | - | - | 12,5 | 450 | - | - | - | 0,75 | 0,68 | 3,4 | 2,4 | 1,4 |
| CDM 70/07 | CD 70/07 | 0,75 | 0,55 | - | - | 16 | 450 | - | - | - | 1,1 | 1,0 | 5,0 | 3,5 | 2,0 |
| CDM 70/12 | CD 70/12 | 1,2 | 0,9 | - | IE3 | 31,5 | 450 | 81,7 | 83,1 | 82,4 | 1,5 | 1,34 | 6,5 | 4,3 | 2,5 |
| CDM 90/10 | CD 90/10 | 1,0 | 0,75 | - | IE3 | 20 | 450 | 80,9 | 82,3 | 82,1 | 1,2 | 1,05 | 5,6 | 3,3 | 1,9 |
| CDM 120/07 | CD 120/07 | 0,75 | 0,55 | - | - | 16 | 450 | - | - | - | 1,0 | 1,0 | 4,6 | 3,2 | 1,85 |
| CDM 120/12 | CD 120/12 | 1,2 | 0,9 | - | IE3 | 31,5 | 450 | 81,7 | 83,1 | 82,4 | 1,6 | 1,34 | 6,9 | 4,3 | 2,5 |
| CDM 120/20 | CD 120/20 | 2,0 | 1,5 | - | IE3 | 40 | 450 | 84,2 | 86,8 | 86,9 | 2,1 | 2,01 | 9,3 | 7,1 | 4,1 |
| CDM 200/12 | CD 200/12 | 1,2 | 0,9 | - | IE3 | 31,5 | 450 | 81,7 | 83,1 | 82,4 | 1,4 | 1,34 | 6,3 | 4,3 | 2,5 |
| CDM 200/20 | CD 200/20 | 2,0 | 1,5 | - | IE3 | 40 | 450 | 84,2 | 86,8 | 86,9 | 2,3 | 2,01 | 10,2 | 7,1 | 4,1 |
| - | CD 200/25 | 2,5 | 1,85 | - | IE3 | - | - | 86,2 | 87,0 | 86,0 | - | 2,55 | - | 8,2 | 4,7 |

### NOISE DATA TABLE

| Model Single phase 230V | Model Three phase 230/400V | $P_2$ [HP] | $P_2$ [kW] | $L_{pA}$ - dB(A)* |
|---|---|---|---|---|
| CDM 70/05 | CD 70/05 | 0.5 | 0.37 | <70 |
| CDM 70/07 | CD 70/07 | 0.75 | 0.55 | |
| CDM 70/12 | CD 70/12 | 1.2 | 0.9 | |
| CDM 90/10 | CD 90/10 | 1 | 0.75 | |
| CDM 120/07 | CD 120/07 | 0.75 | 0.55 | |
| CDM 120/12 | CD 120/12 | 1.2 | 0.9 | |
| CDM 120/20 | CD 120/20 | 2 | 1.5 | |
| CDM 200/12 | CD 200/12 | 1.2 | 0.9 | |
| CDM 200/20 | CD 200/20 | 2 | 1.5 | |
| - | CD 200/25 | 2.5 | 1.85 | |

* Mean value of several measurements at 1 m distance around the pump.
Tolerance ± 2.5 dB.