

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304



Single impeller centrifugal electric pumps with hydraulic parts in AISI 304 stainless steel.

### APPLICATIONS

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

### TECHNICAL DETAILS

- Solid hydraulic structure
- Small dimensions

### PUMP TECHNICAL DATA

- Maximum working pressure: 8 bar
- Maximum temperature of the liquid:
  - 5°C ÷ +60°C for CDX 70/05-70/07-90/10
  - 5°C ÷ +90°C for the rest of CDX range
  - 5°C ÷ +110°C in the H-HS-HW-HSW-E version
- G1½ suction connection for CDX 200, G1¼ for the rest of the range
- G1 discharge connection
- MEI > 0,1
- For further information please see our Data Book on the web site [www.ebara-europe.com](http://www.ebara-europe.com)

### MOTOR TECHNICAL DATA

- High efficiency IE2 motors starting from 0,75kW
- Self-ventilated 2 pole asynchronous motor
- Class of insulation F
- IP55 Protection degree
- 230V ±10%, 50Hz 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 and casing cover in AISI 304
- Shaft in AISI 303 (part in contact with the liquid)
- Bracket and motor frame in aluminium
- Mechanical seal in:
  - Ceramic/Carbon/NBR (standard)
  - Ceramic/Carbon/FPM (H version)
  - SiC/SiC/FPM (HS version)
  - Tungsten Carbide/Tungsten Carbide/FPM (HW version)
  - SiC/Tungsten Carbide/FPM (HSW version)
  - Ceramic/Graphite/EPDM (E version)
  - Tungsten Carbide/Special Carbon/EPDM (U3CEGG version)

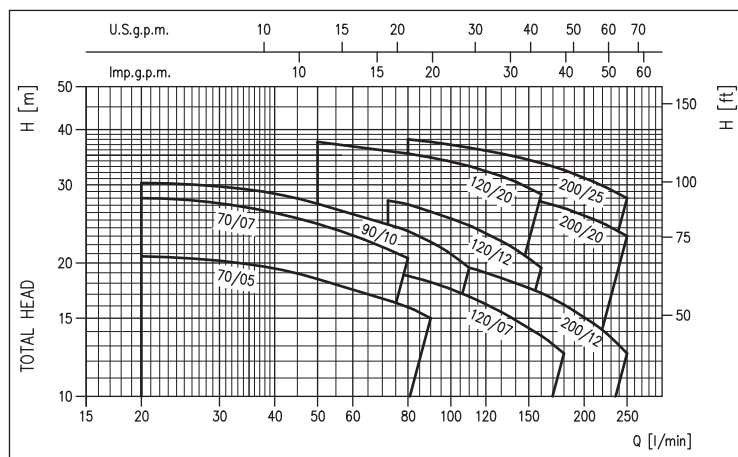
### CONTROL PANELS

- 1EPBH

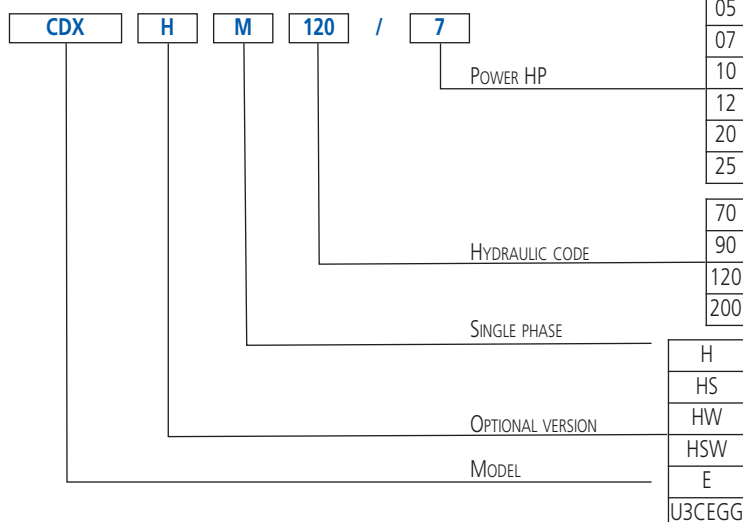
### ACCESSORIES (On request)

- 5 litre 10 bar ¾ EPDM vessel
- 24 litre 8 bar 1" EPDM vessel
- 24 litre 10 bar 1" EPDM vessel
- PVC 5m key float with counter-weight
- PVC 10m key float with counter-weight
- SQUARE-D FSG-2 1.4÷4.6 bar G¼ F pressure switch
- FYG-22 2.8÷7 bar G¼ F pressure switch
- Presscomfort - Pressure regulator
- Press•o•Matic - Variable speed control system
  - (single phase 230V±10% - power supply three phase 220V output - maximum motor power 2.2 kW - 3 HP)

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



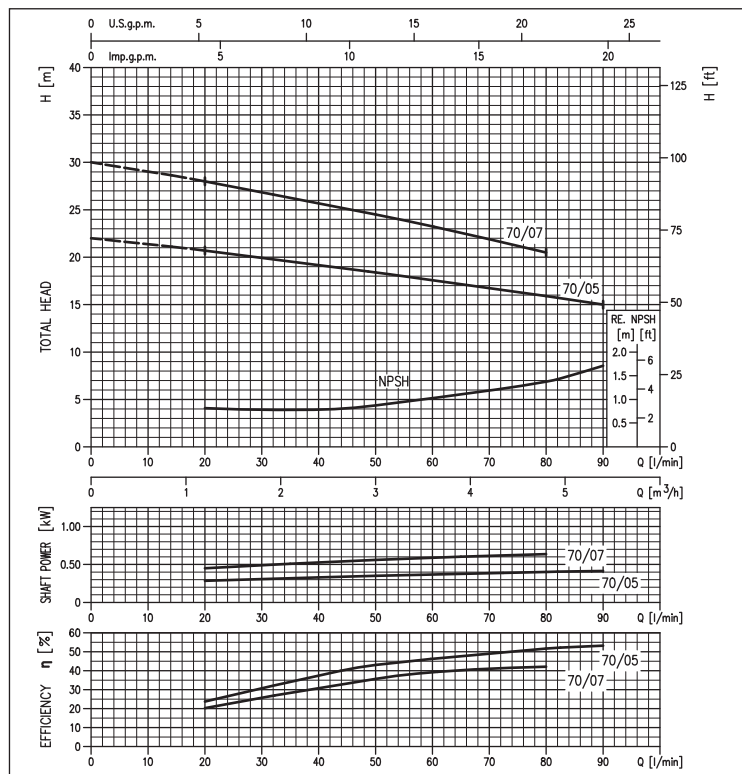
### IDENTIFICATION CODE



## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS in AISI 304

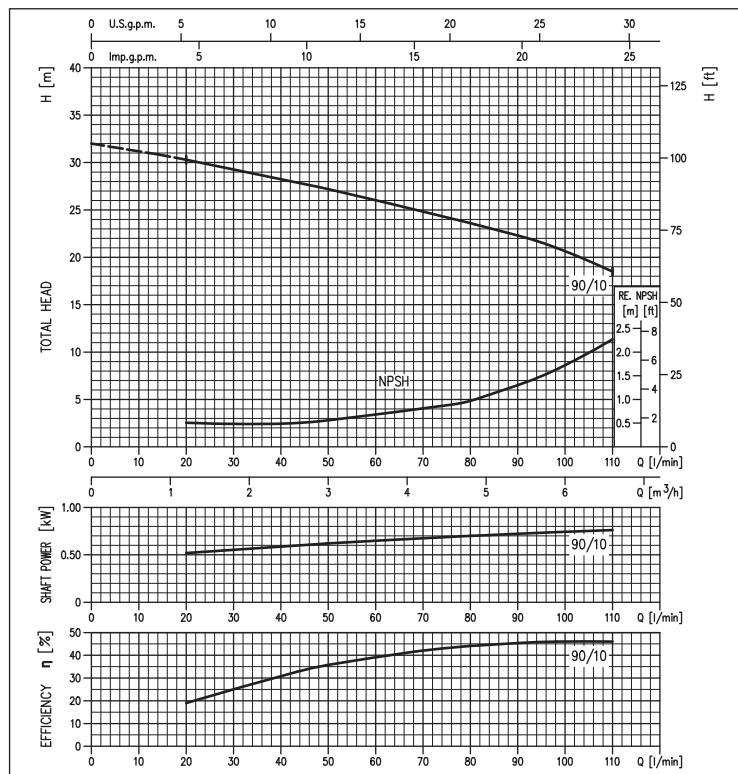
### PERFORMANCE CURVES CDX 70 series

(according to ISO 9906 Attachment A)



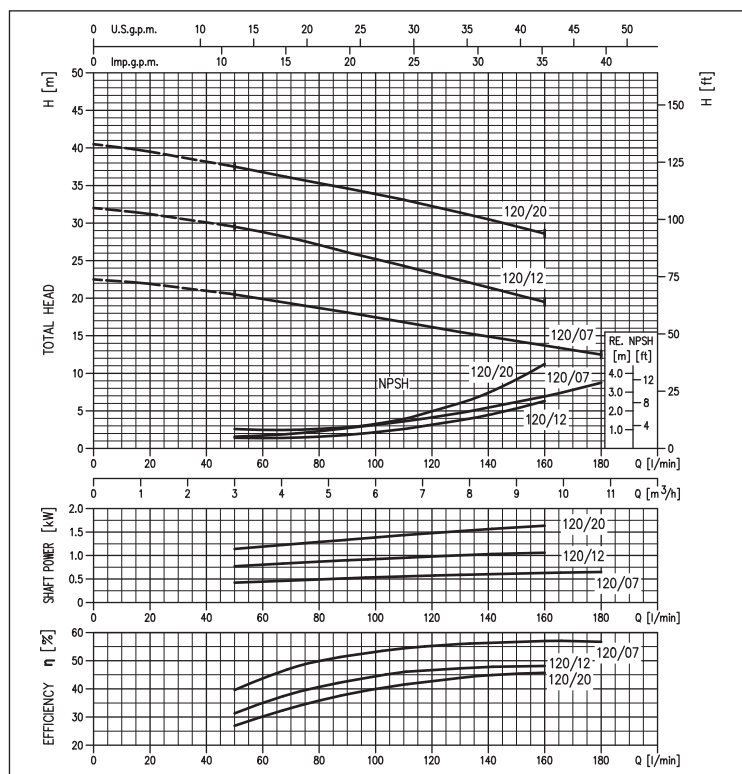
### PERFORMANCE CURVES CDX 90 series

(according to ISO 9906 Attachment A)



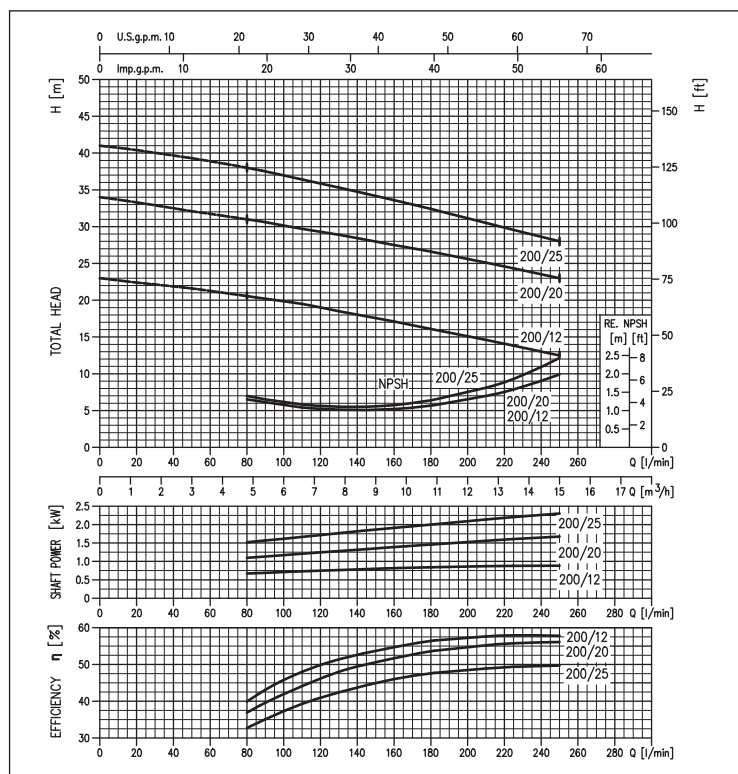
### PERFORMANCE CURVES CDX 120 series

(according to ISO 9906 Attachment A)



### PERFORMANCE CURVES CDX 200 series

(according to ISO 9906 Attachment A)



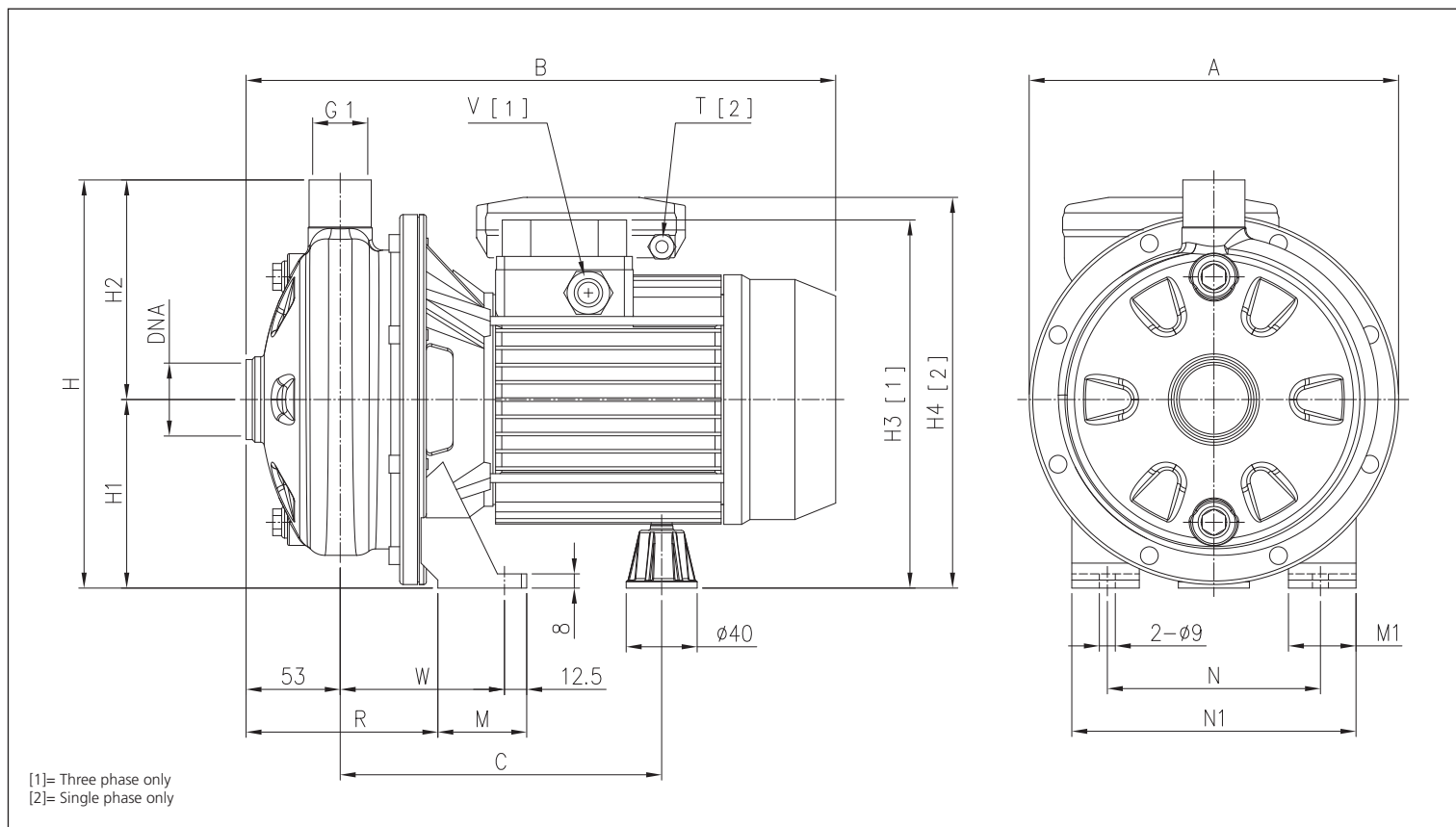
## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### PERFORMANCE TABLE

| Model                |                         | P <sub>2</sub> |      | Q=Flow rate |      |      |      |      |      |      |      |      |      |      |  |
|----------------------|-------------------------|----------------|------|-------------|------|------|------|------|------|------|------|------|------|------|--|
| Single phase<br>230V | Three phase<br>230/400V | [HP]           | [kW] | l/min       | 20   | 50   | 80   | 90   | 110  | 130  | 160  | 180  | 210  | 250  |  |
|                      |                         |                |      | m³/h        | 1,2  | 3    | 4,8  | 5,4  | 6,6  | 7,8  | 9,6  | 10,8 | 12,6 | 15,0 |  |
| H=Head [m]           |                         |                |      |             |      |      |      |      |      |      |      |      |      |      |  |
| CDXM 70/05           | CDX 70/05               | 0,5            | 0,37 | 20,7        | 18,4 | 15,9 | 15,0 | -    | -    | -    | -    | -    | -    | -    |  |
| CDXM 70/07           | CDX 70/07               | 0,8            | 0,55 | 28,0        | 24,5 | 20,5 | -    | -    | -    | -    | -    | -    | -    | -    |  |
| CDXM 90/10           | CDX 90/10               | 1              | 0,75 | 30,3        | 27,2 | 23,6 | 22,3 | 19,5 | -    | -    | -    | -    | -    | -    |  |
| CDXM 120/07          | CDX 120/07              | 0,8            | 0,55 | -           | 20,5 | 18,7 | 18,1 | 16,8 | 15,5 | 13,7 | 12,5 | -    | -    | -    |  |
| CDXM 120/12          | CDX 120/12              | 1,2            | 0,9  | -           | 29,5 | 27,1 | 26,1 | 24,3 | 22,4 | 19,5 | -    | -    | -    | -    |  |
| CDXM 120/20          | CDX 120/20              | 2              | 1,5  | -           | 37,5 | 35,3 | 34,6 | 33,1 | 31,4 | 28,6 | -    | -    | -    | -    |  |
| CDXM 200/12          | CDX 200/12              | 1,2            | 0,9  | -           | -    | 20,7 | 20,2 | 19,5 | 18,5 | 17,1 | 16,1 | 14,6 | 12,5 | -    |  |
| CDXM 200/20          | CDX 200/20              | 2              | 1,5  | -           | -    | 31,0 | 30,6 | 29,7 | 28,9 | 27,5 | 26,6 | 25,1 | 23,0 | -    |  |
| -                    | CDX 200/25              | 2,5            | 1,8  | -           | -    | 38,0 | 37,5 | 36,4 | 35,3 | 33,6 | 32,4 | 30,5 | 28,0 | -    |  |

### DIMENSIONS



### DIMENSIONAL TABLE

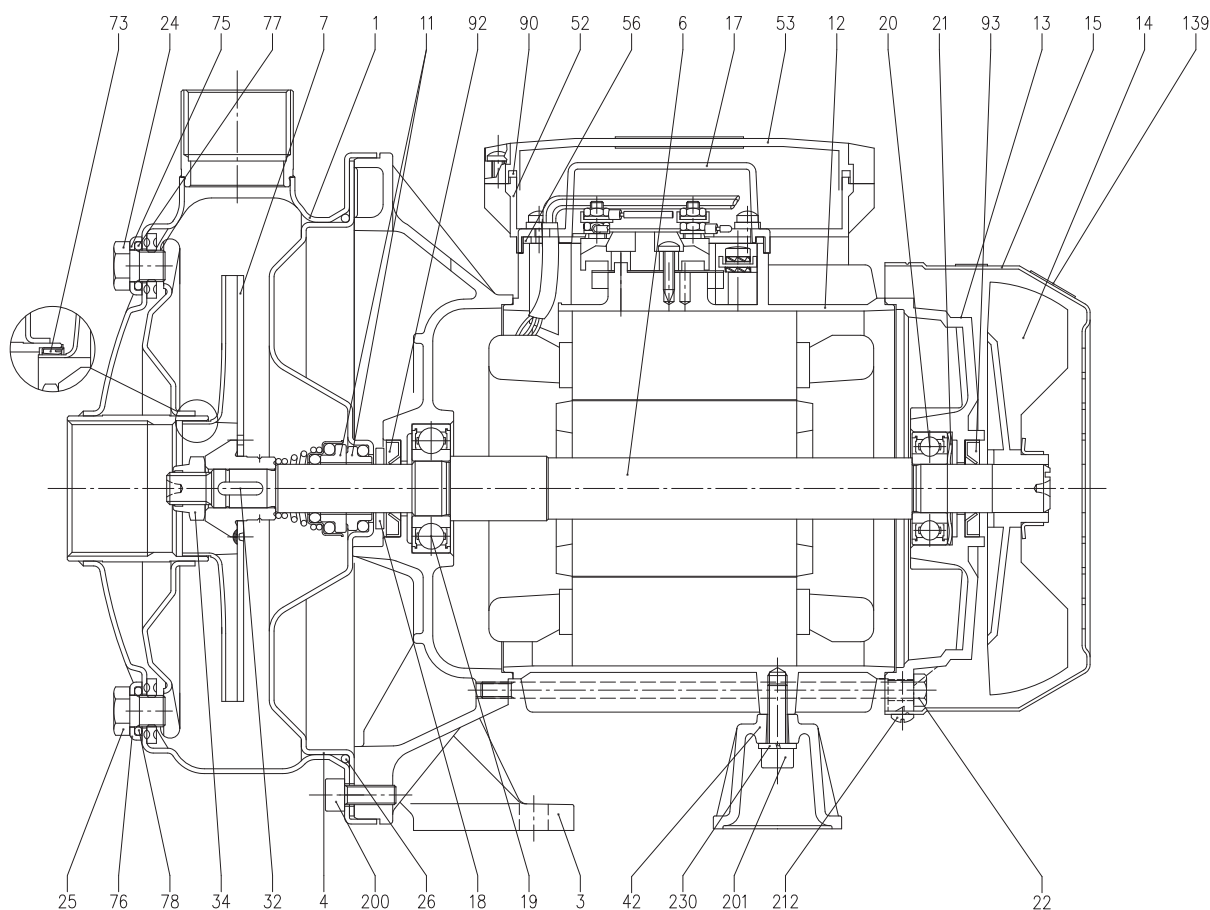
| Model         | A   | B [2] | B [1] | C     | H     | H1  | H2    | H3 [1] | H4 [2] | M  | M1 | N   | N1  | R     | T [2]  | V [1] | W    | DNA  | Weight [kg]       |
|---------------|-----|-------|-------|-------|-------|-----|-------|--------|--------|----|----|-----|-----|-------|--------|-------|------|------|-------------------|
| CDX(M) 70/05  | 208 | 321   | 320   | 181   | 229,5 | 106 | 123,5 | 207    | 216    | 50 | 38 | 120 | 160 | 108   | PG11   | PG11  | 92,5 | G1 ¼ | 8,3 [2] 8,3 [1]   |
| CDX(M) 70/07  | 208 | 321   | 320   | 181   | 229,5 | 106 | 123,5 | 207    | 216    | 50 | 38 | 120 | 160 | 108   | PG11   | PG11  | 92,5 | G1 ¼ | 9,8 [2] 9,7 [1]   |
| CDX(M) 90/10  | 208 | 321   | 320   | 181   | 229,5 | 106 | 123,5 | 207    | 216    | 50 | 38 | 120 | 160 | 108   | PG11   | PG11  | 92,5 | G1 ¼ | 11,0 [2] 11,0 [1] |
| CDX(M) 120/07 | 208 | 321   | 320   | 181   | 229,5 | 106 | 123,5 | 207    | 216    | 50 | 38 | 120 | 160 | 108   | PG11   | PG11  | 92,5 | G1 ¼ | 9,6 [2] 9,5 [1]   |
| CDX(M) 120/12 | 208 | 321   | 332   | 181   | 229,5 | 106 | 123,5 | 207    | 235    | 50 | 38 | 120 | 160 | 108   | PG11   | PG11  | 92,5 | G1 ¼ | 11,8 [2] 12,4 [1] |
| CDX(M) 120/20 | 232 | 346,5 | 359   | 198,5 | 250   | 118 | 132   | 237    | 248,5  | 55 | 40 | 140 | 180 | 105,5 | PG13,5 | PG11  | 95   | G1 ½ | 16,5 [2] 17,2 [1] |
| CDX(M) 200/12 | 208 | 321   | 332   | 181   | 229,5 | 106 | 123,5 | 207    | 235    | 50 | 38 | 120 | 160 | 108   | PG13,5 | PG11  | 92,5 | G1 ½ | 11,4 [2] 12,2 [1] |
| CDX(M) 200/20 | 208 | 346,5 | 359   | 198,5 | 229,5 | 106 | 123,5 | 225    | 236,5  | 55 | 40 | 140 | 180 | 105,5 | PG13,5 | PG11  | 95   | G1 ½ | 15,3 [2] 16,1 [1] |
| CDX 200/25    | 232 | -     | 359   | 198,5 | 250   | 118 | 132   | 237    | -      | 55 | 40 | 140 | 180 | 105,5 | -      | PG11  | 95   | G1 ½ | - [2] 15,9 [1]    |

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

## SINGLE IMPELLER CENTRIFUGAL ELECTRIC PUMPS

in AISI 304

### SECTIONAL VIEW



### MATERIALS TABLE

| Ref. | Name                   | Materials                                   | Ref. | Name                      | Materials                  |
|------|------------------------|---------------------------------------------|------|---------------------------|----------------------------|
| 1    | Pump casing            | EN 1.4301 (AISI 304)                        | 25   | Plug                      | AISI 303                   |
| 3    | Motor bracket          | Aluminium                                   | 26   | O-Ring [3]                | NBR                        |
| 4    | Casing cover           | EN 1.4301 (AISI 304)                        | 32   | Key                       | AISI 316                   |
| 6    | Shaft                  | AISI 303<br>Part in contact with the liquid | 34   | Impeller nut              | EN 1.4301 (AISI 304)       |
| 7    | Impeller               | EN 1.4301 (AISI 304)                        | 42   | Motor support             | Aluminium                  |
| 11   | Mechanical seal [3]    | Ceramic/Carbon/NBR                          | 52   | Terminal box [2]          | ABS                        |
| 12   | Motor frame            | -                                           | 53   | Terminal box cover [2]    | ABS                        |
| 13   | Motor cover            | Aluminium                                   | 56   | Terminal box cover gasket | NBR                        |
| 14   | Fan                    | PA                                          | 73   | Casing ring [4]           | EN 1.4301 (AISI 304)       |
| 15   | Fan cover              | Galvanised Fe P04                           | 75   | Washer                    | EN 1.4301 (AISI 304)       |
| 16   | Terminal box           | -                                           | 76   | Washer                    | EN 1.4301 (AISI 304)       |
| 17   | Terminal box cover [1] | Aluminium                                   | 77   | O-Ring [3]                | NBR                        |
| 18   | Splash ring            | NBR                                         | 78   | O-Ring [3]                | NBR                        |
| 19   | Bearing (pump side)    | -                                           | 90   | Gasket [2]                | NBR                        |
| 20   | Bearing (motor side)   | -                                           | 92   | Seal ring                 | -                          |
| 21   | Adjusting ring         | Steel C70                                   | 93   | Seal ring                 | -                          |
| 22   | Tie-rod                | Galvanised Fe 42                            | 110  | Motorprotector [2]        | -                          |
| 23   | Capacitor [2]          | -                                           | 200  | Screw (pump body)         | Stainless steel A2 UNI7323 |
| 24   | Plug                   | AISI 303                                    |      |                           |                            |

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

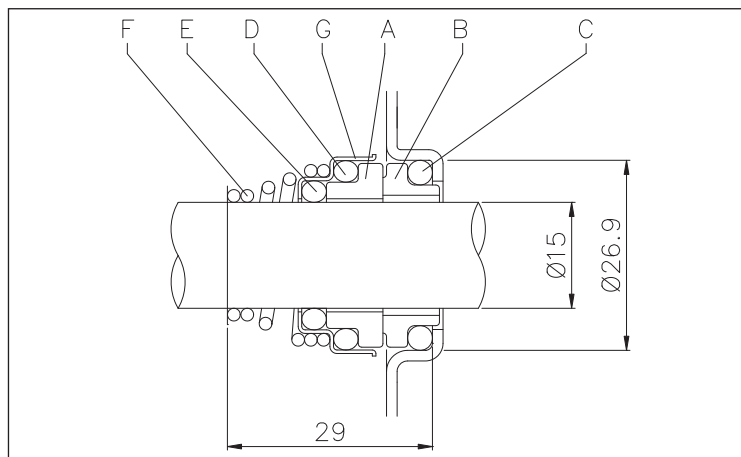
[3]= FPM for CDXH, CDXHS, CDXHW, CDXHSW, EPDM for CDE

[4]= NBR for CDX 70/05, 70/07, 90/10, FPM for CDX H-HS-HW-HSW 70/05, 70/07, 90/10

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in AISI 304

### MECHANICAL 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 | U3CEGG version   |
| A    | Rotating part   | Ceramic   | SiC        | Tungsten Carbide | SiC              | Ceramic   | Tungsten Carbide |
| B    | Fixed part      | Carbon    | SiC        | Tungsten Carbide | Tungsten Carbide | Carbon    | Special Carbon   |
| C    | O-Ring          | FPM       | FPM        | FPM              | FPM              | EPDM      | EPDM             |
| D    | O-Ring          | FPM       | FPM        | FPM              | FPM              | EPDM      | EPDM             |
| E    | O-Ring          | FPM       | FPM        | FPM              | FPM              | EPDM      | EPDM             |
| F    | Spring          | AISI 316  | AISI 316   | AISI 316         | AISI 316         | AISI 316  | AISI 316         |
| G    | Structure/frame | AISI 304  | AISI 316   | AISI 316         | AISI 316         | AISI 316  | AISI 316         |

### ELECTRIC DATA TABLE

| Model             |                      | P <sub>2</sub> |      | Efficiency   |             | Capacitor       |                | Efficiency (%) |      |      | P <sub>1</sub>    |                  | Absorbed Current [A] |                  |                  |
|-------------------|----------------------|----------------|------|--------------|-------------|-----------------|----------------|----------------|------|------|-------------------|------------------|----------------------|------------------|------------------|
| Single phase 230V | Three phase 230/400V | [HP]           | [kW] | Single phase | Three phase | Single phase µF | V <sub>c</sub> | 50%            | 75%  | 100% | Single phase [kW] | Three phase [kW] | Single phase 230V    | Three phase 230V | Three phase 400V |
| CDXM 70/05        | CDX 70/05            | 0,5            | 0,37 | -            | -           | 12,5            | 450            | -              | -    | -    | 0,75              | 0,68             | 3,4                  | 2,4              | 1,4              |
| CDXM 70/07        | CDX 70/07            | 0,75           | 0,55 | -            | -           | 16              | 450            | -              | -    | -    | 1,1               | 1,0              | 5,0                  | 3,5              | 2,0              |
| CDXM 90/10        | CDX 90/10            | 1              | 0,75 | -            | IE2         | 20              | 450            | 77,2           | 80,9 | 81,3 | 1,2               | 1,05             | 5,6                  | 3,3              | 1,9              |
| CDXM 120/07       | CDX 120/07           | 0,75           | 0,55 | -            | IE2         | 16              | 450            | -              | -    | -    | 1,0               | 1,0              | 4,6                  | 3,2              | 1,85             |
| CDXM 120/12       | CDX 120/12           | 1,2            | 0,9  | -            | IE2         | 31,5            | 450            | 79,0           | 81,7 | 81,6 | 1,6               | 1,45             | 6,9                  | 4,5              | 2,6              |
| CDXM 120/20       | CDX 120/20           | 2              | 1,5  | -            | IE2         | 40              | 450            | 80,3           | 83,4 | 83,8 | 2,1               | 2,09             | 9,3                  | 7,0              | 4,0              |
| CDXM 200/12       | CDX 200/12           | 1,2            | 0,9  | -            | IE2         | 31,5            | 450            | 79,0           | 81,7 | 81,6 | 1,4               | 1,35             | 6,3                  | 4,3              | 2,5              |
| CDXM 200/20       | CDX 200/20           | 2              | 1,5  | -            | IE2         | 40              | 450            | 80,3           | 83,4 | 83,8 | 2,3               | 2,22             | 10,2                 | 7,4              | 4,3              |
| -                 | CDX 200/25           | 2,5            | 1,8  | -            | IE2         | -               | -              | 83,0           | 84,4 | 83,8 | -                 | 2,87             | -                    | 8,7              | 5,0              |

### NOISE DATA TABLE

| Model             |                      | P <sub>2</sub> |      | L <sub>pA</sub> - dB(A)* |
|-------------------|----------------------|----------------|------|--------------------------|
| Single phase 230V | Three phase 230/400V | [HP]           | [kW] |                          |
| CDXM 70/05        | CDX 70/05            | 0,5            | 0,37 | 61                       |
| CDXM 70/07        | CDX 70/07            | 0,75           | 0,55 | 62                       |
| CDXM 90/10        | CDX 90/10            | 1              | 0,75 | 62                       |
| CDXM 120/07       | CDX 120/07           | 0,75           | 0,55 | 62                       |
| CDXM 120/12       | CDX 120/12           | 1,2            | 0,9  | 62                       |
| CDXM 120/20       | CDX 120/20           | 2              | 1,5  | 64                       |
| CDXM 200/12       | CDX 200/12           | 1,2            | 0,9  | 62                       |
| CDXM 200/20       | CDX 200/20           | 2              | 1,5  | 64                       |
| -                 | CDX 200/25           | 2,5            | 1,8  | 65                       |

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