

motralec

4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48
Demande de prix / e-mail : service-commercial@motralec.com

www.motralec.com



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CENTRIFUGAL PUMPS

CDA

SPECIFICATIONS

50Hz

| PUMP | | |
|-----------------------------|--------------------------------|---|
| Liquid | Type of liquid | Clean water |
| Handled | Max temperature [°C] | 40 (CDA 0.75 - 1.00) 90 (CDA 1.50-2.00-3.00-4.00-5.50) |
| | Maximum working pressure [MPa] | 0.6 (CDA 0.75-1.00) 1.0 (CDA 1.50-2.00-3.00-4.00-5.50) |
| Construction | Impeller | Twin closed type |
| | Shaft seal type | Mechanical seal |
| | Bearing | Sealed ball bearing |
| Pipe Connection | Suction | G1" (CDA 0.75-1.00) G1"¼ (CDA 1.50-2.00-3.00) G1"½ (CDA 4.00-5.50) |
| | Discharge | G1" (CDA 0.75-1.00-1.50-2.00-3.00) G1"¼ (CDA 4.00-5.50) |
| Material | Casing | Cast iron |
| | Impeller | Noryl® (CDA 0.75-1.00) Brass (CDA 1.50 - 2.00-3.00-4.00-5.50) |
| | Casing cover | AISI 304 (CDA 0.75-1.00) Cast iron (CDA 2.00-3.00-4.00-5.50) |
| | Shaft seal | Ceramic/Carbon/NBR |
| | Shaft | AISI 416 (CDA 0.75-1.00) AISI 303 (CDA 1.50-2.00-3.00) AISI 304 (CDA 4.00-5.50) |
| | Bracket | Aluminium (CDA 0.75-1.00) Cast iron (CDA 1.50-2.00-3.00-4.00-5.50) |
| Applicable standard of test | | ISO 9906 – Annex A |

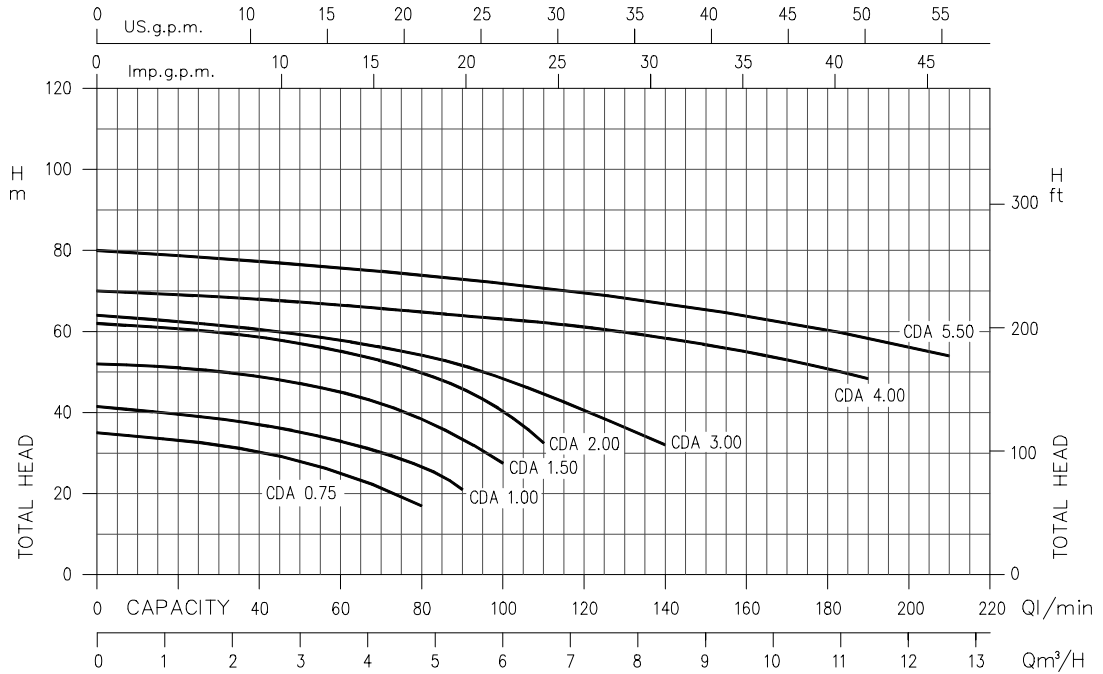
| MOTOR | | |
|--|---|----------------------|
| Type | Electric - TEFC | |
| | Single Phase | Three Phase |
| No. of Poles | 2 | |
| Synchronous speed [min ⁻¹] | 3000 | |
| Insulation Class | F | |
| Protection degree | IP 44 | |
| Power rating | [kW] | 0.55 ÷ 1.5 |
| | [HP] | 0.75 ÷ 2 |
| Frequency [Hz] | 50 Hz | 50 Hz |
| Voltage [V] | 230V ±10% | 230/400 ±10% |
| Capacitor | Built in | - |
| Over load protection | Built in | Provided by the user |
| Casing material | Aluminium | |
| Base material/motor support | Cast iron / Plastic foot | |
| Dimensions of cable entry | PG11 - PG13.5 - G 1/2 (see dimensions page 400) | |

CENTRIFUGAL PUMPS

CDA

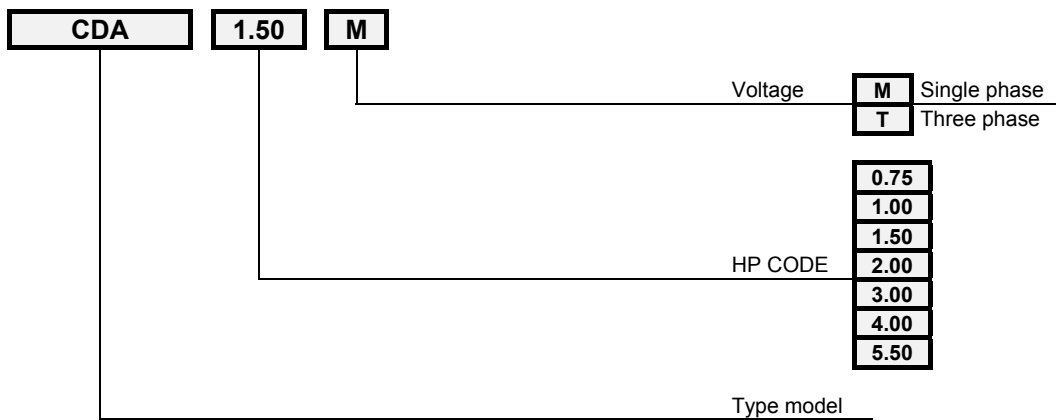
SELECTION CHART

50Hz



| Type pumps | | kW | HP | Q=Capacity | | | | | | | | | | | |
|--------------------------------|-----------------------------------|---|------|------------|------|------|------|------|------|------|------|------|------|-----|--|
| Single Phase 230 V 50 Hz | Three Phase 230/400 V 50 Hz | | | l/min 20 | 40 | 50 | 80 | 90 | 100 | 110 | 140 | 170 | 190 | 210 | |
| | | m³/h 1.2 2.4 3 4.8 5.4 6.6 6.6 8.4 10.2 11.4 12.6 | | | | | | | | | | | | | |
| | | H=Total manometric head in meters | | | | | | | | | | | | | |
| CDA 0.75 M | CDA 0.75 T | 0.55 | 0.75 | 33 | 30.2 | 27.9 | 17 | - | - | - | - | - | - | | |
| CDA 1.00 M | CDA 1.00 T | 0.75 | 1 | 39.5 | 37 | 35.2 | 27 | 21 | - | - | - | - | - | | |
| CDA 1.50 M | CDA 1.50 T | 1.1 | 1.5 | 50.8 | 48.8 | 47.1 | 38.4 | 33.4 | 27.5 | - | - | - | - | | |
| CDA 2.00 M | CDA 2.00 T | 1.5 | 2 | 60.5 | 58.6 | 56.9 | 49.8 | 46.5 | 40.3 | 32.5 | - | - | - | | |
| - | CDA 3.00 T | 2.2 | 3 | - | 60.5 | 59.3 | 54.1 | 51.6 | 48.4 | 44.6 | 32 | - | - | | |
| - | CDA 4.00 T | 3 | 4 | - | - | 67 | 64.8 | 63.9 | 62.5 | 62 | 58 | 53.5 | 48 | | |
| - | CDA 5.50 T | 4 | 5.5 | - | - | 76.5 | 73.9 | 72.9 | 71.8 | 70.5 | 66.8 | 62 | 58.3 | | |

TYPE KEY:



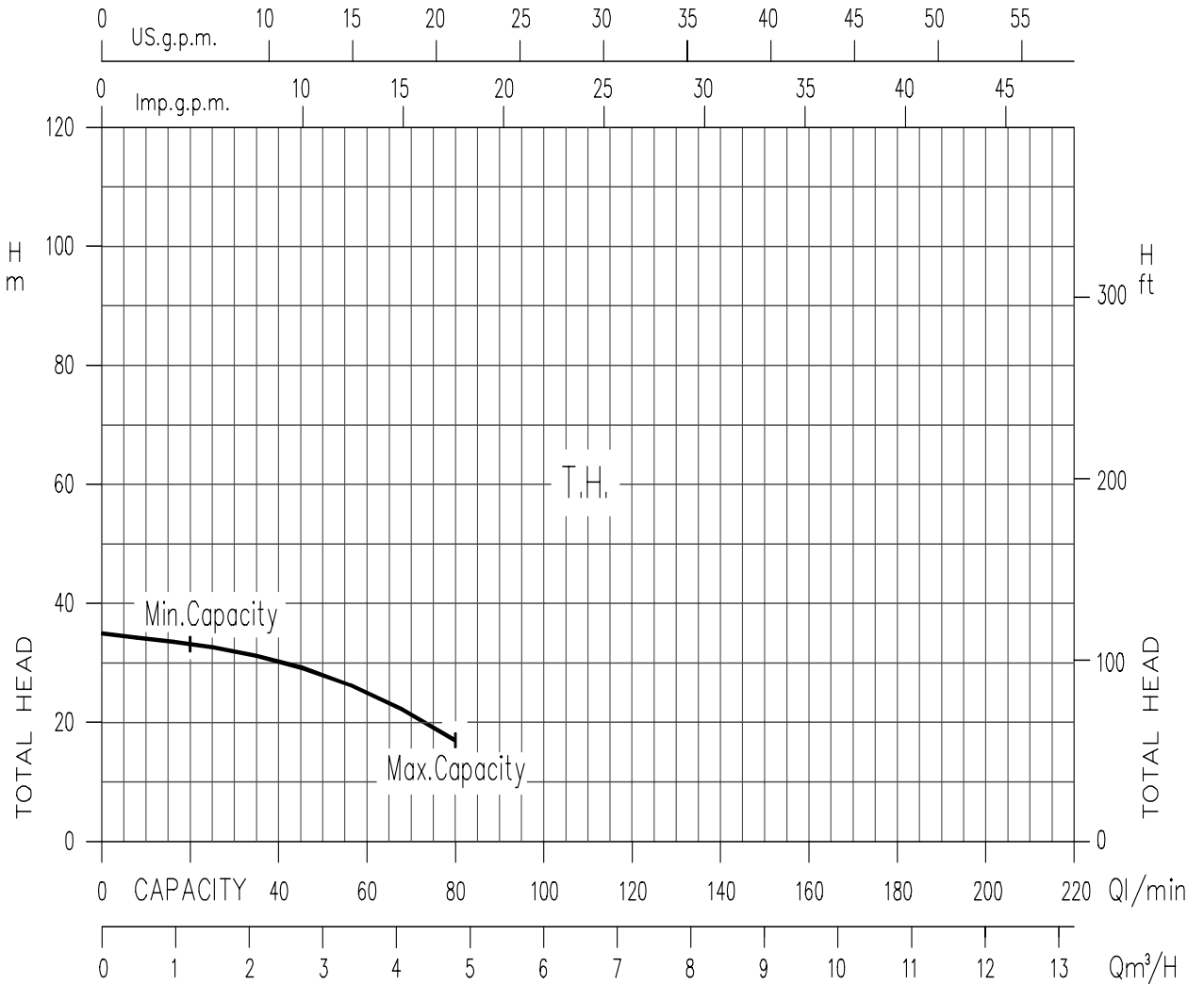
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 0.75 (0.55 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 122/122 mm
 Applicable standard of test: ISO 9906 - Annex A

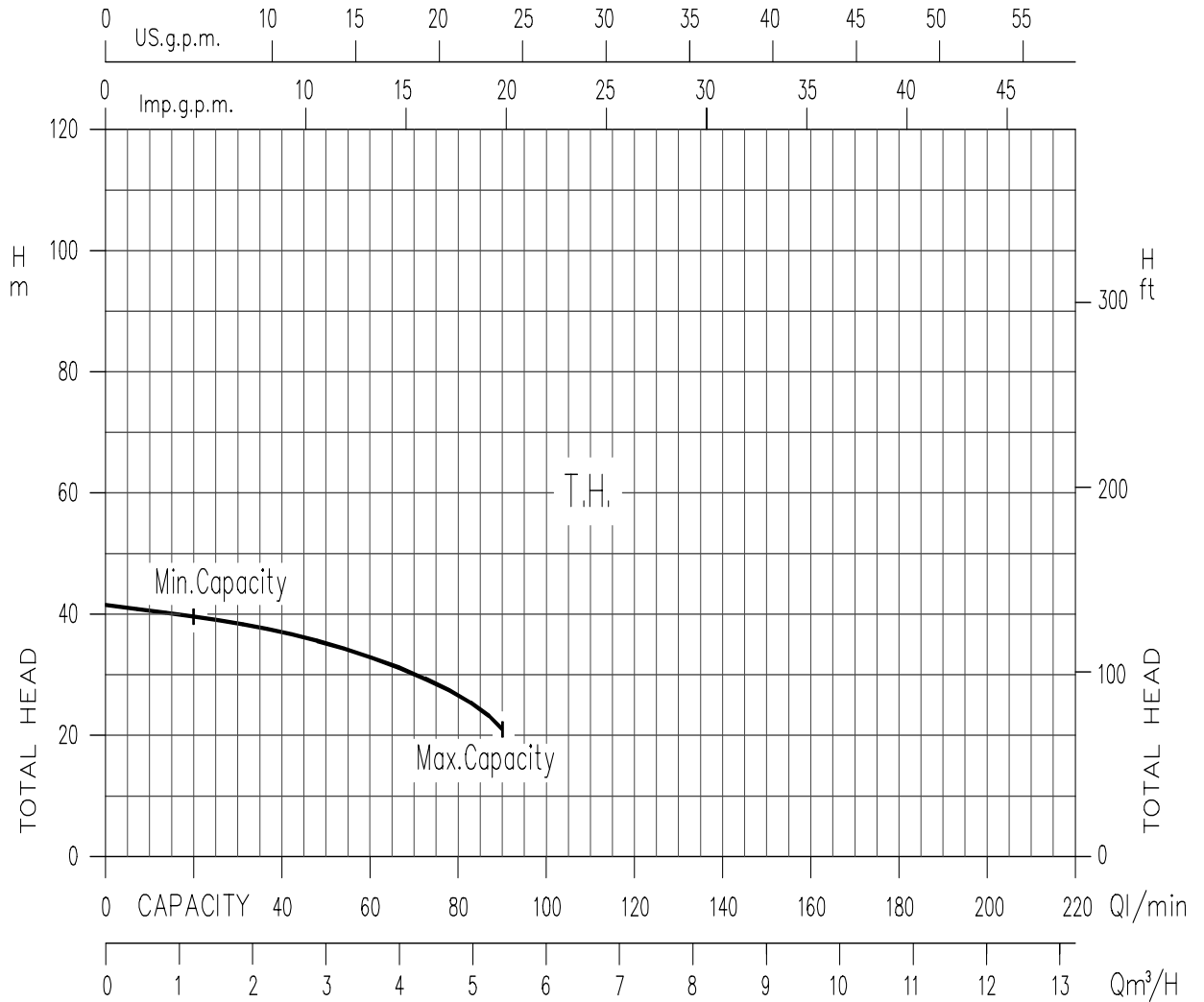
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 1.00 (0.75 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 130/130 mm
 Applicable standard of test: ISO 9906 - Annex A

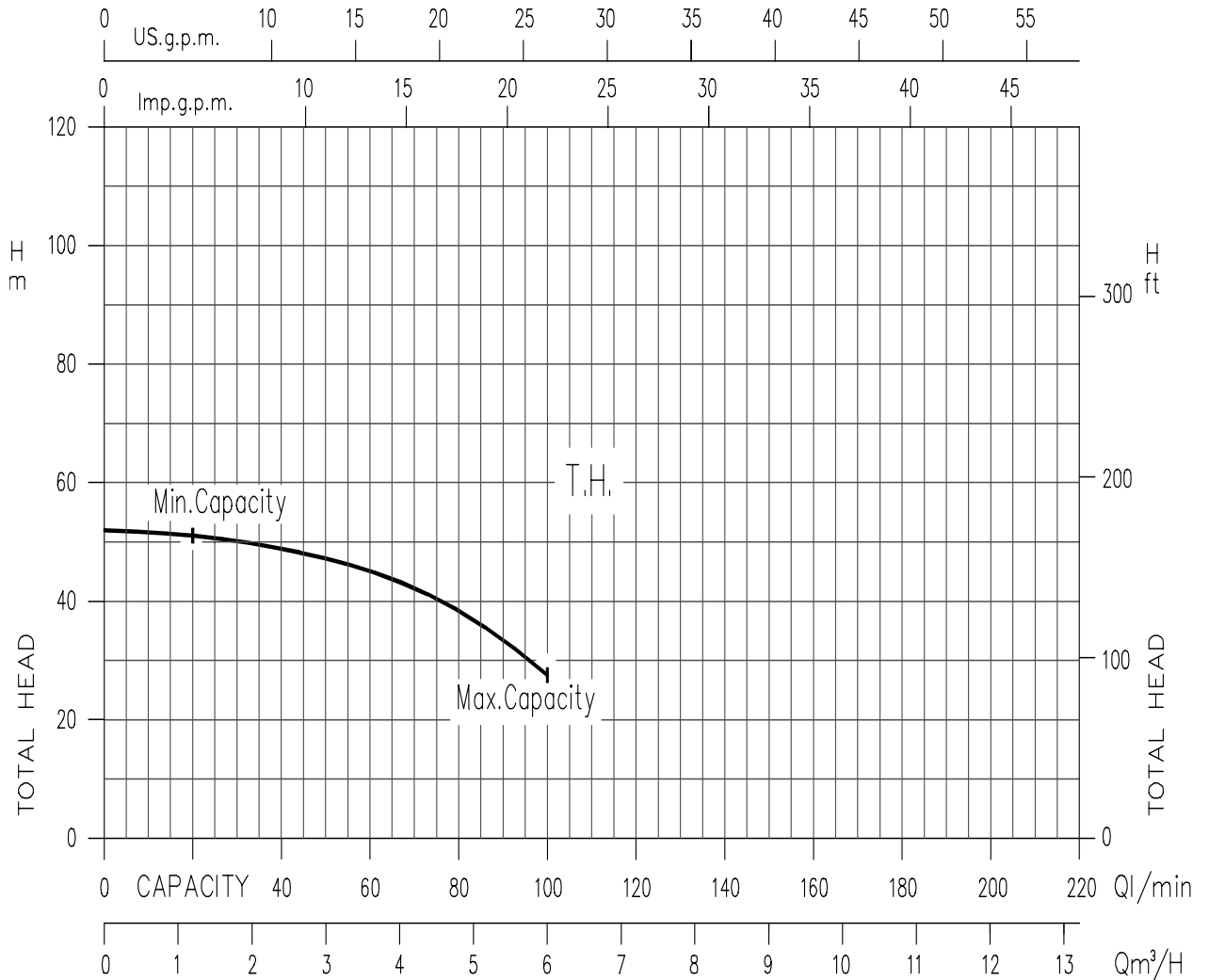
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 1.50 (1.1 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 143/143 mm
 Applicable standard of test: ISO 9906 - Annex A

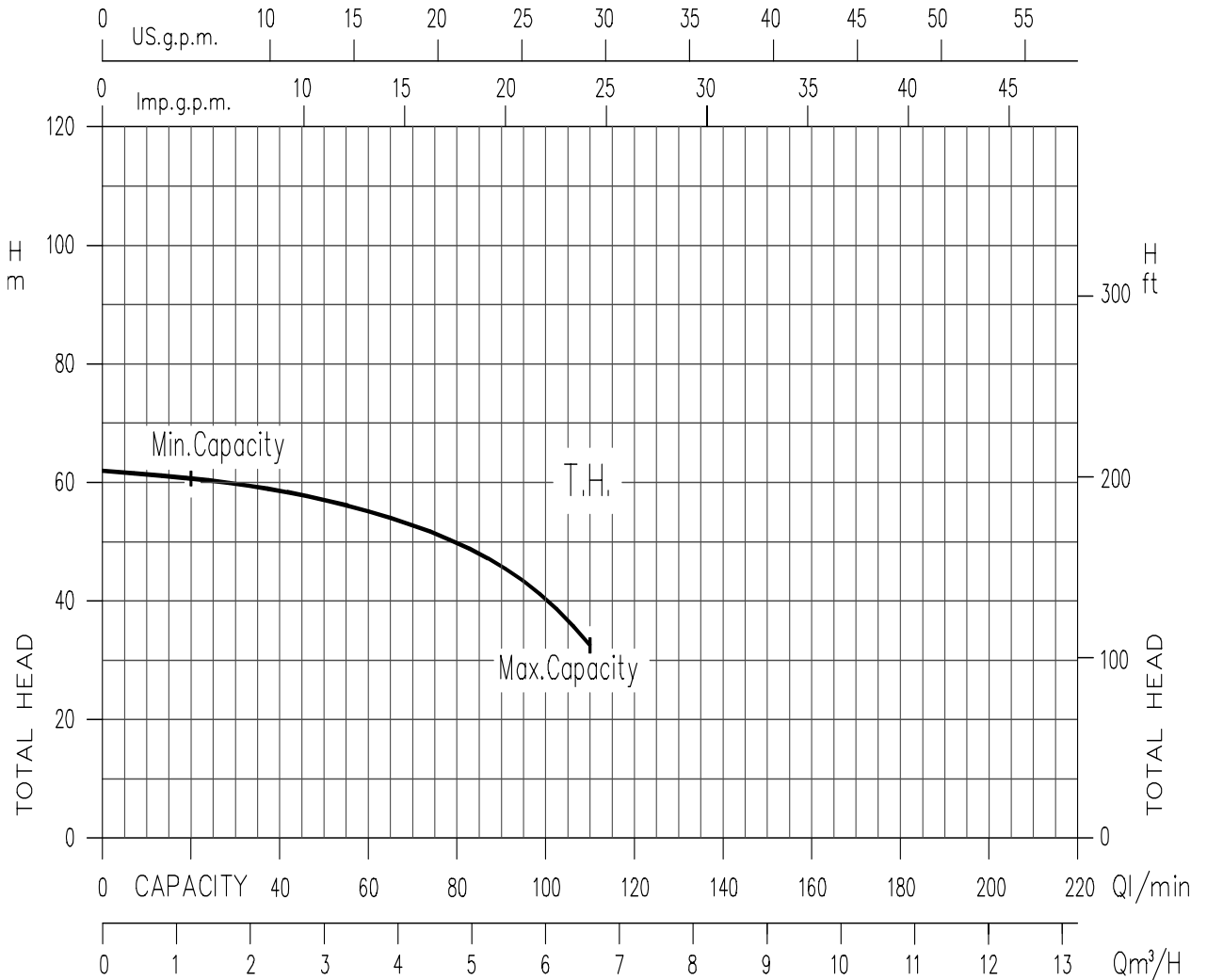
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

CDA 2.00 (1.5 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹



Temperature of water: 20°C
Impeller diameter = 153/153 mm
Applicable standard of test: ISO 9906 - Annex A

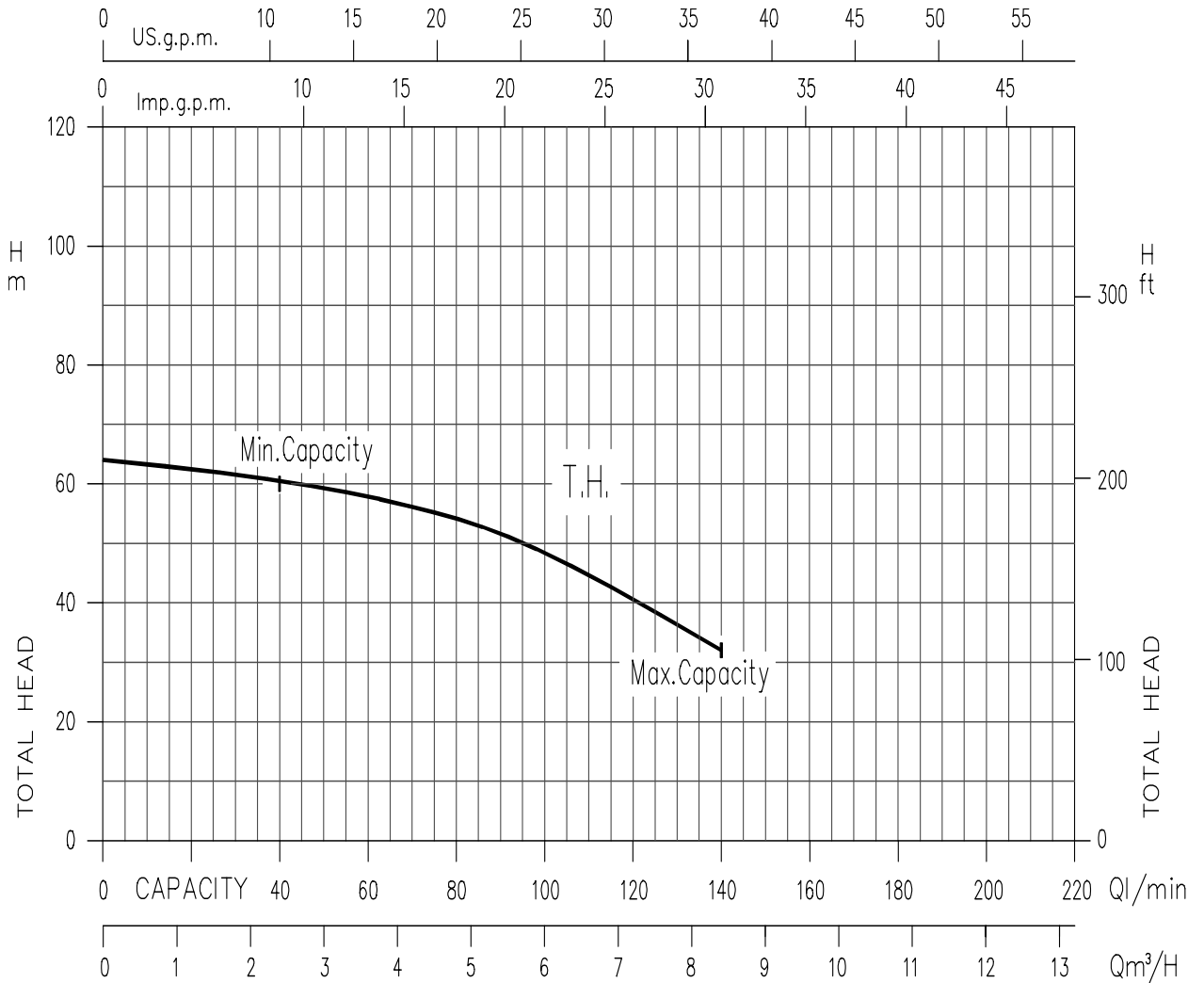
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 3.00 (2.2 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 156/156 mm
 Applicable standard of test: ISO 9906 - Annex A

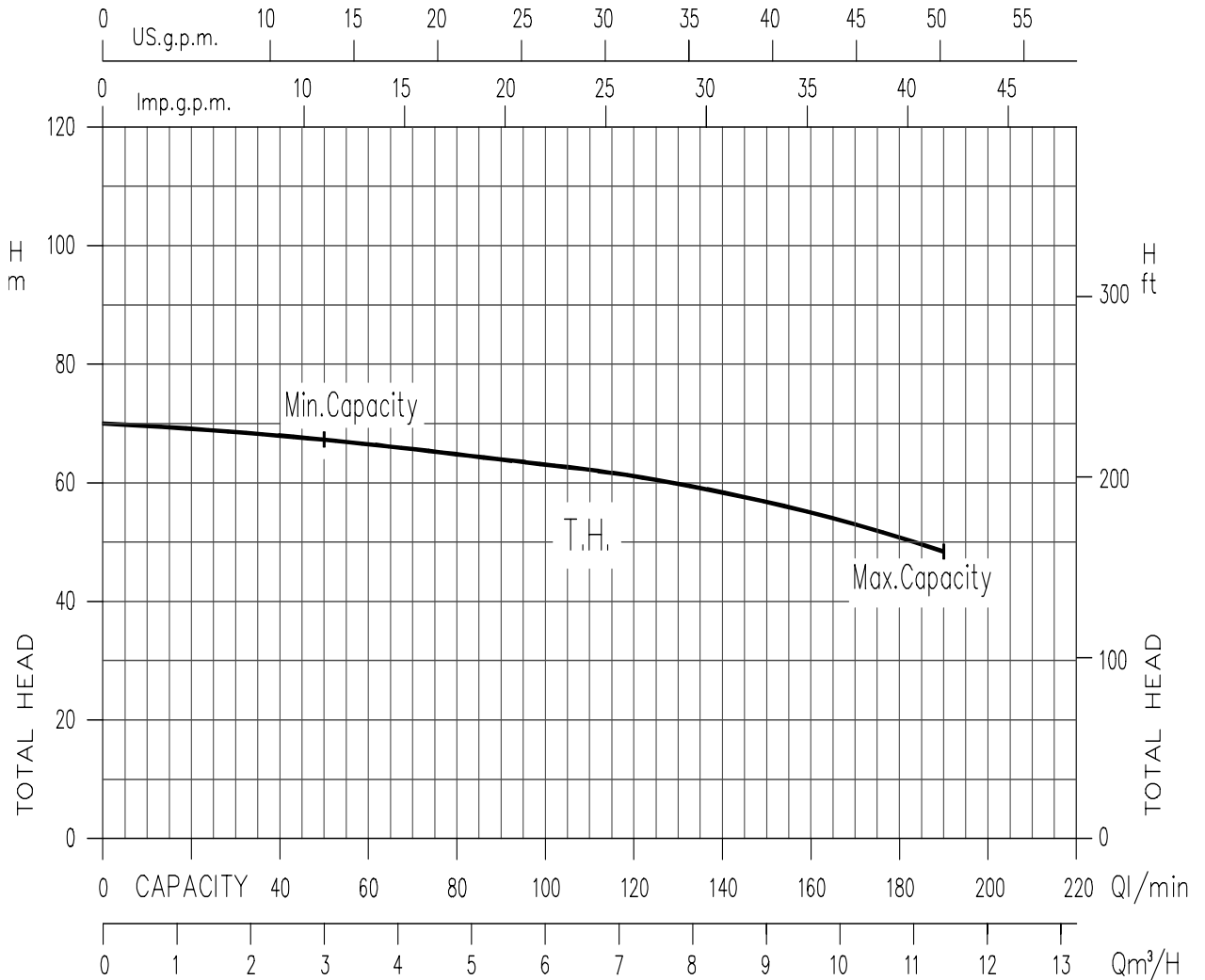
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 4.00 (3 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 167/167 mm
 Applicable standard of test: ISO 9906 - Annex A

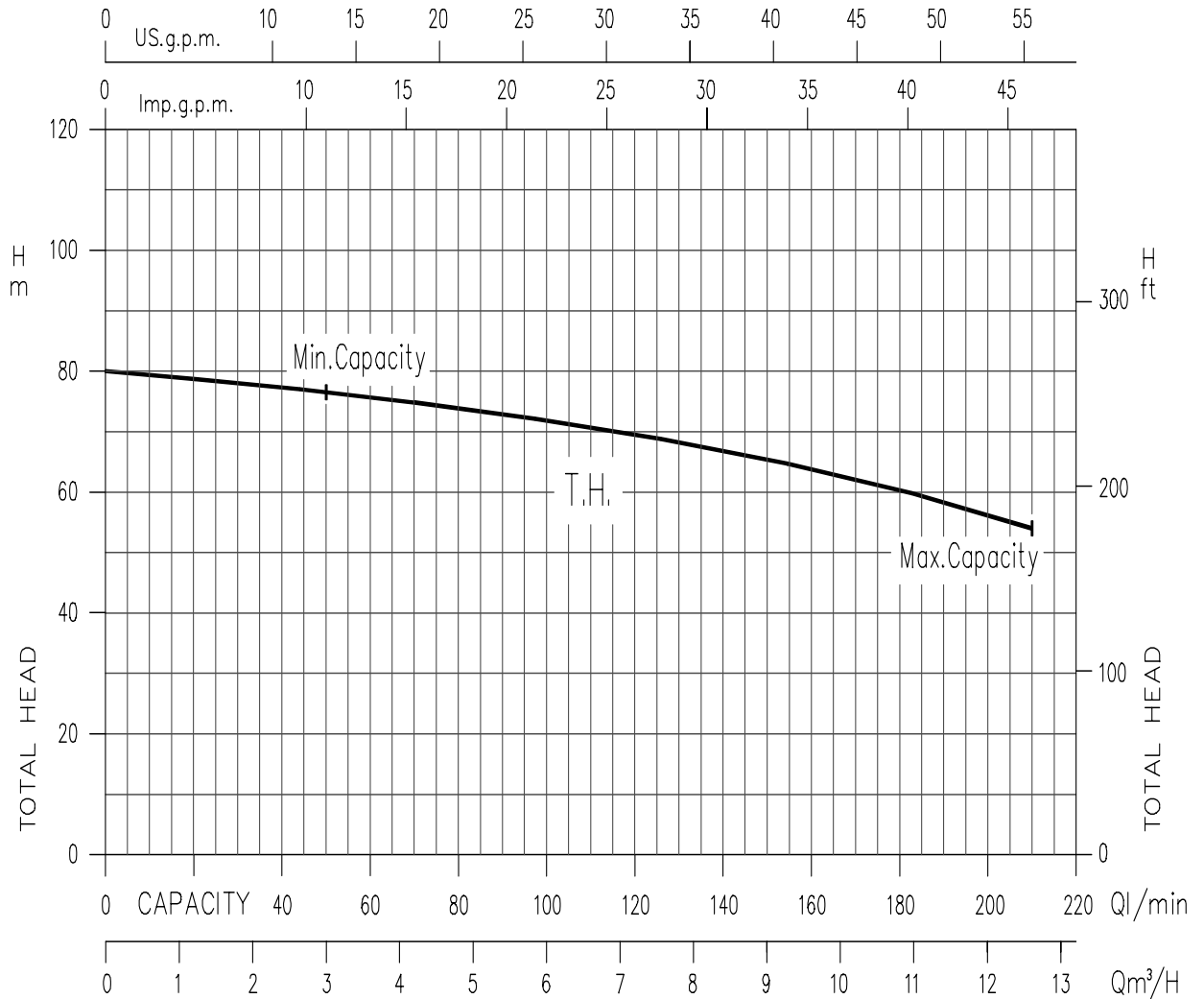
CENTRIFUGAL PUMPS

CDA

PERFORMANCE CURVE

50Hz

**CDA 5.50 (4 kW)
SYNCHRONOUS SPEED : 3000 min⁻¹**



Temperature of water: 20°C
 Impeller diameter = 179/179 mm
 Applicable standard of test: ISO 9906 - Annex A

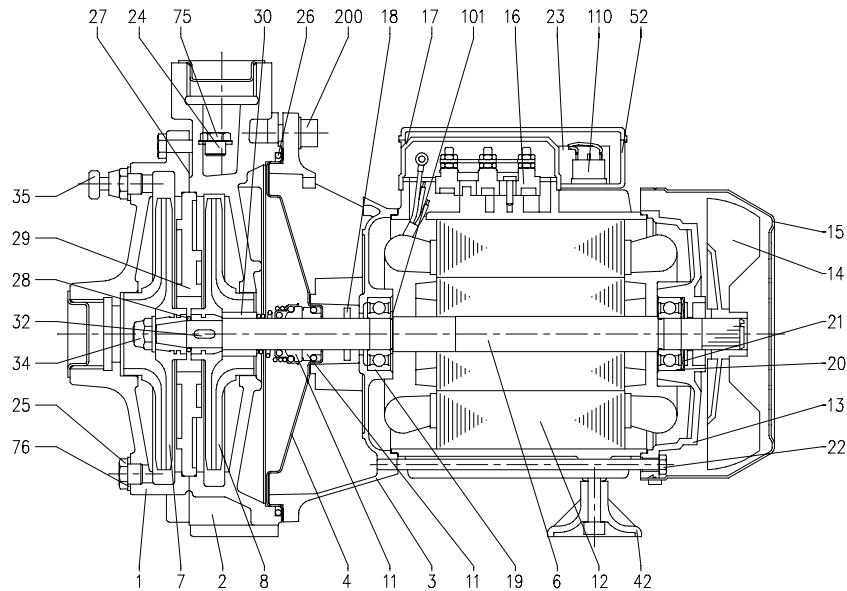
CENTRIFUGAL PUMPS

CDA

CONSTRUCTIONS

50Hz

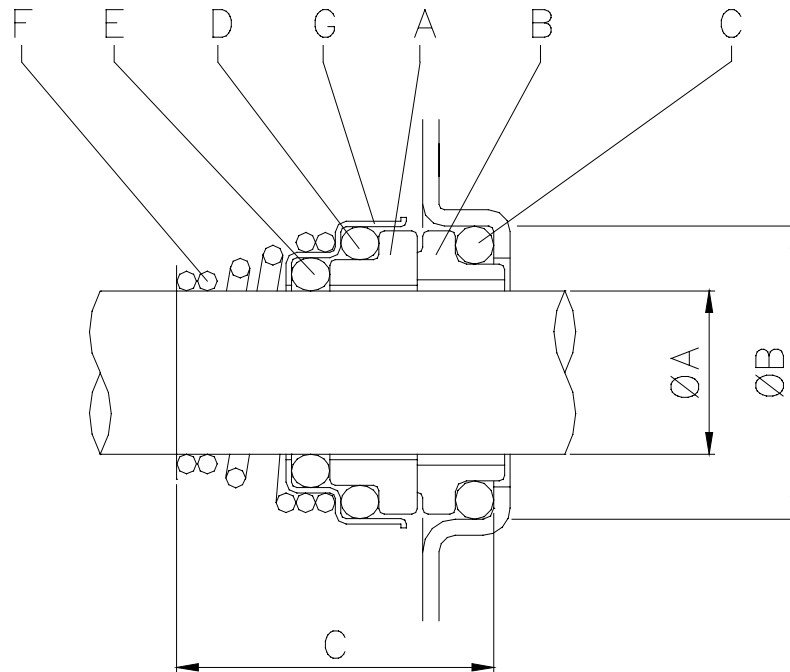
SECTIONAL VIEW



| N° | PART NAME | MATERIAL | NO.FOR 1 UNIT | N° | PART NAME | MATERIAL | NO.FOR 1 UNIT |
|----|-------------------------|--------------------|------------------|-----|------------------------|-----------------------------|------------------|
| 1 | Casing | Cast iron | 1 | 23 | Capacitor [1] | - | 1 |
| 2 | Casing | Cast iron | 1 | 24 | Priming plug | Brass | 1 |
| 3 | Motor bracket | [8] | 1 | 25 | Drain plug | Brass | 1 |
| 4 | Casing cover | [9] | 1 | 26 | O-ring | NBR | 1 |
| 6 | Shaft with rotor | [6] | 1 | 27 | Gasket | Compression cellulose fibre | 1 |
| 7 | Impeller | [4] | 1 | 28 | O-ring | NBR | 1 |
| 8 | Impeller | [4] | 1 | 29 | Intermediate plate | Cast iron | 1 |
| 11 | Mechanical seal [7] | Carbon/Ceramic/NBR | 1 | 30 | Mechanical seal spacer | Brass | 1 |
| 12 | Motor frame with stator | - | 1 | 32 | Key | AISI 304 | 1 |
| 13 | Motor cover | Aluminium | 1 | 34 | Impeller nut [3] | AISI 304 | 1 |
| 14 | Fan | Polypropilene | 1 | 35 | Air breather valve | - | 1 |
| 15 | Fan cover | Fe P04 Zinked | 1 | 42 | Foot | PVC | 1 |
| 16 | Terminal box | - | 1 | 52 | Terminal box [1] | Polypropilene | 1 |
| 17 | Terminal box cover [2] | Aluminium | 1 | 75 | Washer | Aluminium | 1 |
| 18 | Splash ring | NBR | 1 | 76 | Washer | Aluminium | 1 |
| 19 | Pump side ball bearing | - | 1 | 101 | Seeger ring | AISI 420 | 1 |
| 20 | Fan side ball bearing | - | 1 | 110 | Protector [5] | - | 1 |
| 21 | Adjusting ring | Steel C70 | 1 | 200 | Screw | Stainless steel A2 UNI7323 | 4 |
| 22 | Tie rod | Fe 42 Zinked | 4 | - | - | - | - |

- [1] Only for single phase [2] Only for three phase [3] Only for version with impeller in Brass
 [4] Material : Noryl for version CDA 0.75 - CDA 1.00
 Brass for version CDA 1.50 - CDA 2.00 - CDA 3.00 - CDA 4.00 - CDA 5.50
 [5] Only for version single phase CDA 1.50 - CDA 2.00
 [6] Material : AISI 420 for version CDA 0.75 - CDA 1.00
 AISI 303 (Part in contact with liquid) for version CDA 1.50 - CDA 2.00 - CDA 3.00
 AISI 304 (Part in contact with liquid) for version CDA 4.00 - CDA 5.50
 [7] See constructions mechanical seal page 301
 [8] Material : Aluminium for version CDA 0.75 - CDA 1.00
 Cast iron for version CDA 1.50 - CDA 2.00 - CDA 3.00 - CDA 4.00 - CDA 5.50
 [9] Material : AISI 304 for version CDA 0.75 - CDA 1.00
 Cast iron for version CDA 2.00 - 3.00 - CDA 4.00 - CDA 5.50

MECHANICAL SEAL



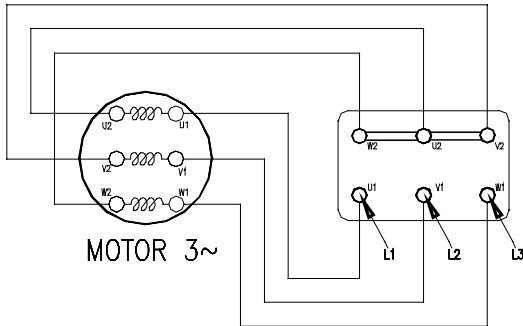
| Single Phase | Three Phase | ØA | ØB | C |
|--------------|-------------|----|------|----|
| CDA 0.75 M | CDA 0.75 T | 15 | 26 | 29 |
| CDA 1.00 M | CDA 1.00 T | 15 | 26 | 29 |
| CDA 1.50 M | CDA 1.50 T | 18 | 30.9 | 32 |
| CDA 2.00 M | CDA 2.00 T | 18 | 30.9 | 32 |
| - | CDA 3.00 T | 18 | 30.9 | 32 |
| - | CDA 4.00 T | 20 | 30.9 | 33 |
| - | CDA 5.50 T | 20 | 30.9 | 33 |

| REF | PART NAME | MATERIAL product standard |
|-----|----------------------|------------------------------|
| | | CDA |
| A | Rotary seal ring | ceramic |
| B | Stationary seal ring | carbon graphite |
| C | O Ring | NBR |
| D | O Ring | NBR |
| E | O Ring | NBR |
| F | Self driving spring | AISI 316 |
| G | Frame | AISI 304 |

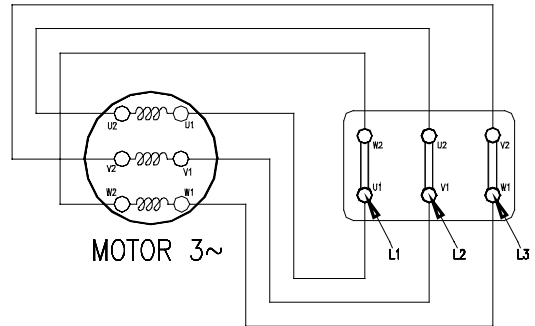
DIAGRAM AND ELECTRIC CONNECTIONS

THREE PHASE MOTOR

STAR CONNECTION

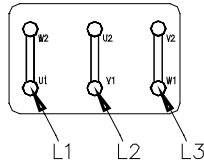


DELTA CONNECTION



FOR MOTOR 4 kW AND BELOW

DELTA CONNECTION 230 V



STAR CONNECTION 400 V

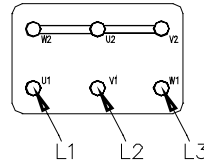
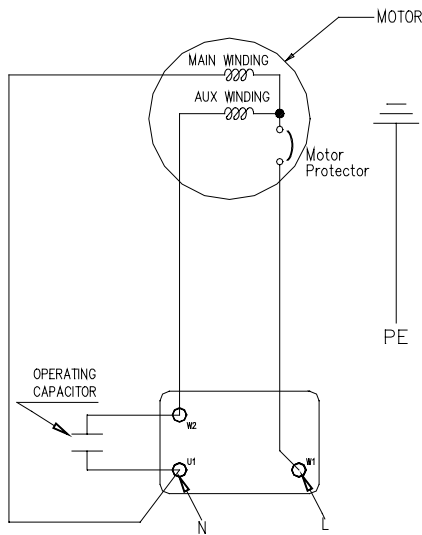


DIAGRAM AND ELECTRIC CONNECTIONS

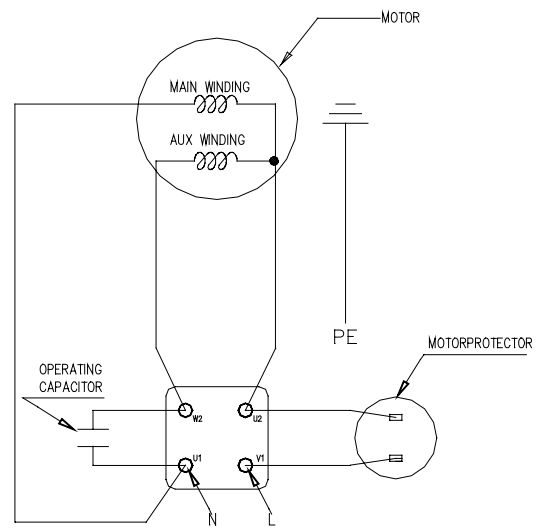
SINGLE PHASE MOTOR

FOR MOTORS WITH LOCKED ROTOR
CURRENT UP TO 25 [A]
(INTERNAL MOTORPROTECTOR)



CDA 0.75 M
CDA 1.00 M

FOR MOTORS WITH LOCKED ROTOR
CURRENT OVER 25 [A]
(EXTERNAL MOTORPROTECTOR)



CDA 1.50 M
CDA 2.00 M

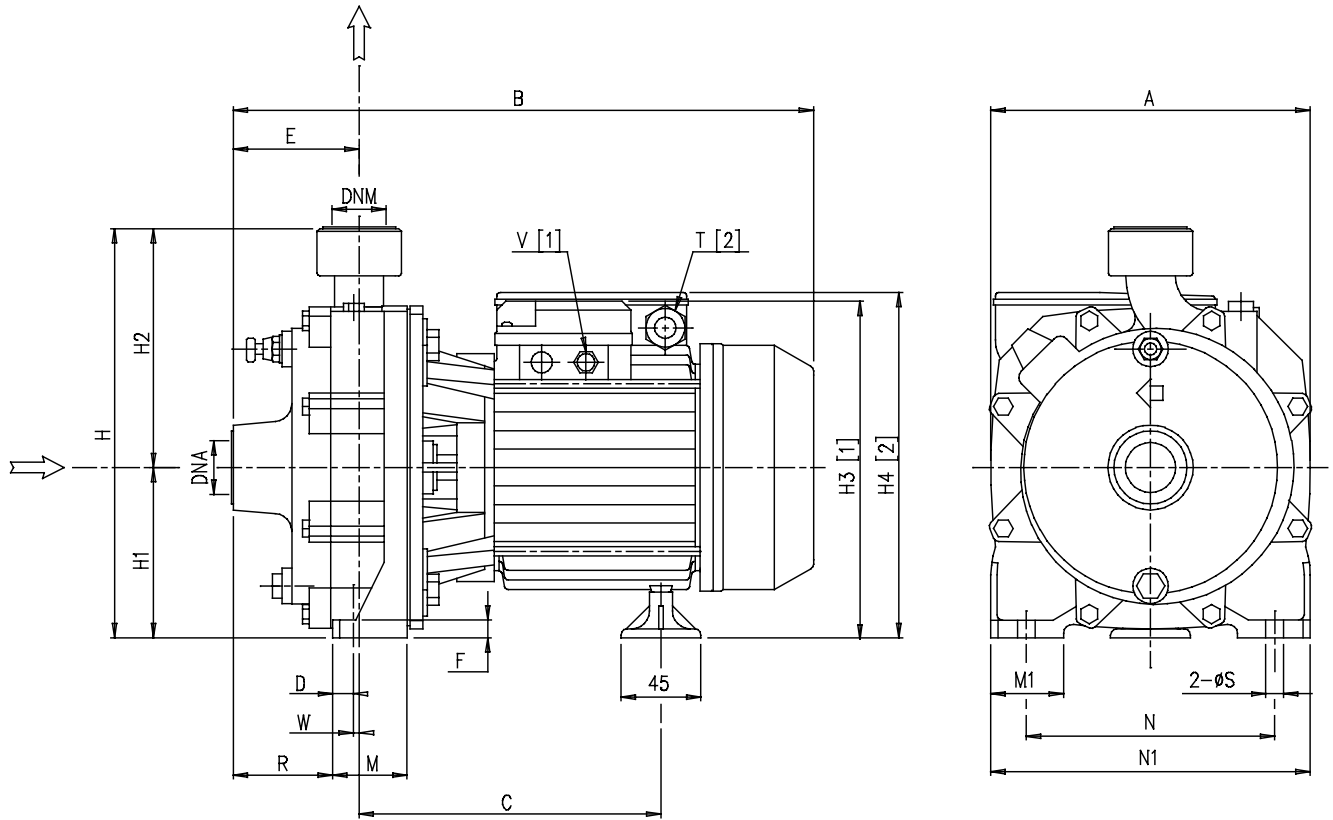
For model

CENTRIFUGAL PUMPS

CDA

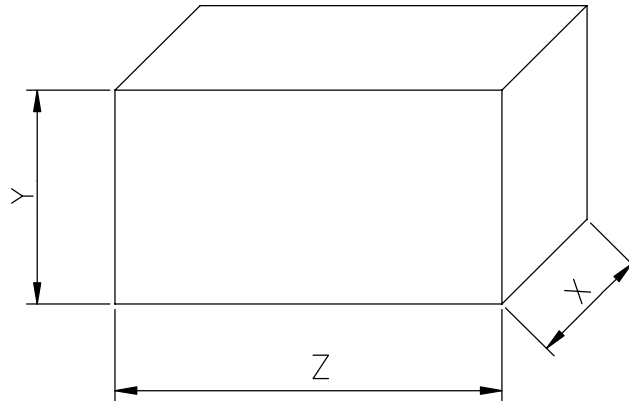
DIMENSION

50Hz



| Pump type | Dimensions mm | | | | | | | | | | | | | | | | | | | | | | |
|-----------|---------------|-------|-------|-----|------|----|-------|-------|-----|-------|-----|----|----|-----|-----|------|--------|--------|------|-----|--------|--------|--|
| | A | B | C | D | E | F | H | H1 | H2 | H3 | H4 | M | M1 | N | N1 | R | T | V | W | S | DNA | DNM | |
| CDA 0.75M | 183 | 336.3 | 179.8 | 8.3 | 73 | 9 | 227 | 97 | 130 | - | 198 | 42 | 40 | 140 | 180 | 57.5 | PG11 | - | 6.8 | 9.5 | G 1 | G1 | |
| CDA 0.75T | 183 | 336.3 | 179.8 | 8.3 | 73 | 9 | 227 | 97 | 130 | 197.5 | - | 42 | 40 | 140 | 180 | 57.5 | - | PG11 | 6.8 | 9.5 | G 1 | G1 | |
| CDA 1.00M | 183 | 336.3 | 179.8 | 8.3 | 73 | 9 | 227 | 97 | 130 | - | 198 | 42 | 40 | 140 | 180 | 57.5 | PG11 | - | 6.8 | 9.5 | G 1 | G1 | |
| CDA 1.00T | 183 | 336.3 | 179.8 | 8.3 | 73 | 9 | 227 | 97 | 130 | 197.5 | - | 42 | 40 | 140 | 180 | 57.5 | - | PG11 | 6.8 | 9.5 | G 1 | G1 | |
| CDA 1.50M | 209 | 394.8 | 218.3 | 8.3 | 86 | 9 | 265 | 110 | 155 | - | 242 | 48 | 40 | 155 | 195 | 65.5 | PG13.5 | - | 12.3 | 9.5 | G1 1/4 | G1 | |
| CDA 1.50T | 194 | 394.8 | 218.3 | 8.3 | 86 | 9 | 265 | 110 | 155 | 224 | - | 48 | 40 | 155 | 195 | 65.5 | - | PG11 | 12.3 | 9.5 | G1 1/4 | G1 | |
| CDA 2.00M | 209 | 410.8 | 218.3 | 8.3 | 86 | 9 | 265 | 110 | 155 | - | 242 | 48 | 40 | 155 | 195 | 65.5 | PG13.5 | - | 12.3 | 9.5 | G1 1/4 | G1 | |
| CDA 2.00T | 194 | 394.8 | 218.3 | 8.3 | 86 | 9 | 265 | 110 | 155 | 224 | - | 48 | 40 | 155 | 195 | 65.5 | - | PG11 | 12.3 | 9.5 | G1 1/4 | G1 | |
| CDA 3.00T | 194 | 410.8 | 218.3 | 8.3 | 86 | 9 | 265 | 110 | 155 | 224 | - | 48 | 40 | 155 | 195 | 65.5 | - | PG11 | 12.3 | 9.5 | G1 1/4 | G1 | |
| CDA 4.00T | 228 | 467.3 | 225.3 | 12 | 95.5 | 12 | 308.5 | 133.5 | 175 | 264.5 | - | 57 | 50 | 180 | 230 | 71.5 | - | G1 1/2 | 12.0 | 12 | G1 1/2 | G1 1/4 | |
| CDA 5.50T | 228 | 467.3 | 225.3 | 12 | 95.5 | 12 | 308.5 | 133.5 | 175 | 264.5 | - | 57 | 50 | 180 | 230 | 71.5 | - | G1 1/2 | 12.0 | 12 | G1 1/2 | G1 1/4 | |

[1] = Only for three phase
 [2] = Only for single phase

CENTRIFUGAL PUMPS**CDA****PACKING AND WEIGHT****50Hz**

| Type pumps | | PACKING [mm] | | | WEIGHT [kg] |
|--------------|-------------|--------------|-----|-----|-------------|
| Single phase | Three phase | X | Y | Z | |
| CDA 0.75 M | CDA 0.75 T | 210 | 265 | 355 | 13.5 |
| CDA 1.00 M | CDA 1.00 T | 210 | 265 | 355 | 15 |
| CDA 1.50 M | CDA 1.50 T | 240 | 300 | 415 | 25 |
| CDA 2.00 M | CDA 2.00 T | 240 | 300 | 415 | 27 |
| - | CDA 3.00 T | 240 | 300 | 415 | 27 |
| - | CDA 4.00 T | 265 | 340 | 476 | 42.5 |
| - | CDA 5.50 T | 265 | 340 | 476 | 46.3 |

| Type pumps | | kW | HP | Capacitor | | Input [kW] | | Full load current [A] | | | Locked rotor current [A] | | |
|--------------------------------|-----------------------------------|------|------|-------------------------------|-----|-----------------|----------------|-----------------------|------------------------------|-----|--------------------------|------------------------------|------|
| Single phase 230 V 50 Hz | Three phase 230/400 V 50 Hz | | | Single phase μF | Vc | Single Phase | Three Phase | Single Phase | Three Phase 230 V 400 V | | Single phase 230 V | Three Phase 230 V 400 V | |
| CDA 0.75 M | CDA 0.75 T | 0,55 | 0,75 | 16 | 450 | 1,1 | 1,05 | 5,0 | 3,4 | 2,0 | 16,1 | 17,0 | 9,8 |
| CDA 1.00 M | CDA 1.00 T | 0,75 | 1 | 20 | 450 | 1,38 | 1,18 | 6,1 | 4,0 | 2,3 | 24 | 24,4 | 14,1 |
| CDA 1.50 M | CDA 1.50 T | 1,1 | 1,5 | 35 | 450 | 1,85 | 1,8 | 8,6 | 5,6 | 3,3 | 38 | 32,9 | 19 |
| CDA 2.00 M | CDA 2.00 T | 1,5 | 2 | 40 | 450 | 2,35 | 2,25 | 10,8 | 7,2 | 4,1 | 43 | 41,5 | 24 |
| - | CDA 3.00 T | 2,2 | 3 | - | - | - | 2,8 | - | 8,8 | 5,1 | - | 50,2 | 29 |
| - | CDA 4.00 T | 3 | 4 | - | - | - | 4,2 | - | 13,0 | 7,5 | - | 84,1 | 48,6 |
| - | CDA 5.50 T | 4 | 5,5 | - | - | - | 5,05 | - | 16,5 | 9,5 | - | 129,8 | 75 |

| Type pumps | | Ball Bearing | |
|-----------------------|--------------------------|--------------|----------|
| Single phase 230 V | Three Phase 230/400 V | Pump side | Fan side |
| CDA 0.75 M | CDA 0.75 T | 6202 ZZ | 6202 ZZ |
| CDA 1.00 M | CDA 1.00 T | 6202 ZZ | 6202 ZZ |
| CDA 1.50 M | CDA 1.50 T | 6204 ZZ | 6203 ZZ |
| CDA 2.00 M | CDA 2.00 T | 6204 ZZ | 6203 ZZ |
| - | CDA 3.00 T | 6204 ZZ | 6203 ZZ |
| - | CDA 4.00 T | 6306 ZZ | 6205 ZZ |
| - | CDA 5.50 T | 6306 ZZ | 6205 ZZ |