



**EBARA**



SAI GLOBAL

Lic. No. QEC22090

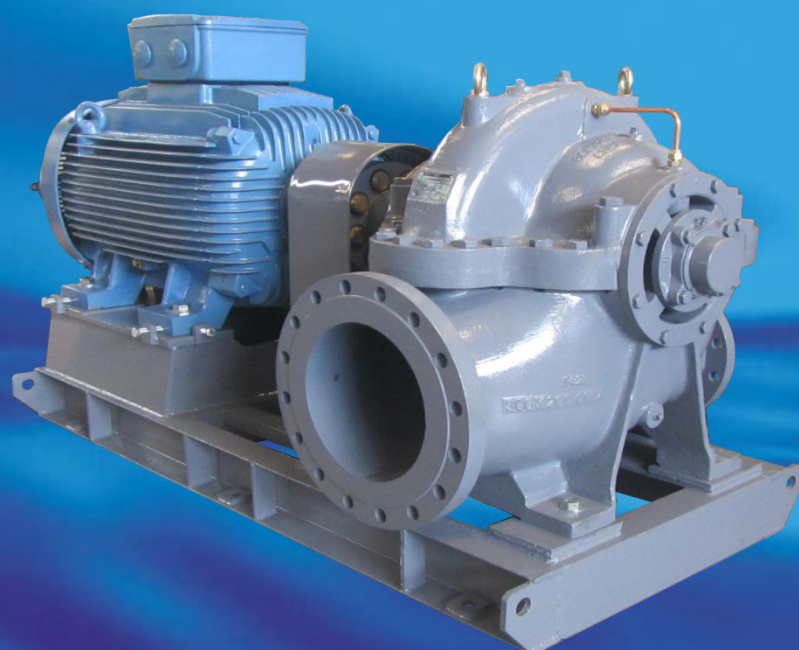
CN 8001-5N-A

# EBARA

## HORIZONTAL SPLIT CASE PUMP

### MODEL CSA/CNA

50 Hz



## FEATURES

1. Very compact design for ease of installation and permits minimum maintenance.
2. Axially split casing allows the easy removal of the top casing for inspection and service.
3. A wider range of performance with head up to 150 m.
4. High speed drives and vertical mount available.
5. Anti-corrosion materials used on the rotating parts.
6. High quality sealed and cartridge type bearing unit provide high durability.
7. High allowable working pressure can ensure stable running.
8. Mechanical seal for easy maintenance.

### Casing

The rotating assembly can be removed without disturbing connected piping as the suction and discharge flanges are integrally

Casted into the lower casing half. Casing is *high pressure designed* and able to withstand against water surge.

### Recirculation

Recirculation pipe line for self-flushing are provided.

### Impeller

The hydraulic matching of casing and impeller minimizes axial thrust and recirculation, ensuring **high efficiency, low NPSH required** and **quiet performance** over the entire range of operation. **Bronze material standard.**

### Whirl Stopper

The cast whirl stopper direct flow into the impeller eye for more even suction distribution. The gradually accelerated inlet flow has low tendency for velocity distortion, ensuring a **quiet operation**.

### Shaft

**316 stainless steel materials** is standard, ensure long life against corrosion and wear. Short support span of bearing lengthen bearing life.

### Casing Wear Ring

**Replaceable bronze casing wear rings** are locked to prevent rotation. It protects the pump casing from wear, permits simple maintenance of proper running clearances to reduce maintenance cost and maintain high operating efficiency.

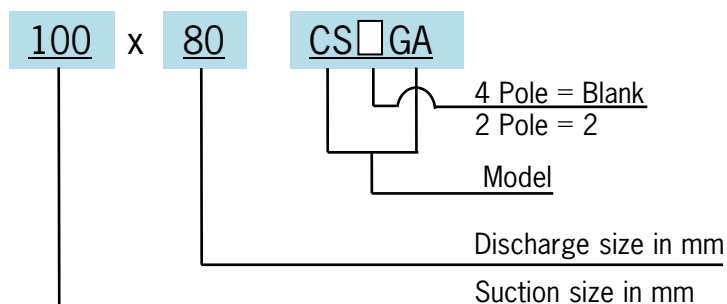
### Bearing

Replenish able grease lubricated deep-groove bearing units with low friction loss has a **long life** can easily inspected and replaceable. **Auto alignment structure** absorbs shaft deflection.

## APPLICATIONS

1. Water supply.
2. Hot and cold water circulation.
3. For cooling tower.
4. Irrigation.
5. Industrial use.
6. Drainage
7. Sprinkling.
8. Air-conditioning.

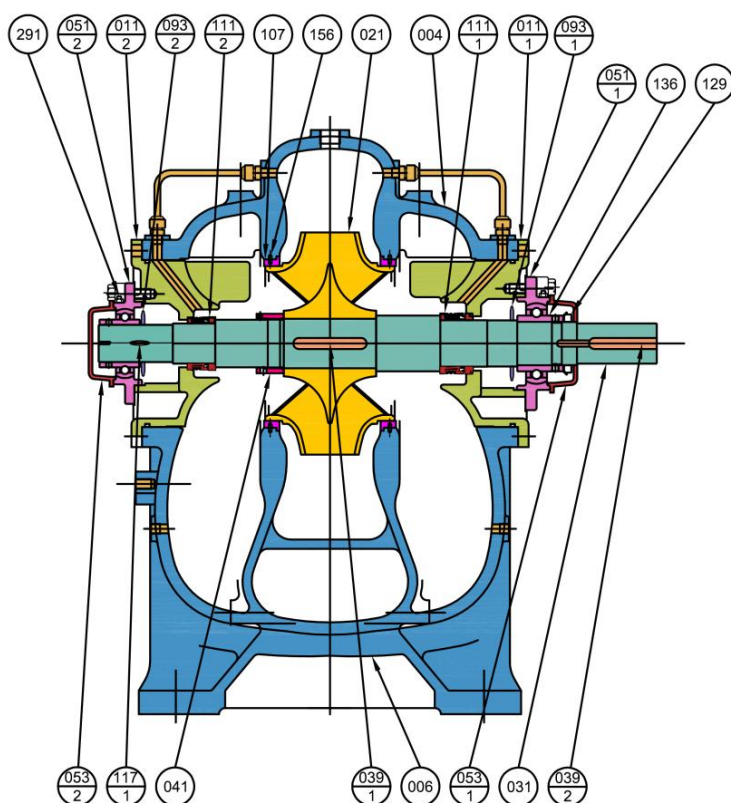
## MODEL CODE



# SPECIFICATION

| Decryptions           |                 | Standard                                                                           | Option                                                                       |                             |
|-----------------------|-----------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------|
| Model                 |                 | CSA/CNA                                                                            |                                                                              |                             |
| Liquid Handle         | Type of Liquid  | Fresh Water, Industrial Water, River Water                                         |                                                                              |                             |
|                       | Temperature     | Below 80°C (176°F)                                                                 | 81°C - 120°C (177°F - 248°F)<br>(only applicable for Mechanical Seal Models) |                             |
| Max. Working Pressure |                 | 16 Bar                                                                             | 10 bar, 20 bar, 30 bar                                                       |                             |
| Construction          | Shaft Seal      | Mechanical Seal                                                                    | Gland Packing                                                                | Mechanical Seal with Sleeve |
|                       | Bearing         | Ball Bearing                                                                       |                                                                              |                             |
|                       | Lubrication     | Grease                                                                             |                                                                              |                             |
| Material              | Casing          | Cast Iron                                                                          | Ductile Cast Iron (FCD)                                                      |                             |
|                       | Impeller        | - Bronze<br>- SCS 13 For Model :<br>250x150 CNKA, 300x150 CNJA &<br>300x200 CNKA   | SCS 13, SCS 14                                                               |                             |
|                       | Shaft           | SUS 316                                                                            | SUS 403, SUS 304                                                             |                             |
|                       | Shaft Sleeve    | -                                                                                  | Bronze, SUS 304, SUS 316                                                     |                             |
|                       | Mechanical Seal | Ceramic - Carbon                                                                   | SIC - SIC, SIC - Carbon                                                      |                             |
| Flange                | Suction         | JIS 16 KRF                                                                         | JIS 10K, JIS 30K, ANSI 150, ANSI 250, DIN PN-16                              |                             |
|                       | Discharge       | JIS 16 KRF                                                                         | JIS 10K, JIS 30K, ANSI 150, ANSI 250, DIN PN-16                              |                             |
| Accessories           |                 |                                                                                    |                                                                              |                             |
| Standard              |                 | Common Base, Shaft Coupling, Coupling Guard, Air Vent Piping, Flushing Pipe.       |                                                                              |                             |
| Option                |                 | Anchor Bolt, Pressure Gauge, RTD Sensor, Tools for Pump Disassembly, Drain Bucket. |                                                                              |                             |

# SECTIONAL VIEW

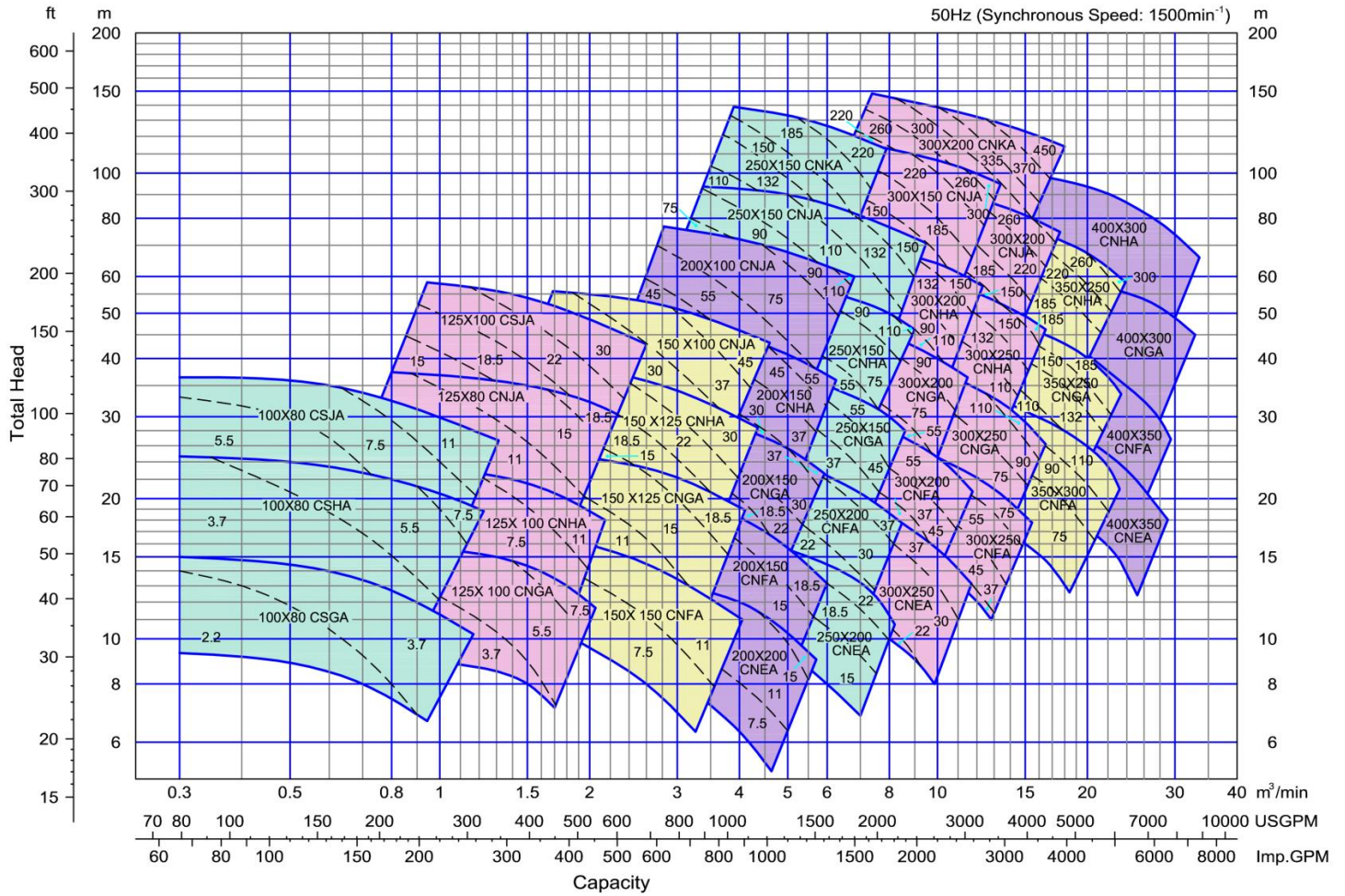


| No    | Part Name                  | Material            | Qty |
|-------|----------------------------|---------------------|-----|
| 004   | Casing Upper Half          | FC250               | 1   |
| 006   | Casing Lower Half          |                     |     |
| 011-1 | Side Cover (CP Side)       |                     |     |
| 011-2 | Side Cover (CCP Side)      |                     |     |
| 021   | Impeller                   | BC6                 |     |
| 031   | Shaft                      | 316 Stainless Steel |     |
| 039-1 | Impeller Key               |                     |     |
| 039-2 | Coupling Key               | S50C                |     |
| 041   | Impeller Nut               | BC6                 |     |
| 051-1 | Bearing Unit (CP Side)     | FC200               |     |
| 051-2 | Bearing Unit (CCP Side)    |                     |     |
| 053-1 | Bearing Cover (CP Side)    |                     |     |
| 053-2 | Bearing Cover (CCP Side)   |                     |     |
| 093-1 | Deflector (CP Side)        | Rubber              |     |
| 093-2 | Deflector (CCP Side)       |                     |     |
| 107   | Casing Wear Ring           | BC6                 | 2   |
| 111-1 | Mechanical Seal (CP Side)  | -                   | 1   |
| 111-2 | Mechanical Seal (CCP Side) | -                   |     |
| 117-1 | Gasket (Casing)            | V#6500              |     |
| 129   | Bearing Nut                | SS400               |     |
| 136   | Bearing Washer             |                     |     |
| 156   | Lock Pin                   | 304 Stainless Steel | 2   |
| 291   | Grease Nipple              | C3604BD-F           |     |

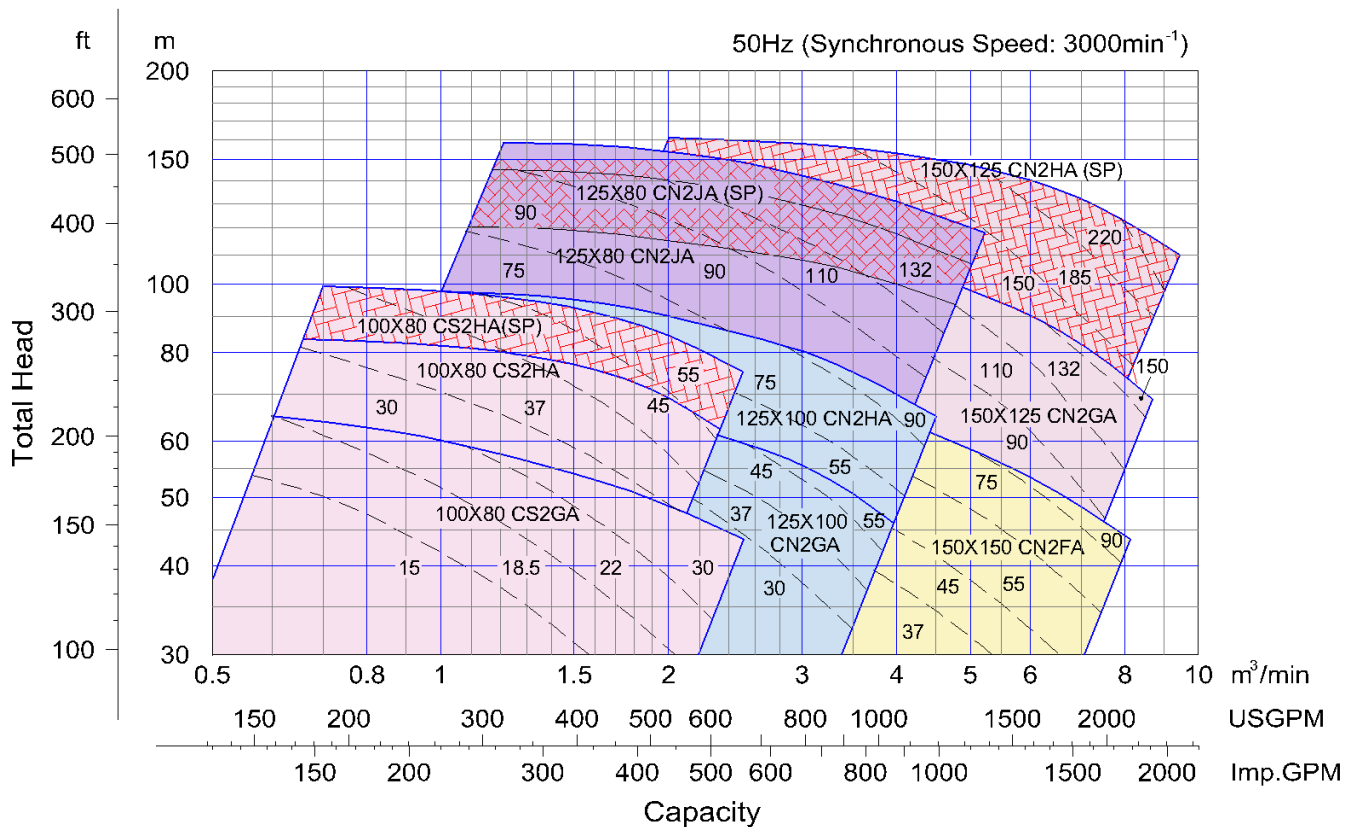


# PERFORMANCE CHART

## 4 Poles

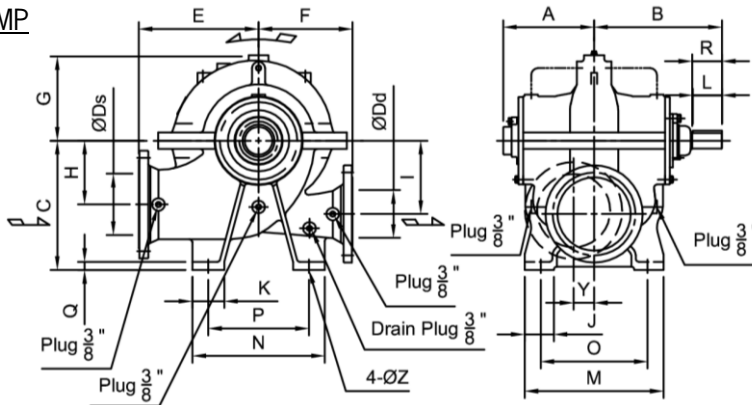


## 2 Poles

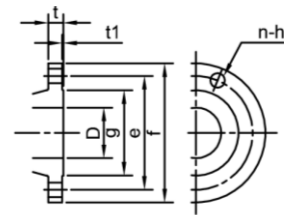


# DIMENSION - Bare Shaft Pump C-Type Mechanical Seal Type

PUMP



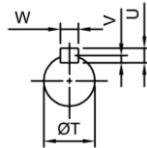
FLANGE



Flange Dimension (JIS 16K)

| D<br>mm | f<br>mm | e<br>mm | g<br>mm | t1<br>mm | t<br>mm | n  | h<br>mm |
|---------|---------|---------|---------|----------|---------|----|---------|
| 80      | 200     | 160     | 135     | 2        | 24      | 8  | 23      |
| 100     | 225     | 185     | 160     | 2        | 26      | 8  | 23      |
| 125     | 270     | 225     | 195     | 2        | 26      | 8  | 25      |
| 150     | 305     | 260     | 230     | 2        | 28      | 12 | 25      |
| 200     | 350     | 305     | 275     | 2        | 30      | 12 | 25      |
| 250     | 430     | 380     | 345     | 2        | 34      | 12 | 27      |
| 300     | 480     | 430     | 395     | 3        | 36      | 16 | 27      |
| 350     | 540     | 480     | 440     | 3        | 38      | 16 | 33      |
| 400     | 605     | 540     | 495     | 3        | 42      | 16 | 33      |

SHAFT END



| Model         | Size |     | Pump |      |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     | Shaft |      |     |     |      |     |      | Weight |     |     |     |     |    |      |    |     |
|---------------|------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|-------|------|-----|-----|------|-----|------|--------|-----|-----|-----|-----|----|------|----|-----|
|               | Ds   | Dd  | A    | B    | C   | E   | F   | G   | H   | I   | J   | K   | M   | N   | O   | P   | Q  | Y  | Z   | L     | R    | T   | U   | V    | W   | kg   |        |     |     |     |     |    |      |    |     |
| 100x80 CSGA   | 100  | 80  | 221  | 250  | 295 | 270 | 240 | 169 | 140 | 140 | 60  | 70  | 300 | 290 | 250 | 230 | 20 | 70 | 19  | 56    | 68   | 28  | 8   | 5    | 10  | 143  |        |     |     |     |     |    |      |    |     |
| 100x80 CSHA   |      |     |      |      |     | 280 | 220 | 185 | 150 | 160 |     |     |     |     |     |     |    |    |     |       | 165  |     |     |      |     |      |        |     |     |     |     |    |      |    |     |
| 100x80 CSJA   |      |     |      |      |     | 230 | 202 | 160 | 180 | 200 |     |     |     |     |     |     |    |    |     |       | 200  |     |     |      |     |      |        |     |     |     |     |    |      |    |     |
| 125x100 CSJA  | 125  | 100 | 247  | 325  | 375 | 350 | 280 | 263 | 200 | 230 | 90  | 100 | 430 | 400 | 350 | 300 | 25 | 80 |     | 80    | 82   | 38  |     |      | 12  | 280  |        |     |     |     |     |    |      |    |     |
| 125x100 CNGA  | 125  | 100 | 231  | 350  | 295 | 290 |     | 181 |     | 150 | 60  | 70  | 300 | 290 | 250 | 230 | 20 | -  | 19  | 80    | 82   | 38  | 8   | 5    | 10  | 209  |        |     |     |     |     |    |      |    |     |
| 125x100 CNHA  |      |     |      |      |     | 300 | 250 | 195 | 150 | 160 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     | 242  |        |     |     |     |     |    |      |    |     |
| 125x80 CNJA   | 125  | 80  |      |      |     | 330 |     | 226 |     | 190 | 70  | 80  | 340 | 320 | 280 | 250 |    |    |     |       |      |     |     |      |     | 250  |        |     |     |     |     |    |      |    |     |
| 150x150 CNFA  | 150  | 150 | 262  | 370  | 355 | 330 | 290 | 205 | 180 | 170 | 80  | 90  | 380 | 360 | 310 | 270 | 25 | -  | 19  | 80    | 82   | 38  | 8   | 5    | 10  | 253  |        |     |     |     |     |    |      |    |     |
| 150x125 CNGA  |      |     | 271  | 395  |     |     | 260 | 224 | 190 | 90  |     |     |     |     |     |     |    |    |     | 102   | 48   | 9   | 5.5 | 14   | 275 |      |        |     |     |     |     |    |      |    |     |
| 150x125 CNHA  |      | 125 | 262  | 370  |     |     |     |     | 210 | 80  |     |     |     |     |     |     |    |    |     | 82    | 38   | 8   | 5   | 10   | 270 |      |        |     |     |     |     |    |      |    |     |
| 150x125 CNHA* |      |     | 275* | 395* |     |     | 350 | 280 | 243 | 190 |     |     |     |     |     |     |    |    |     | 95*   | 104* | 48* | 9*  | 5.5* | 14* | -    |        |     |     |     |     |    |      |    |     |
| 150x100 CNJA  |      | 100 | 271  | 395  | 390 | 380 | 290 | 269 |     | 240 | 90  | 100 | 430 | 400 | 350 | 300 |    |    |     | 90    | 102  | 48  | 9   | 5.5  | 14  | 330  |        |     |     |     |     |    |      |    |     |
| 200x200 CNEA  | 200  | 200 |      |      |     |     | 300 | 223 | 190 | 190 | 90  | 100 | 430 | 400 | 350 | 300 | 25 | -  | 19  | 80    | 82   | 38  | 8   | 5    | 10  | 270  |        |     |     |     |     |    |      |    |     |
| 200x150 CNFA  |      |     | 263  | 370  | 375 | 355 |     | 224 |     | 210 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     | 280  |        |     |     |     |     |    |      |    |     |
| 200x150 CNGA  |      | 150 |      |      |     | 285 | 245 |     | 210 | 310 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     |      |        |     |     |     |     |    |      |    |     |
| 200x150 CNHA  |      |     |      | 282  | 395 | 390 | 375 | 295 | 268 | 200 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     | 230  | 90     | 92  | 48  | 9   | 5.5 | 14 | 355  |    |     |
| 200x100 CNJA  |      | 100 | 305  | 450  | 445 | 420 | 335 | 309 |     | 270 | 100 | 110 | 480 | 450 | 390 | 340 |    |    | 24  | 100   | 112  | 55  | 10  | 6    | 16  | 445  |        |     |     |     |     |    |      |    |     |
| 250x200 CNEA  | 250  | 200 | 273  | 395  | 425 | 395 | 315 | 243 | 210 | 210 | 100 | 110 | 480 | 450 | 390 | 340 | 25 | -  | 24  | 80    | 97   | 38  | 8   | 5    | 10  | 360  |        |     |     |     |     |    |      |    |     |
| 250x200 CNFA  |      |     | 282  |      |     |     |     |     |     | 247 |     |     |     |     |     |     |    |    |     | 210   | 90   | 92  | 48  | 9    | 5.5 | 14   | 380    |     |     |     |     |    |      |    |     |
| 250x150 CNGA  |      | 150 |      |      | 276 | 240 |     |     |     |     |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     |      |        |     | 100 | 102 | 55  | 10 | 6    | 16 | 500 |
| 250x150 CNHA  |      |     | 315  | 450  | 445 | 430 | 325 | 299 | 220 | 260 |     |     |     |     |     |     |    |    |     | 110   | 120  | 550 | 520 | 450  | 400 | 30   |        |     | 110 | 124 | 65  | 11 | 7    | 18 | 605 |
| 250x150 CNJA  |      |     | 350  | 500  | 495 | 470 | 355 | 346 | 300 |     |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     |      |        |     | 125 | 141 | 75  | 12 | 8    | 20 | 835 |
| 250x150 CNKA  |      |     | 382  | 530  | 500 | 505 | 430 | 407 | 290 | 345 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     |      |        |     |     |     |     |    |      |    |     |
| 300x250 CNEA  | 300  | 250 | 302  | 415  | 475 | 445 | 355 | 274 | 235 | 235 | 110 | 120 | 550 | 520 | 450 | 400 | 30 | -  | 24  | 90    | 92   | 48  | 9   | 5.5  | 14  | 435  |        |     |     |     |     |    |      |    |     |
| 300x200 CNFA  |      | 200 | 315  | 450  |     |     |     |     |     | 280 |     |     |     |     |     |     |    |    |     |       | 100  | 102 | 55  | 10   | 6   | 16   | 490    |     |     |     |     |    |      |    |     |
| 300x200 CNGA  |      |     | 315  | 470  | 445 | 355 | 300 | 270 |     |     |     |     |     |     |     |     |    |    |     |       |      |     |     |      | 520 |      |        |     |     |     |     |    |      |    |     |
| 300x200 CNHA  |      |     | 350  | 500  | 495 | 465 | 365 | 332 | 290 | 110 |     |     |     |     |     |     |    |    |     | 124   | 65   | 11  | 7   | 18   | 625 |      |        |     |     |     |     |    |      |    |     |
| 300x150 CNJA  |      | 150 | 382  | 530  | 500 | 520 |     | 384 | 250 | 335 |     |     |     |     |     |     |    |    |     | 125   | 141  | 75  | 12  | 8    | 20  | 785  |        |     |     |     |     |    |      |    |     |
| 300x250 CNFA  |      | 250 | 335  | 470  | 495 | 405 |     | 306 |     | 260 |     |     |     |     |     |     |    |    |     | 100   | 102  | 55  | 10  | 6    | 16  | 570  |        |     |     |     |     |    |      |    |     |
| 300x250 CNGA  |      |     | 360  | 500  | 495 |     |     | 313 |     | 260 |     |     |     |     |     |     |    |    |     | 110   | 114  | 65  | 11  | 7    | 18  | 620  |        |     |     |     |     |    |      |    |     |
| 300x250 CNHA  |      |     |      |      | 520 |     | 337 | 275 | 295 |     |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     |      |        |     |     |     |     |    |      |    | 615 |
| 300x200 CNJA  |      | 200 | 382  | 530  | 500 | 525 | 415 | 379 |     | 320 |     |     |     |     |     |     |    |    |     | 125   | 141  | 75  | 12  | 7.5  | 20  | 860  |        |     |     |     |     |    |      |    |     |
| 300x200 CNKA  |      |     |      | 415  | 585 | 560 | 570 | 475 | 436 | 290 |     |     |     |     |     |     |    |    |     | 380   | 140  | 150 | 620 | 700  | 500 | 550  | 35     | -   | 26  | 140 | 156 | 85 | 14   | 9  | 22  |
| 350x300 CNFA  | 350  | 300 | 386  | 530  | 600 | 560 | 450 | 345 | 310 | 130 | 150 | 620 | 700 | 500 | 550 | 38  | -  | 26 | 110 | 125   | 65   | 11  | 7   | 18   | 800 |      |        |     |     |     |     |    |      |    |     |
| 350x250 CNGA  |      | 250 |      |      |     |     |     | 447 |     | 350 |     |     |     |     |     |     |    |    |     |       |      |     |     |      |     | 303  | 790    |     |     |     |     |    |      |    |     |
| 350x250 CNHA  |      |     | 414  | 560  |     | 440 | 373 | 315 | 330 |     |     |     |     |     |     |     |    |    |     | 125   | 140  | 75  | 12  | 7.5  | 20  | 845  |        |     |     |     |     |    |      |    |     |
| 400x300 CNGA  | 400  | 300 | 451  | 627  | 630 | 625 | 510 | 390 | 315 | 380 | 150 | 150 | 700 | 700 | 550 | 550 | 38 | -  | 26  | 140   | 158  | 85  | 10  | 6    | 22  |      |        |     |     |     |     |    |      |    |     |
| 400x300 CNHA  |      |     |      | 456  | 630 | 660 | 620 | 530 | 432 | 350 | 400 |     |     |     |     | 160 |    |    |     |       |      |     |     |      |     |      |        |     |     |     | 162 |    |      |    |     |
| 400x350 CNEA  | 400  | 350 | 451  | 600  | 630 | 620 | 470 | 355 | 325 | 335 | 140 | 150 | 720 | 700 | 550 | 590 | 35 | -  | 26  | 110   | 124  | 65  | 11  | 7    | 18  | 1030 |        |     |     |     |     |    |      |    |     |
| 400x350 CNFA  |      |     |      | 439  |     | 585 | 625 | 510 | 385 | 305 | 344 |     |     |     |     | 150 |    |    |     |       |      |     |     |      |     |      | 125    | 140 | 75  | 12  | 7.5 | 20 | 1035 |    |     |



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All specification subject to change without prior notice