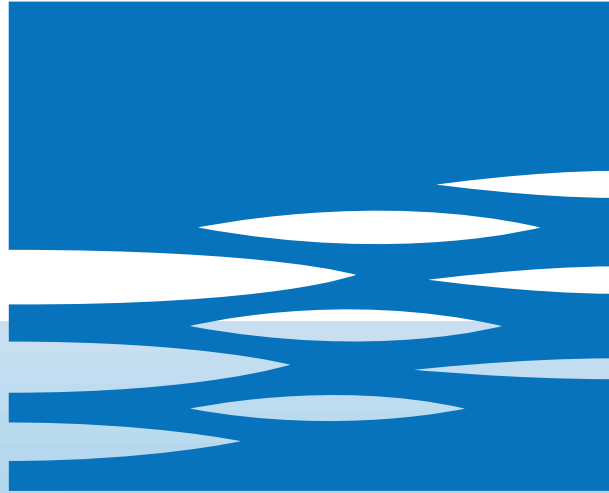




**EBARA**

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## SPECIFICATION

60Hz

Rev. 0

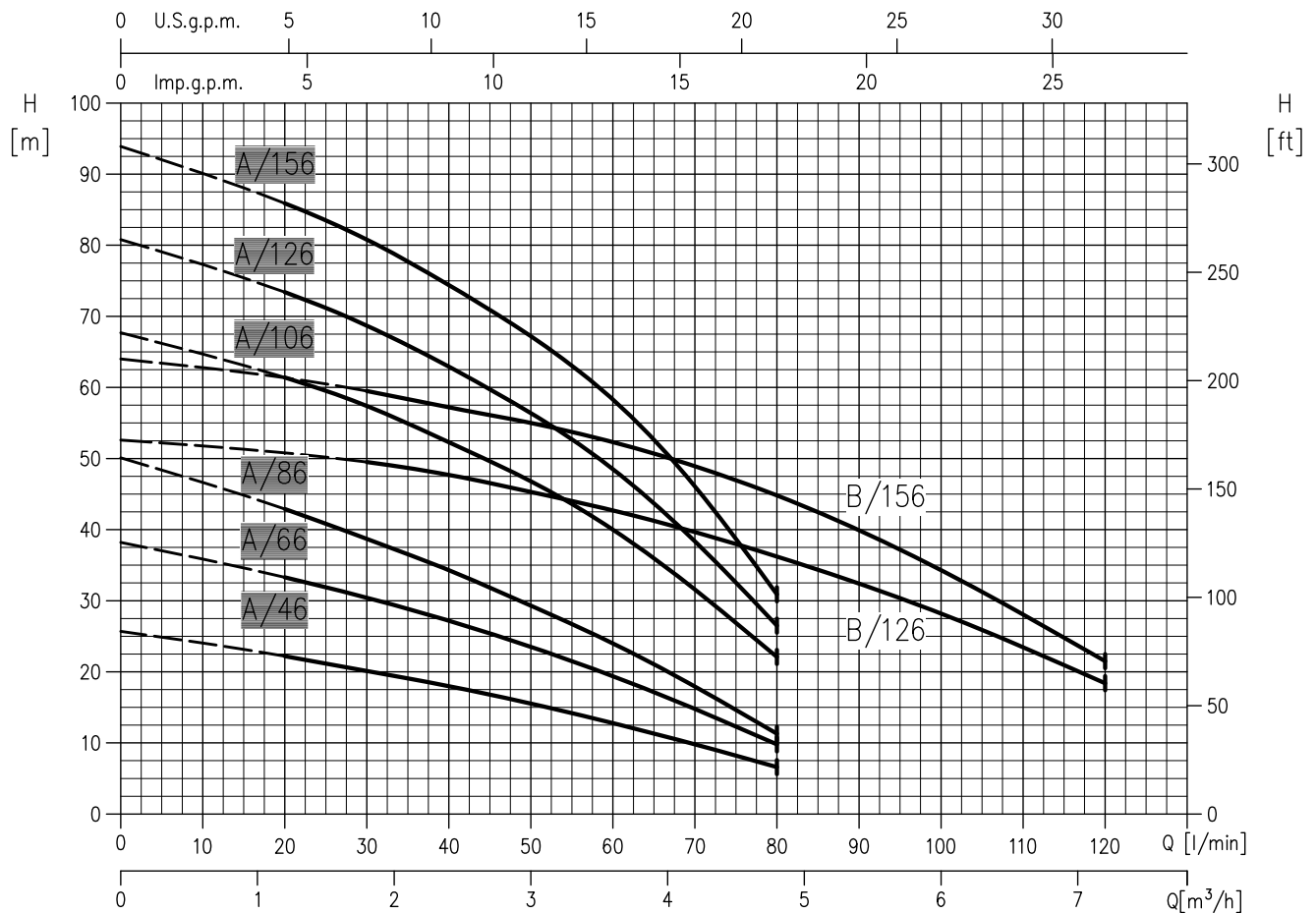
| PUMP                           |                      |                                          |
|--------------------------------|----------------------|------------------------------------------|
| Liquid Handled                 | Type of liquid       | Clean water                              |
|                                | Temperature [°C]     | min. +5<br>max. +40                      |
| Maximum working pressure [MPa] |                      | 1                                        |
| Construction                   | Impeller             | Closed centrifugal                       |
|                                | Shaft seal type      | Mechanical seal                          |
|                                | Bearing              | Sealed ball bearing                      |
| Pipe Connection                | Suction              | G 1" (Compact A version) UNI ISO 228     |
|                                |                      | G 1 1/4" (Compact B version) UNI ISO 228 |
|                                | Discharge            | G 1" (All version) UNI ISO 228           |
| Material                       | Casing               | Cast iron                                |
|                                | Impeller             | PPE+PS glass fibre reinforced            |
|                                | Shaft seal           | Ceramic/Carbon/NBR                       |
|                                | External pump casing | AISI 304                                 |
|                                | Shaft                | AISI 416                                 |
|                                | Stages               | PPE+PS glass fibre reinforced/PTFE       |
|                                | Diffuser             | PPE+PS glass fibre reinforced            |
|                                | Bracket              | Cast iron                                |
| Applicable standard of test    |                      | ISO 9906 – Annex A                       |

| MOTOR                               |                                |                      |
|-------------------------------------|--------------------------------|----------------------|
| Type                                | Electric - TEFC                |                      |
|                                     | Single Phase                   | Three Phase          |
| No. of Poles                        | 2                              |                      |
| Rotation speed [min <sup>-1</sup> ] | ≈ 3400                         |                      |
| Insulation Class                    | F                              |                      |
| Protection degree                   | IP 44                          |                      |
| Power rating                        | 0.3 ÷ 1.1                      |                      |
|                                     | 0.4 ÷ 1.5                      |                      |
| Frequency [Hz]                      | 60                             |                      |
| Voltage [V]                         | 220 - 230 ±6%                  | 220/380 -6%+10%      |
| Capacitor                           | Built in                       | -                    |
| Over load protection                | Built in                       | Provided by the user |
| Casing material                     | Aluminium                      |                      |
| Base material/motor support         | Cast iron                      |                      |
| Dimensions of cable entry           | PG11 (see dimensions page 400) |                      |

## SELECTION CHART

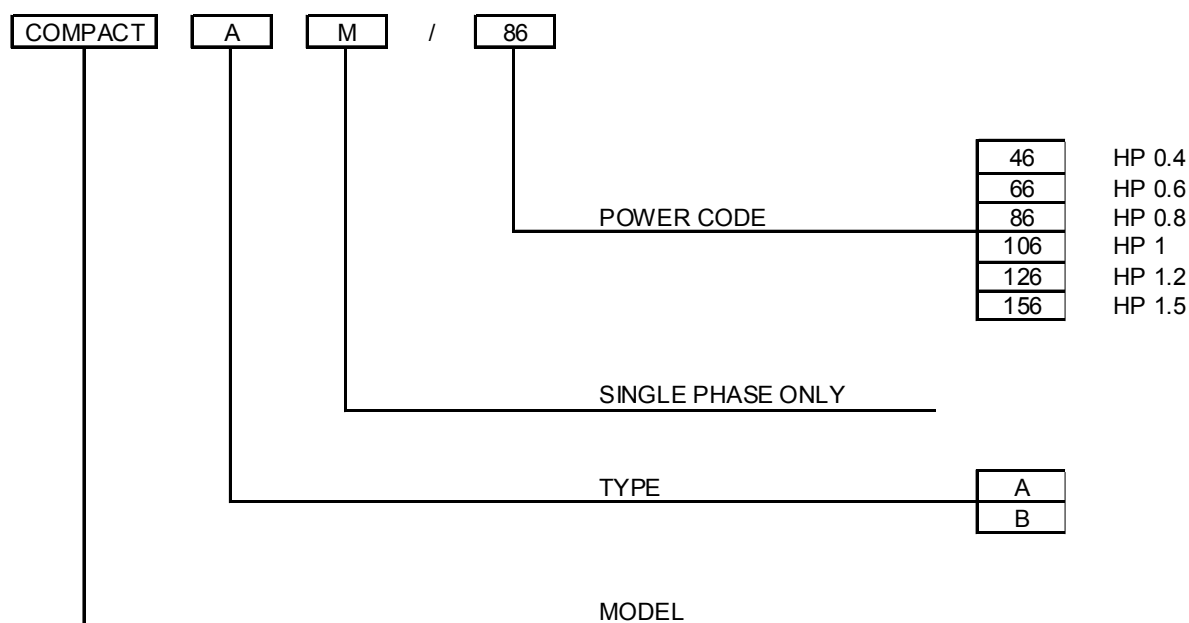
60Hz

Rev. 0



| Pump type      |               | Power |      | Q=Capacity                        |      |      |      |      |      |      |      |      |     |
|----------------|---------------|-------|------|-----------------------------------|------|------|------|------|------|------|------|------|-----|
|                |               |       |      | l/min                             | 0    | 20   | 30   | 40   | 50   | 60   | 80   | 100  | 120 |
| Single Phase   | Three Phase   | [kW]  | [HP] | m³/h                              | 0    | 1.2  | 1.8  | 2.4  | 3    | 3.6  | 4.8  | 6    | 7.2 |
|                |               |       |      | H=Total manometric head in meters |      |      |      |      |      |      |      |      |     |
| COMPACT AM/46  | COMPACT A/46  | 0.3   | 0.4  | 25.7                              | 22.2 | 20.1 | 18.0 | 15.5 | 12.8 | 6.6  | -    | -    | -   |
| COMPACT AM/66  | COMPACT A/66  | 0.44  | 0.6  | 38.2                              | 33.3 | 30.4 | 27.2 | 23.5 | 19.4 | 9.8  | -    | -    | -   |
| COMPACT AM/86  | COMPACT A/86  | 0.6   | 0.8  | 50                                | 43   | 38.7 | 34.3 | 29.3 | 24.0 | 11.3 | -    | -    | -   |
| COMPACT AM/106 | COMPACT A/106 | 0.75  | 1    | 67.5                              | 61.5 | 57.5 | 52.5 | 47   | 40   | 22.1 | -    | -    | -   |
| COMPACT AM/126 | COMPACT A/126 | 0.9   | 1.2  | 81                                | 73.5 | 68.5 | 63   | 56.5 | 48.5 | 26.5 | -    | -    | -   |
| COMPACT AM/156 | COMPACT A/156 | 1.1   | 1.5  | 94.0                              | 86   | 81   | 74.5 | 67.0 | 58.5 | 30.9 | -    | -    | -   |
| COMPACT BM/126 | COMPACT B/126 | 0.9   | 1.2  | 52.5                              | -    | 49.5 | 47.5 | 45.5 | 42.5 | 36.2 | 28.2 | 18.4 | -   |
| COMPACT BM/156 | COMPACT B/156 | 1.1   | 1.5  | 64.0                              | -    | 59.5 | 57   | 55   | 52.5 | 45   | 34.3 | 21.5 | -   |

## TYPE KEY



## PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906 Annex A

The curves refer to effective speed of asynchronous motors at 60 Hz

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of  $\nu = 1 \text{ mm}^2/\text{s}$  (1 cSt)

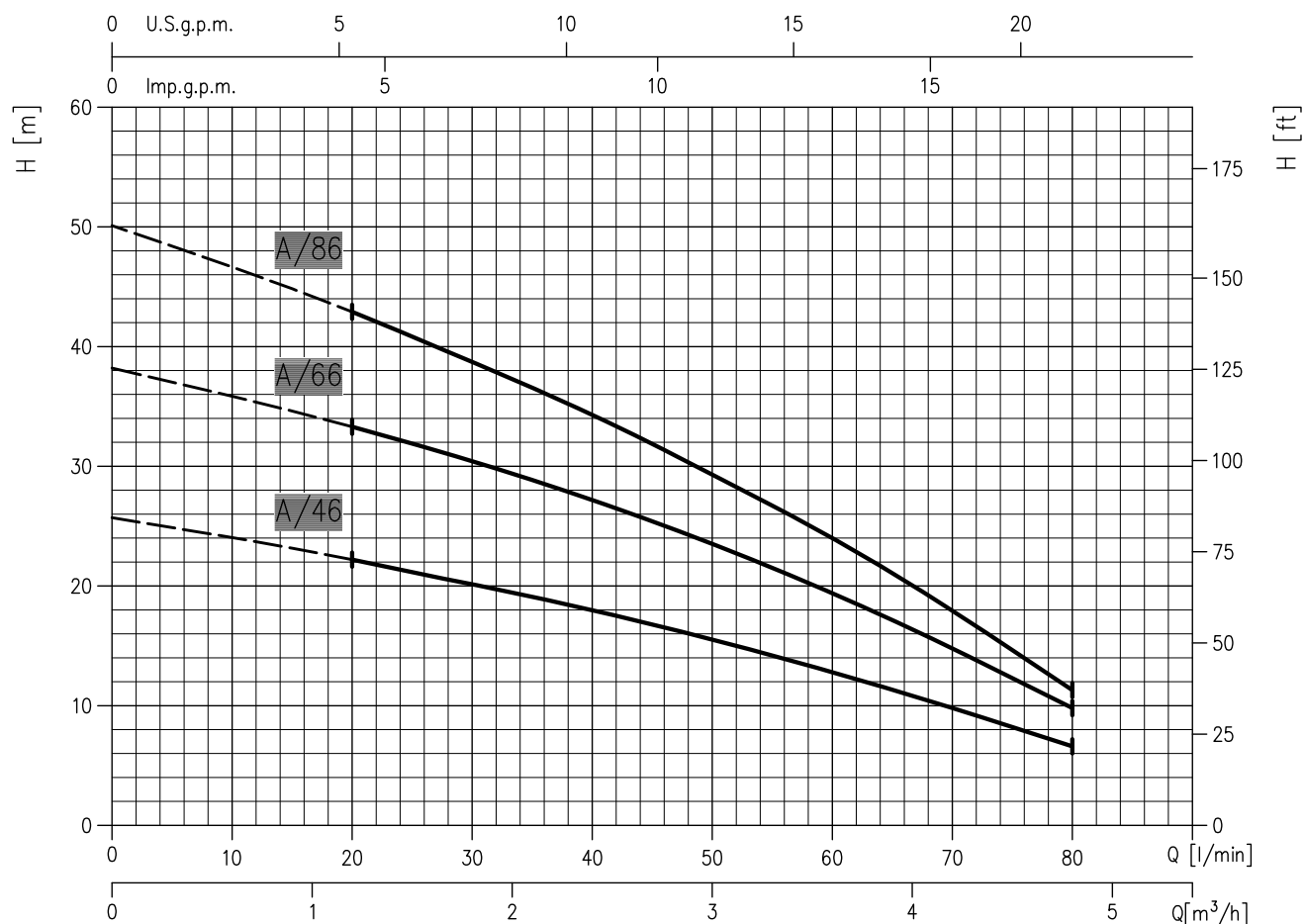
The continuous curves indicate the recommended working range. The dotted curve is only a guide.

In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

Q = volume flow rate  
H = total head

COMPACT A/46 (0.3 kW) - Impeller diameter = 90 mm  
 COMPACT A/66 (0.44 kW) - Impeller diameter = 90 mm  
 COMPACT A/86 (0.6 kW) - Impeller diameter = 90 mm

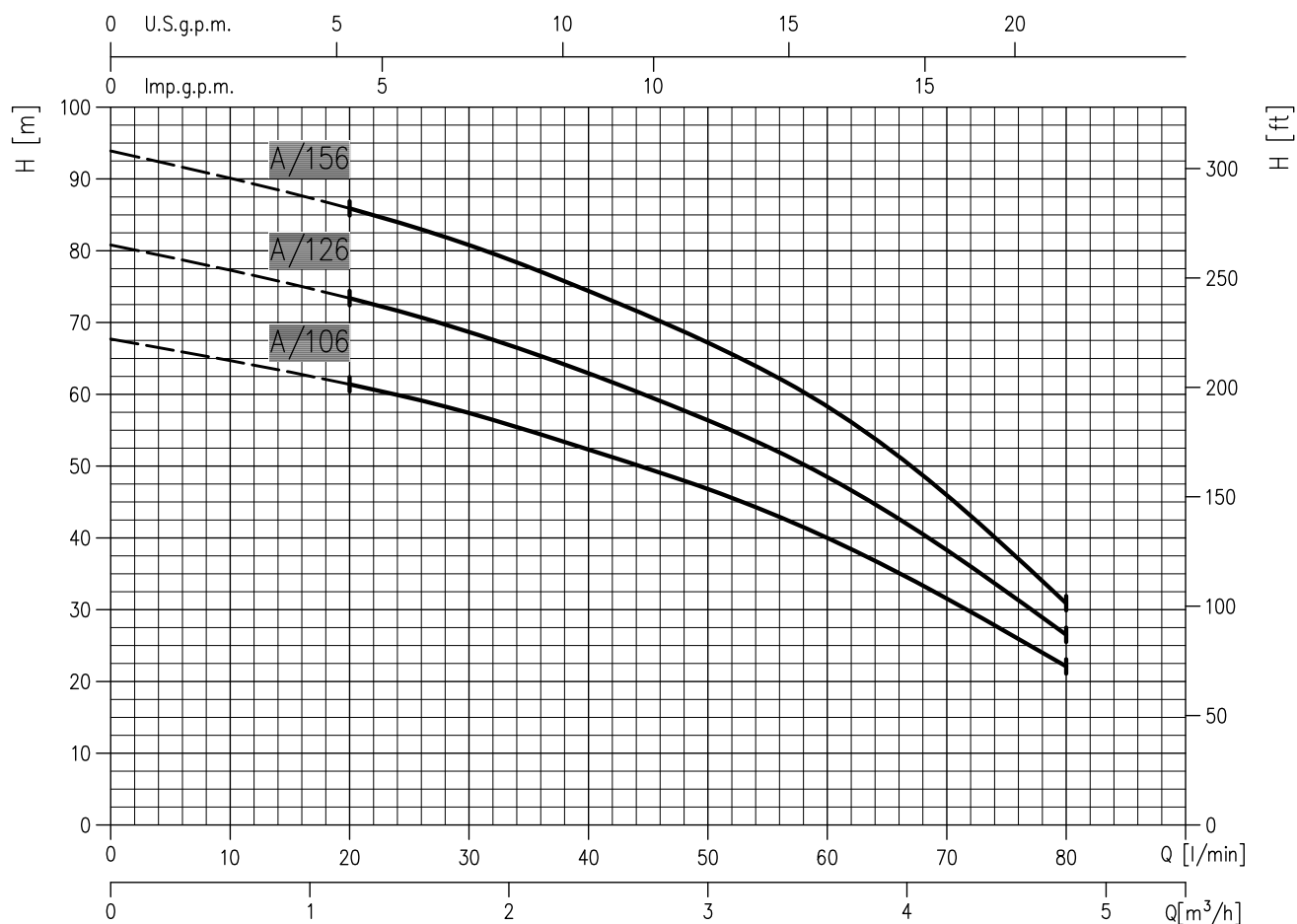


Rotation speed  $\approx 3400 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

COMPACT A/106 (0.75 kW) - Impeller diameter = 90 mm

COMPACT A/126 (0.9 kW) - Impeller diameter = 90 mm

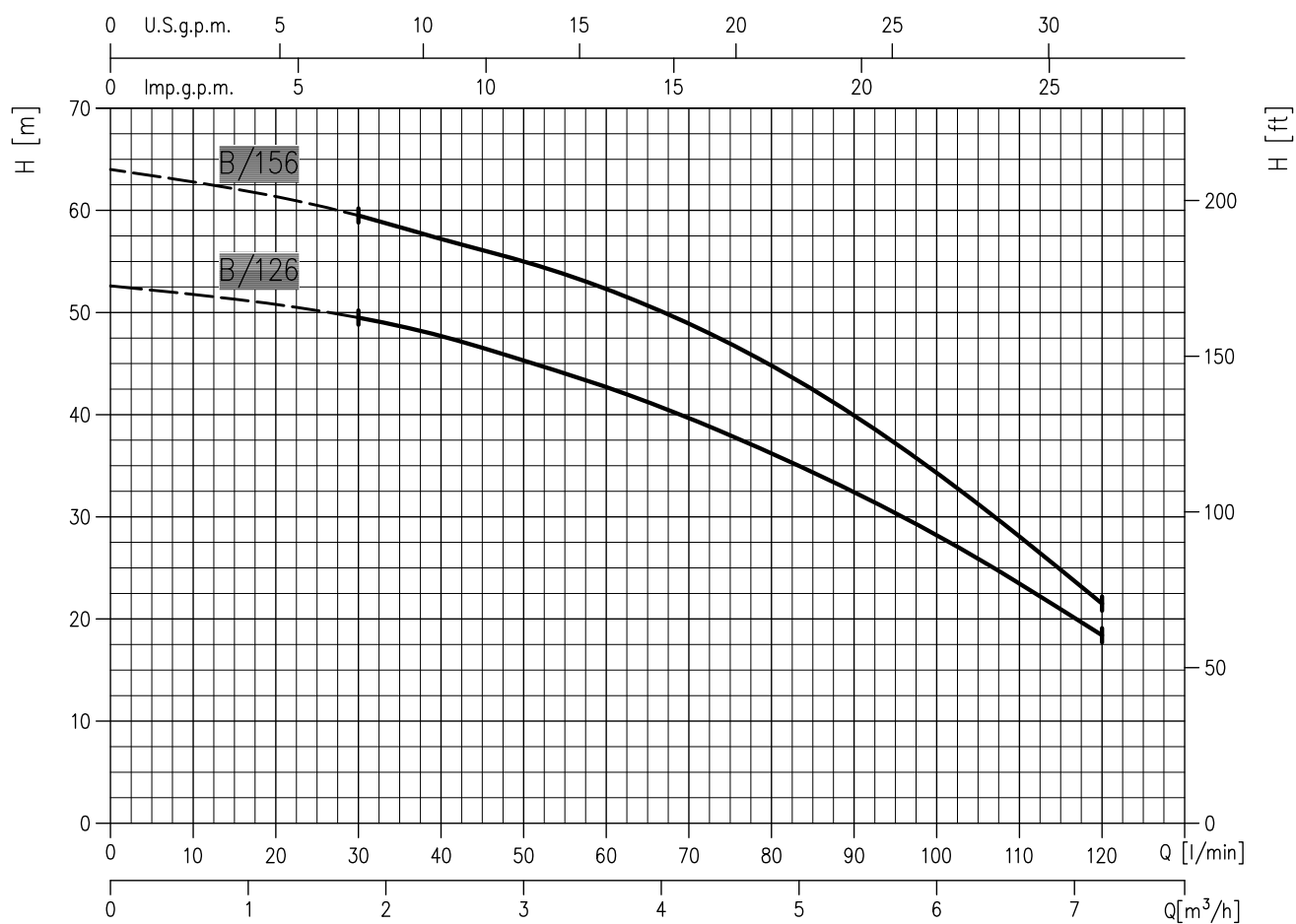
COMPACT A/156 (1.1 kW) - Impeller diameter = 90 mm



Rotation speed  $\approx 3400 \text{ min}^{-1}$   
 Test standard: ISO 9906 – Annex A

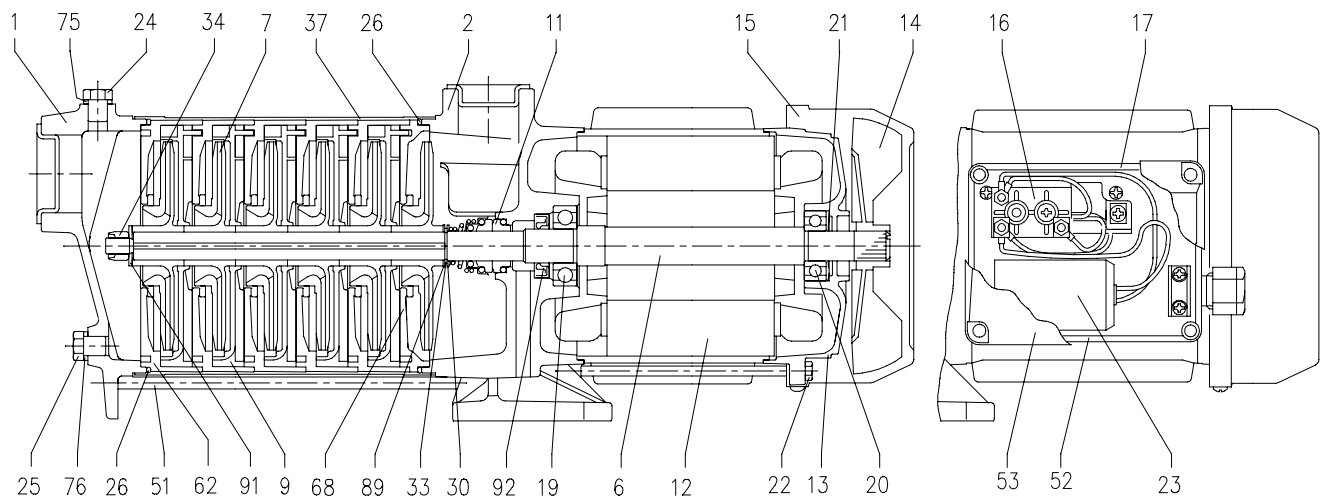
COMPACT B/126 (0.9 kW) - Impeller diameter = 88 mm

COMPACT B/156 (1.1 kW) - Impeller diameter = 88 mm



Rotation speed  $\approx 3400 \text{ min}^{-1}$   
Test standard: ISO 9906 – Annex A

SECTIONAL VIEW DRAWING



## SECTIONAL VIEW TABLE

| N° | PART NAME               | MATERIAL                                     | DIMENSIONS                                                      | STANDARD                         | Q.TY |
|----|-------------------------|----------------------------------------------|-----------------------------------------------------------------|----------------------------------|------|
| 1  | Suction casing          | Cast iron EN-GJL-200-EN 1561                 | -                                                               | -                                | 1    |
| 2  | Delivery casing         | Cast iron EN-GJL-200-EN 1561                 | -                                                               | -                                | 1    |
| 6  | Shaft with rotor        | EN 1.4005 (AISI 416)                         | -                                                               | -                                | 1    |
| 7  | Impeller                | PPE+PS fiber glass reinforced                | -                                                               | -                                | [1]  |
| 9  | Diffuser                | PPE+PS fiber glass reinforced                | -                                                               | -                                | [1]  |
| 11 | Mechanical seal [2]     | Carbon / Ceramic / NBR                       | -                                                               | -                                | 1    |
| 12 | Motor frame with stator | -                                            | -                                                               | -                                | 1    |
| 13 | Motor cover             | Aluminium                                    | -                                                               | -                                | 1    |
| 14 | Fan                     | PA6                                          | -                                                               | -                                | 1    |
| 15 | Fan cover               | Galvanized Fe P04                            | -                                                               | -                                | 1    |
| 16 | Terminal board          | -                                            | -                                                               | -                                | 1    |
| 17 | Terminal box cover [3]  | Aluminium                                    | -                                                               | -                                | 1    |
| 19 | Pump side ball bearing  | -                                            | [4]                                                             | -                                | 1    |
| 20 | Fan side ball bearing   | -                                            | [4]                                                             | -                                | 1    |
| 21 | Adjusting ring          | Steel C70                                    | -                                                               | -                                | 1    |
| 22 | Motor tie rod           | Galvanized Fe 42                             | M5xL                                                            | EBARA DRAWING                    | 4    |
| 23 | Capacitor [5]           | -                                            | -                                                               | -                                | 1    |
| 24 | Priming plug            | OT 58 UNI 5705                               | G 1/8"                                                          | UNI ISO 228                      | 1    |
| 25 | Drain plug              | OT 58 UNI 5705                               | G 1/8"                                                          | UNI ISO 228                      | 1    |
| 26 | O-ring                  | NBR                                          | 120x3                                                           | -                                | 2    |
| 30 | Washer                  | EN 1.4301 (AISI 304)                         | 12x21x1 - [UP to 0,6kW]<br>15x22x1 - [0,75 kW and above]        | EBARA DRAWING                    | 1    |
| 33 | Seeger ring             | EN 1.4021 (AISI 420)<br>EN 1.4301 (AISI 304) | 12<br>14                                                        | UNI 7435<br>JIS B2804-1978       | 1    |
| 34 | Impeller nut            | EN 1.4301 (AISI 304)                         | M8x1 - [UP to 0,6kW]<br>M10x1,25 - [0,75 kW and above]          | UNI 7474                         | 1    |
| 37 | External pump casing    | EN 1.4301 (AISI 304)                         | -                                                               | -                                | 1    |
| 51 | Tie rod                 | Galvanized Fe P04                            | M6xL                                                            | EBARA DRAWING                    | 4    |
| 52 | Capacitor box [5]       | PP                                           | -                                                               | -                                | 1    |
| 53 | Capacitor box cover [5] | PP                                           | -                                                               | -                                | 1    |
| 62 | Stage housing           | PPE+PS fiber glass reinforced/PTFE           | -                                                               | -                                | [1]  |
| 68 | Stage                   | PPE+PS fiber glass reinforced/PTFE           | -                                                               | -                                | 1    |
| 75 | Washer                  | Aluminium                                    | 10x16x1,5                                                       | EBARA DRAWING                    | 1    |
| 76 | Washer                  | Aluminium                                    | 10x16x1,5                                                       | EBARA DRAWING                    | 1    |
| 89 | Washer                  | EN 1.4301 (AISI 304)                         | 12x21x1 - [UP to 0,6kW]<br>14,1x22x1 - [0,75 kW and above]      | EBARA DRAWING                    | 1    |
| 91 | Washer                  | EN 1.4301 (AISI 304)                         | 8,4x17x1,6 - [UP to 0,6kW]<br>10,2x20x2,5 - [0,75 kW and above] | UNI EN ISO 7089<br>EBARA DRAWING | 1    |
| 92 | Lip seal                | NBR                                          | 12x24x4<br>17x32x6                                              | EBARA DRAWING                    | 1    |

[1] See table below

[2] See pag. 302

[3] Only for three phase

[4] See pag. 500

[5] Only for single phase

**QUANTITY FOR MODEL**

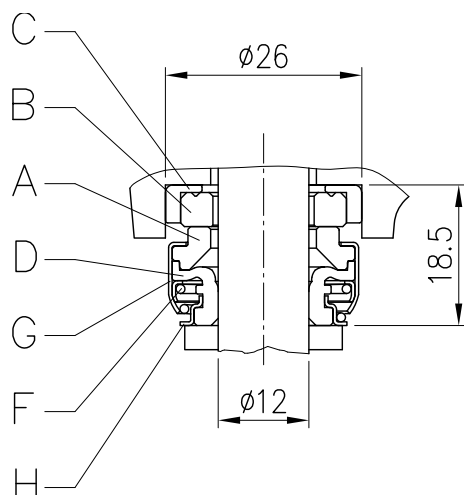
| Pump type     | POS. 7 | POS. 9 | POS. 62 |
|---------------|--------|--------|---------|
| COMPACT A/46  | 2      | 1      | 1       |
| COMPACT A/66  | 3      | 2      | 2       |
| COMPACT A/86  | 4      | 3      | 3       |
| COMPACT A/106 | 5      | 4      | 4       |
| COMPACT A/126 | 6      | 5      | 5       |
| COMPACT A/156 | 7      | 6      | 6       |
| COMPACT B/126 | 4      | 3      | 3       |
| COMPACT B/156 | 5      | 4      | 4       |

**BEARINGS**

| Pump type      |               | Ball Bearing |           |
|----------------|---------------|--------------|-----------|
| Single Phase   | Three Phase   | Pump side    | Fan side  |
| COMPACT AM/46  | COMPACT A/46  | 6201 2RSH    | 6201 2RSH |
| COMPACT AM/66  | COMPACT A/66  | 6201 2RSH    | 6201 2RSH |
| COMPACT AM/86  | COMPACT A/86  | 6201 2RSH    | 6201 2RSH |
| COMPACT AM/106 | COMPACT A/106 | 6203 2RSH    | 6202 2RSH |
| COMPACT AM/126 | COMPACT A/126 | 6203 2RSH    | 6202 2RSH |
| COMPACT AM/156 | COMPACT A/156 | 6203 2RSH    | 6202 2RSH |
| COMPACT BM/126 | COMPACT B/126 | 6203 2RSH    | 6202 2RSH |
| COMPACT BM/156 | COMPACT B/156 | 6203 2RSH    | 6202 2RSH |

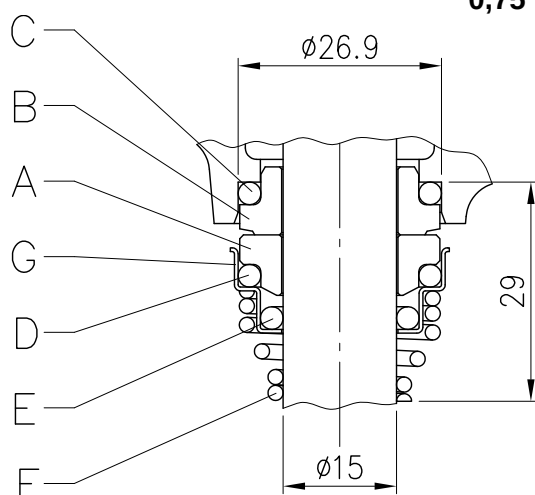
## MECHANICAL SEAL

## UP TO 0.6 kW



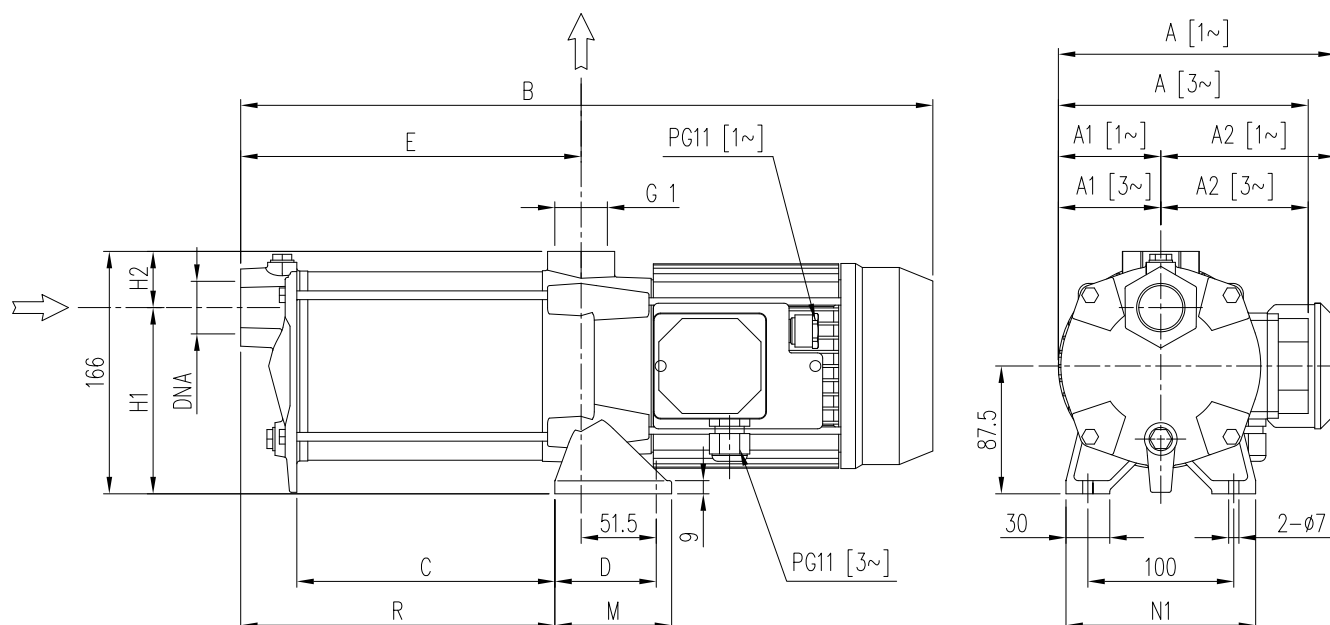
| REF | PART NAME            | MATERIAL<br>product standard |
|-----|----------------------|------------------------------|
| A   | Rotary seal ring     | carbon graphite              |
| B   | Stationary seal ring | ceramic                      |
| C   | Gasket               | NBR                          |
| D   | Bellows              | NBR                          |
| F   | Self driving spring  | AISI 304                     |
| G   | Frame                | AISI 304                     |
| H   | Retainer ring        | AISI 304                     |

## 0,75 kW AND ABOVE



| REF | PART NAME            | MATERIAL<br>product standard |
|-----|----------------------|------------------------------|
| 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                     |

## PUMP

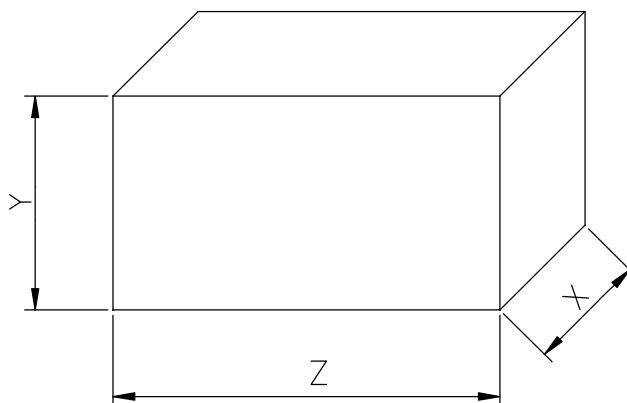


| Pump type      |               | Dimensions mm |      |      |      |      |      |       |       |     |      |     |     |      |    |     |     |       | Weight |      |
|----------------|---------------|---------------|------|------|------|------|------|-------|-------|-----|------|-----|-----|------|----|-----|-----|-------|--------|------|
| Single phase   | Three phase   | A             |      | A1   |      | A2   |      | B     |       | C   | D    | E   | H1  | H2   | M  | N1  | R   | DNA   | [kgf]  |      |
|                |               | [1~]          | [3~] | [1~] | [3~] | [1~] | [3~] | [1~]  | [3~]  |     |      |     |     |      |    |     |     |       | [1~]   | [3~] |
| COMPACT AM/46  | COMPACT A/46  | 159           | 161  | 68.5 | 68.5 | 90.5 | 92   | 307.5 | 309.5 | 82  | 51.5 | 121 | 128 | 38.5 | 62 | 133 | 121 | G 1   | 8.4    | 8.4  |
| COMPACT AM/66  | COMPACT A/66  | 159           | 161  | 68.5 | 68.5 | 90.5 | 92   | 333.5 | 335.5 | 108 | 51.5 | 147 | 128 | 38.5 | 62 | 133 | 147 | G 1   | 9.3    | 9.3  |
| COMPACT AM/86  | COMPACT A/86  | 159           | 161  | 68.5 | 68.5 | 90.5 | 92   | 359.5 | 361.5 | 134 | 51.5 | 173 | 128 | 38.5 | 62 | 133 | 173 | G 1   | 10     | 10   |
| COMPACT AM/106 | COMPACT A/106 | 169           | 171  | 70.2 | 70.2 | 98.8 | 101  | 426   | 428   | 142 | 69.5 | 199 | 128 | 38.5 | 80 | 130 | 181 | G 1   | 15     | 15   |
| COMPACT AM/126 | COMPACT A/126 | 169           | 171  | 70.2 | 70.2 | 98.8 | 101  | 452   | 466   | 168 | 69.5 | 225 | 128 | 38.5 | 80 | 130 | 207 | G 1   | 16     | 16   |
| COMPACT AM/156 | COMPACT A/156 | 169           | 171  | 70.2 | 70.2 | 98.8 | 101  | 490   | 492   | 194 | 69.5 | 251 | 128 | 38.5 | 80 | 130 | 233 | G 1   | 17     | 17   |
| COMPACT BM/126 | COMPACT B/126 | 169           | 171  | 70.2 | 70.2 | 98.8 | 101  | 400   | 414   | 116 | 69.5 | 173 | 124 | 42.5 | 80 | 130 | 155 | G 1 ¼ | 15     | 15   |
| COMPACT BM/156 | COMPACT B/156 | 169           | 171  | 70.2 | 70.2 | 98.8 | 101  | 438   | 440   | 142 | 69.5 | 199 | 124 | 42.5 | 80 | 130 | 181 | G 1 ¼ | 16     | 16   |

[1~] Single phase

[3~] Three phase

## PACKING



| Pump type      |               | Packing [mm] |      |      |      |      |      | Weight [kgf] |      |
|----------------|---------------|--------------|------|------|------|------|------|--------------|------|
| Single Phase   | Three Phase   | X            |      | Y    |      | Z    |      | [1~]         | [3~] |
|                |               | [1~]         | [3~] | [1~] | [3~] | [1~] | [3~] |              |      |
| COMPACT AM/46  | COMPACT A/46  | 192          | 192  | 212  | 212  | 384  | 384  | 8.9          | 8.9  |
| COMPACT AM/66  | COMPACT A/66  | 192          | 192  | 212  | 212  | 384  | 384  | 9.8          | 9.8  |
| COMPACT AM/86  | COMPACT A/86  | 192          | 192  | 212  | 212  | 384  | 384  | 10.8         | 10.8 |
| COMPACT AM/106 | COMPACT A/106 | 212          | 212  | 201  | 201  | 515  | 515  | 15.5         | 15.5 |
| COMPACT AM/126 | COMPACT A/126 | 212          | 212  | 201  | 201  | 515  | 515  | 16.6         | 16.5 |
| COMPACT AM/156 | COMPACT A/156 | 212          | 212  | 201  | 201  | 515  | 515  | 17.7         | 17.9 |
| COMPACT BM/126 | COMPACT B/126 | 212          | 212  | 201  | 201  | 515  | 515  | 15.9         | 16.7 |
| COMPACT BM/156 | COMPACT B/156 | 212          | 212  | 201  | 201  | 515  | 515  | 16.9         | 16.9 |

[1~] Single phase

[3~] Three phase

## MOTOR DATA

| Pump type      |               | Power |      | Capacitor    |     | Efficiency (% load) |      |      | Efficiency (% load) |      |      | Input        |             | Full load current |             |              | Locked rotor current |              |             |
|----------------|---------------|-------|------|--------------|-----|---------------------|------|------|---------------------|------|------|--------------|-------------|-------------------|-------------|--------------|----------------------|--------------|-------------|
| Single Phase   | Three Phase   | [kW]  | [HP] | Single Phase |     | Three phase (380 V) |      |      | Three phase (460 V) |      |      | Single Phase | Three Phase | Single Phase      | Three Phase | Single Phase | Three Phase          | Single Phase | Three Phase |
|                |               |       |      | [μF]         | [V] | 50%                 | 75%  | 100% | 50%                 | 75%  | 100% |              |             |                   |             |              |                      |              |             |
| COMPACT AM/46  | COMPACT A/46  | 0.3   | 0.4  | 10           | 450 | -                   | -    | -    | -                   | -    | -    | 0.54         | 0.45        | 2.9               | 1.6         | 0.9          | 9.5                  | 7.5          | 4.3         |
| COMPACT AM/66  | COMPACT A/66  | 0.44  | 0.6  | 12.5         | 450 | -                   | -    | -    | -                   | -    | -    | 0.73         | 0.63        | 3.5               | 2.1         | 1.2          | 11.3                 | 9.8          | 5.6         |
| COMPACT AM/86  | COMPACT A/86  | 0.6   | 0.8  | 14           | 450 | -                   | -    | -    | -                   | -    | -    | 0.91         | 0.75        | 4.3               | 2.4         | 1.4          | 12.8                 | 12.4         | 7.1         |
| COMPACT AM/106 | COMPACT A/106 | 0.75  | 1.0  | 20           | 450 | 77.2                | 79.5 | 79.3 | 76.6                | 80.9 | 82.3 | 1.33         | 1.00        | 6.7               | 2.9         | 1.7          | 35.2                 | 20.6         | 11.9        |
| COMPACT AM/126 | COMPACT A/126 | 0.9   | 1.2  | 31.5         | 450 | 80.7                | 82.3 | 81.5 | 77.9                | 81.7 | 82.7 | 1.53         | 1.50        | 7.0               | 3.8         | 2.2          | 29.4                 | 28.8         | 16.6        |
| COMPACT AM/156 | COMPACT A/156 | 1.1   | 1.5  | 31.5         | 450 | 80.7                | 82.3 | 81.5 | 77.9                | 81.7 | 82.7 | 1.60         | 1.50        | 7.5               | 3.8         | 2.2          | 30.7                 | 28.8         | 16.6        |
| COMPACT BM/126 | COMPACT B/126 | 0.9   | 1.2  | 31.5         | 450 | 80.7                | 82.3 | 81.5 | 77.9                | 81.7 | 82.7 | 1.46         | 1.50        | 6.8               | 3.8         | 2.2          | 28.6                 | 28.8         | 16.6        |
| COMPACT BM/156 | COMPACT B/156 | 1.1   | 1.5  | 31.5         | 450 | 80.7                | 82.3 | 81.5 | 77.9                | 81.7 | 82.7 | 1.58         | 1.50        | 7.4               | 3.8         | 2.2          | 30.3                 | 28.8         | 16.6        |