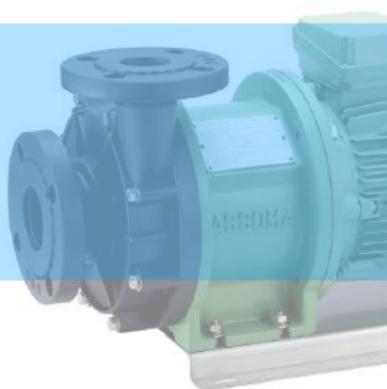


# Assoma AMX Series



**Assoma AMX Series** pumps are designed to withstand detrimental operations such as dry-running and cavitation. They have 2 worldwide patents covering bearing design, material and internal flow paths. Hydraulic performances have been extensively tested both in the laboratory and in the marketplace.

The AMX series offers a range from 0.4kW-3.75kW, and is dimensionally compatible with other leading brands available.

## Features & Benefits

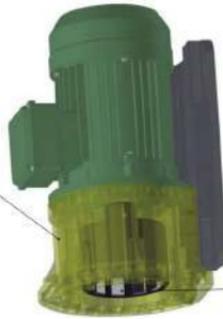
- Patented bearing structure lowers the thermal balancing temperature and prevents damage from dry-run
- Patented buffer system absorbs vibration and shock and prolongs pump service life
- The geometry of impeller and casing are fine tuned by professional hydraulic design program to reduce hydraulic loss and increase pump efficiency
- RF type adjustable flange facilitates piping installation and eliminates leakage problem

## Applications

- Bulk chemical transfer

### Patented Buffer System

The engineering plastic brackets can be used in a corrosive environment and will not be affected by chemicals that may come in contact with the bracket during routine maintenance. Both the construction and rigidity of the bracket are carefully calculated and the brackets are load and stress tested to ensure they are safe and durable. (FC bracket with s/s base still available on request)



### Integrate CAD/CAE System

Utilizing magnetic field analysis program, we are able to optimize our magnetic coupling design to provide sufficient torque to prevent decoupling.

### Patented Dry-run Design

The revolutionized bearing design with dual-channel circulation on both inner and outer surfaces of bearing contributes to rapidly heat dissipation. The internal circulation of the pump is fully utilized to reinforce convectional heat transfer that lower thermal balancing temperature and prevents damage even under dry running.



### Integrate CAD/CAE System

Using fully computer aided design and analysis to optimize our product performance and reliability, earning us a place within high-tech industries.

### Patented Buffer System

Our innovative dynamic buffer is specially designed to absorb vibration and shock caused by adverse operating conditions. At the same time, the dynamic buffer is self-adjusting, allowing a better face to face contact between the thrust ring and the wear ring, thus, minimizing wear and prolonging their service life.



### High Efficient Flow Design

The geometry of impeller and casing are generated by professional hydraulic programs. In addition, Computerized Fluid Dynamic (CFD) method is used to control stream pattern, thus reducing hydraulic loss and increasing pump efficiency.

### Flange Assembly

Our adjustable flange can be rotated easily to align with the opposite flange for easy installation. Furthermore, the two-piece flange design will provide a leak-free and secure seal against possible flange distortion

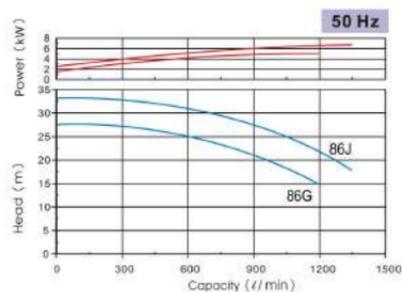
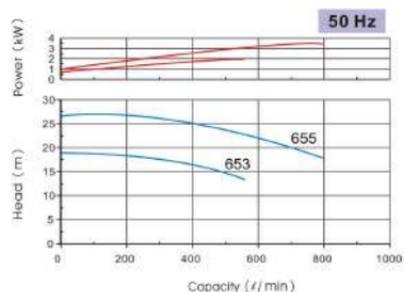
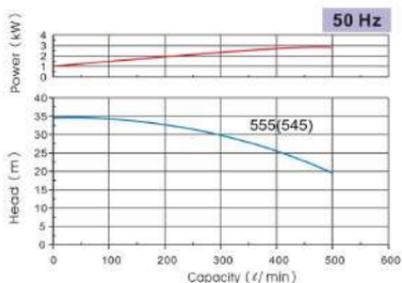
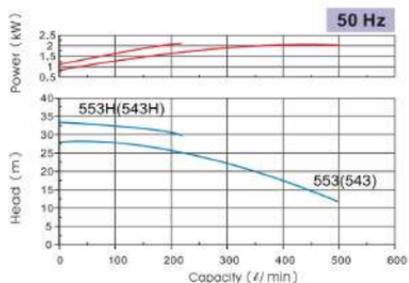
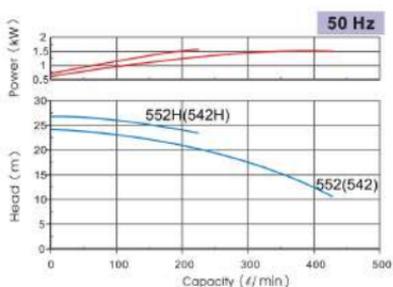
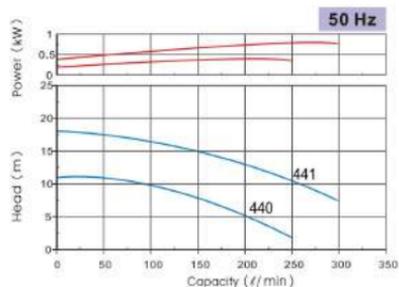
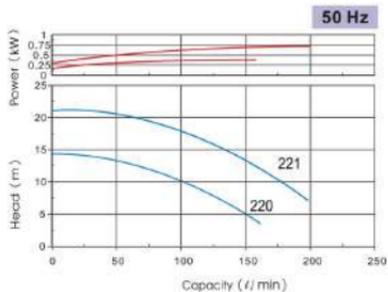
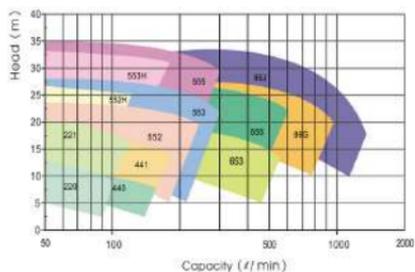


### Volute Flow Path

The volute flow path is designed to allow the fluid to emulate a free vortex to reduce unnecessary frictional loss and noise. This will maximise the pump's efficiency in converting flow kinetic energy into pressure potential energy. It will also minimize the radial forces experienced by the impeller and reduce the loading on the bearing.

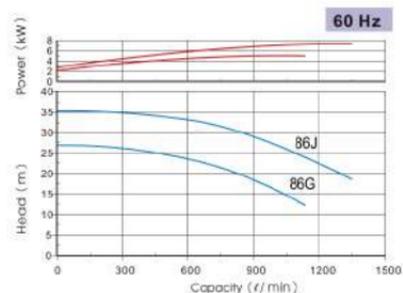
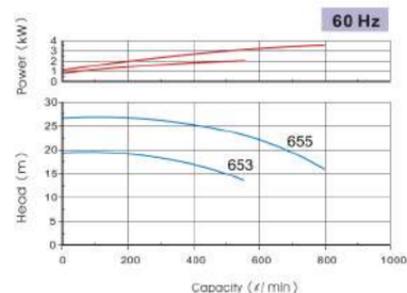
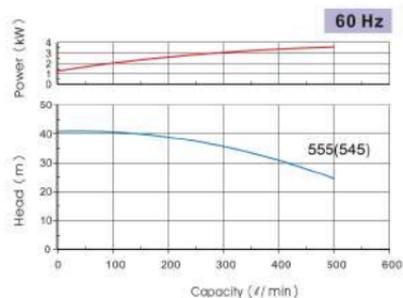
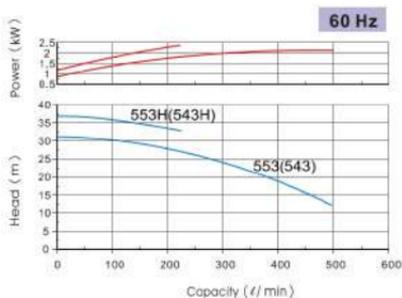
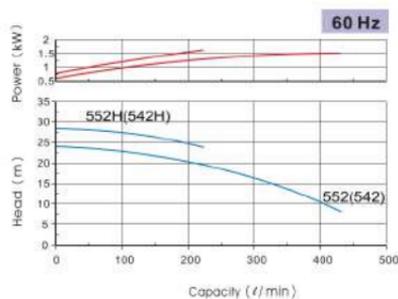
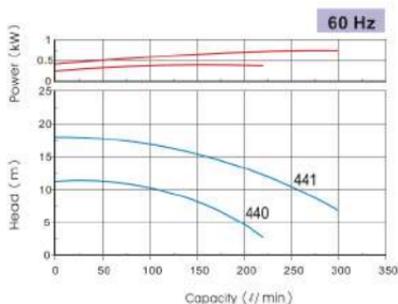
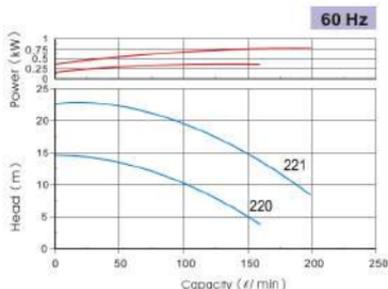
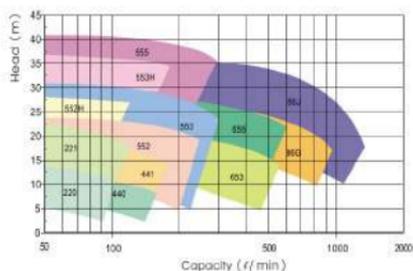
# Performance Curves

## 50 Hz



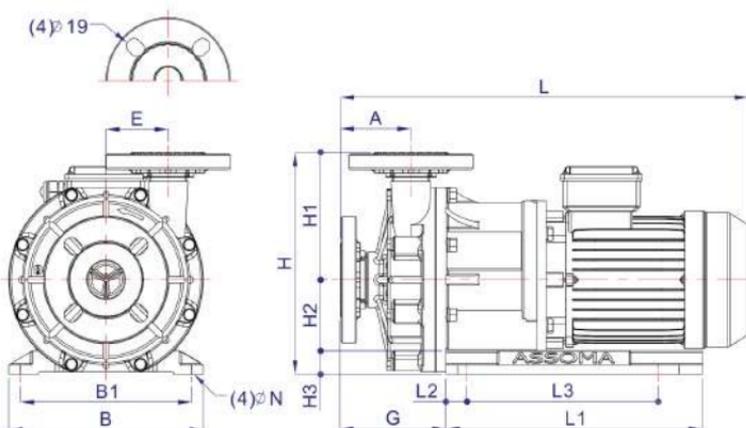
# Performance Curves

60Hz



## Dimensions

### PPG Bracket & Base

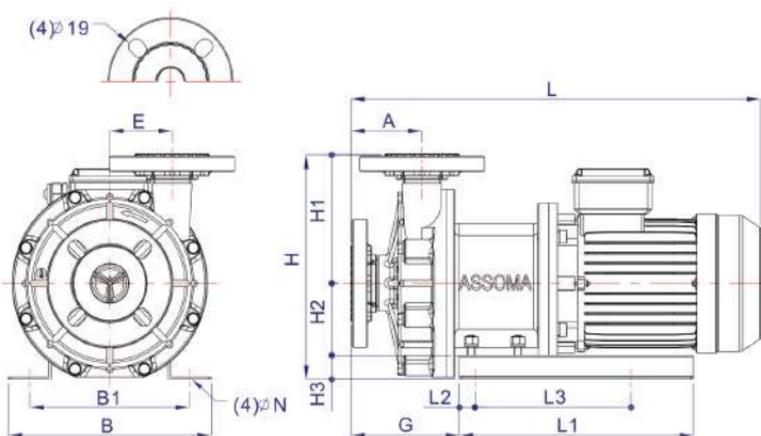


| Item<br>Model | Dimension (mm) |     |       |       |       |       |       |     |     |     |     |     |     |     | Bore(mm) |        | Flange(mm) |        |
|---------------|----------------|-----|-------|-------|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|----------|--------|------------|--------|
|               | A              | B   | B1    | E     | G     | H     | H1    | H2  | H3  | L   | L1  | L2  | L3  | N   | Inlet    | Outlet | Inlet      | Outlet |
| AMX-220       | 90             |     |       | 65    | 138   | 255   | 140   | 85  |     | 449 |     |     |     |     | 21       | 21     | 25         | 25     |
| AMX-440       | 87.5           | 225 | 195   | 54    | 137   | 225.5 | 130.5 | 65  |     | 443 | 203 | 35  | 128 | 12  | 36       | 36     | 40         | 40     |
| AMX-221       | 90             |     |       | 65    | 138   | 255   | 140   | 85  | 474 | 21  |     |     |     |     | 21       | 25     | 25         |        |
| AMX-441       | 105.5          |     |       | 72    | 153.5 | 257.5 | 142.5 |     |     | 490 |     |     |     | 40  |          | 40     | 40         |        |
| AMX-542(H)    |                |     |       |       |       | 282.5 | 162.5 |     |     | 499 |     |     |     |     |          |        |            |        |
| AMX-552(H)    | 91             |     |       | 80    | 136   | 281.5 | 161.5 | 90  |     | 525 |     |     |     |     | 50       | 40     | 50         | 50     |
| AMX-543(H)    |                |     | 282.5 |       |       | 162.5 | 30    |     |     |     |     |     |     |     |          |        |            |        |
| AMX-553(H)    |                |     | 281.5 |       |       | 161.5 |       |     |     |     |     |     |     |     |          |        |            |        |
| AMX-653       |                | 92  | 250   |       |       | 220   | 131   |     | 331 |     | 169 | 132 |     | 532 |          |        |            |        |
| AMX-545       | 91             | 125 |       | 324.5 | 162.5 |       | 593   | 50  | 40  | 50  | 40  |     |     |     |          |        |            |        |
| AMX-555       |                |     |       | 323.5 | 161.5 |       | 600   | 65  | 50  | 65  | 50  |     |     |     |          |        |            |        |
| AMX-655       | 92             |     |       |       | 131   |       | 331   | 169 |     |     |     |     |     |     |          |        |            | 65     |
| AMX-86G       | 140            | 310 | 280   | 90    | 190   | 440   | 210   | 185 | 45  | 728 | 500 | 30  | 440 | 14  | 78       | 65     | 80         | 65     |
| AMX-86J       |                |     |       |       |       |       |       |     |     |     |     |     |     |     |          |        |            |        |

Note: Dimension of the pump will differ depending on the brand and installation of the motor.

## Dimensions

### FC Bracket and SUS304 Base



| Item<br>Model | Dimension (mm) |     |     |    |       |       |       |     |    |     |     |    |     |   |       | Bore(mm) |       | Flange(mm) |     |
|---------------|----------------|-----|-----|----|-------|-------|-------|-----|----|-----|-----|----|-----|---|-------|----------|-------|------------|-----|
|               | A              | B   | B1  | E  | G     | H     | H1    | H2  | H3 | L   | L1  | L2 | L3  | N | Inlet | Outlet   | Inlet | Outlet     |     |
| AMX-220       | 90             | 160 | 130 | 65 | 136   | 255   | 140   | 85  | 30 | 449 | 210 | 35 | 130 |   | 21    | 21       | 25    | 25         |     |
| AMX-440       | 87.5           | 140 | 110 | 54 | 130.5 | 225.5 | 130.5 | 75  | 20 | 443 | 200 | 20 | 98  |   | 36    | 36       | 40    | 40         |     |
| AMX-221       | 90             | 160 | 130 | 65 | 136   | 255   | 140   | 85  | 30 | 474 | 210 | 35 | 130 |   | 21    | 21       | 25    | 25         |     |
| AMX-441       | 105.5          |     |     | 72 | 151.5 | 257.5 | 142.5 |     |    | 490 |     |    |     |   | 40    | 40       | 40    |            |     |
| AMX-542(H)    | 91             | 260 | 204 | 80 | 139   | 282.5 | 162.5 | 90  | 30 | 499 | 300 | 20 | 200 |   | 50    | 40       | 50    | 40         |     |
| AMX-552(H)    |                |     |     |    |       | 281.5 | 161.5 |     |    | 532 |     |    |     |   |       |          |       |            | 50  |
| AMX-543(H)    |                |     |     |    |       | 282.5 | 162.5 |     |    | 525 |     |    |     |   |       |          |       |            | 40  |
| AMX-553(H)    |                |     |     |    |       | 281.5 | 161.5 |     |    | 532 |     |    |     |   |       |          |       |            | 50  |
| AMX-653       |                |     |     |    |       | 92    | 126   |     |    | 331 |     |    |     |   |       |          |       |            | 169 |
| AMX-545       | 91             | 250 | 220 | 80 | 117   | 324.5 | 162.5 | 132 | 30 | 593 | 360 | 30 | 300 |   | 50    | 40       | 50    | 40         |     |
| AMX-555       |                |     |     |    |       | 323.5 | 161.5 |     |    | 600 |     |    |     |   | 65    | 50       | 65    | 50         |     |
| AMX-655       |                |     |     |    |       | 92    | 123   |     |    | 331 |     |    |     |   | 169   | 600      | 65    | 50         | 65  |

Note: Dimension of the pump will differ depending on the brand and installation of the motor.

## Specifications

| Model    | Suction x Discharge<br>mm x mm | Frequency | Rated Capacity<br>l/min | Rated Head<br>m | Max. Capacity<br>l/min | Max. Head<br>m | Motor Output<br>kW |
|----------|--------------------------------|-----------|-------------------------|-----------------|------------------------|----------------|--------------------|
| AMX-220  | 25 x 25                        | 50Hz      | 80                      | 10.6            | 150                    | 14.0           | 0.4                |
|          |                                | 60Hz      | 80                      | 11.8            |                        | 14.8           |                    |
| AMX-440  | 40 x 40                        | 50Hz      | 100                     | 9.9             | 240                    | 11.0           | 0.4                |
|          |                                | 60Hz      | 100                     | 10.3            |                        | 11.4           |                    |
| AMX-221  | 25 x 25                        | 50Hz      | 100                     | 17.8            | 200                    | 21.1           | 0.75               |
|          |                                | 60Hz      | 100                     | 19.6            |                        | 22.7           |                    |
| AMX-441  | 40 x 40                        | 50Hz      | 150                     | 15.0            | 300                    | 18.0           | 0.75               |
|          |                                | 60Hz      | 150                     | 15.4            |                        | 18.2           |                    |
| AMX-542  | 50 x 40                        | 50Hz      | 200                     | 21.1            | 430                    | 24.1           | 1.5                |
| AMX-552  | 50 x 50                        | 60Hz      | 200                     | 20.3            |                        | 24.4           |                    |
| AMX-542H | 50 x 40                        | 50Hz      | 100                     | 25.8            | 225                    | 26.7           | 1.5                |
| AMX-552H | 50 x 50                        | 60Hz      | 100                     | 27.2            |                        | 28.2           |                    |
| AMX-543  | 50 x 40                        | 50Hz      | 250                     | 24.1            | 500                    | 28.1           | 2.2                |
| AMX-553  | 50 x 50                        | 60Hz      | 250                     | 25.9            |                        | 31.1           |                    |
| AMX-543H | 50 x 40                        | 50Hz      | 150                     | 31.7            | 220                    | 33.3           | 2.2                |
| AMX-553H | 50 x 50                        | 60Hz      | 150                     | 34.8            |                        | 37.1           |                    |
| AMX-545  | 50 x 40                        | 50Hz      | 250                     | 31.4            | 500                    | 34.7           | 3.75               |
| AMX-555  | 50 x 50                        | 60Hz      | 250                     | 37.4            |                        | 40.9           |                    |
| AMX-653  | 65 x 50                        | 50Hz      | 450                     | 15.7            | 560                    | 18.9           | 2.2                |
|          |                                | 60Hz      | 450                     | 15.9            |                        | 19.6           |                    |
| AMX-655  | 65 x 50                        | 50Hz      | 500                     | 23.9            | 800                    | 26.9           | 3.75               |
|          |                                | 60Hz      | 500                     | 23.9            |                        | 26.8           |                    |
| AMX-86G  | 80 x 65                        | 50Hz      | 800                     | 22.7            | 1140                   | 27.6           | 5.5                |
|          |                                | 60Hz      | 800                     | 20.4            |                        | 26.9           |                    |
| AMX-86J  | 80 x 65                        | 50Hz      | 800                     | 29.0            | 1350                   | 33.1           | 7.5                |
|          |                                | 60Hz      | 800                     | 30.5            |                        | 35.2           |                    |

## Pump Identification

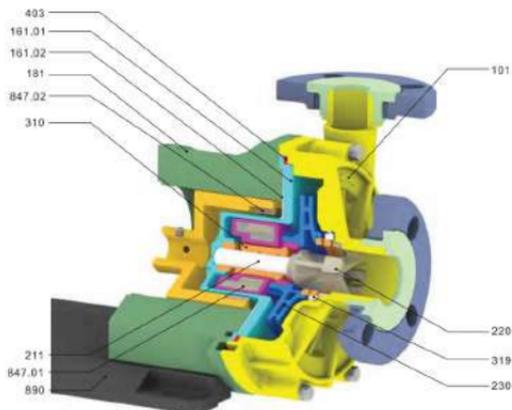
**AMX - 5 4 2 F E A C V - 0**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

|                      |   |
|----------------------|---|
| ① Series Symbol      | AMX Series  |
| ② Suction Size       | 2: 25A(1")<br>4: 40A(1½")<br>5: 50A(2")<br>6: 65A(2½")<br>8: 80A(3")  |
| ③ Discharge Size     | 2: 25A(1")<br>4: 40A(1½")<br>5: 50A(2")<br>6: 65A(2½")  |
| ④ Motor Power        | 0: 1/2 hp (0.4 kW)<br>1: 1 hp (0.75 kW)<br>2: 2 hp (1.5 kW)<br>3: 3 hp (2.2 kW)<br>5: 5 hp (3.75 kW)<br>G: 7.5 hp (5.5 kW)<br>J: 10 hp (7.5 kW) |
| ⑤ Type of Connection | F: Flange<br>U: Union   |

|                    |   |
|--------------------|---|
| ⑥ Casing Material  | E: ETFE+CF<br>G: PP+GF  |
| ⑦ Shaft Material   | A: 995 Al <sub>2</sub> O <sub>3</sub><br>S: SSIC  |
| ⑧ Bearing Material | A: 995 Al <sub>2</sub> O <sub>3</sub><br>C: CARBON<br>R: PTFE+CF<br>S: SSIC                         |
| ⑨ O-Ring Material  | E: EPDM<br>V: FKM<br>P: PTFE+FKM  |
| ⑩ Motor Type       | 0: IP54<br>1: IP55<br>2: Explosion proof eG3<br><br>3: Explosion proof d2G4<br><br>S: Special motor |

## Material



| Part code | Part Name                   |                                       | Available Materials  |
|-----------|-----------------------------|---------------------------------------|--|
| 101       | Pump casing assembly * * *  | Pump casing                           | PP+GF / ETFE+CF  |
|           |                             | Inlet adjustable flange * *           | PP+GF / ETFE+CF  |
|           |                             | Outlet adjustable flange * *          | PP+GF / ETFE+CF  |
|           |                             | Inlet flange adaptor                  | PP+GF / ETFE+CF  |
|           |                             | Outlet flange adaptor                 | PP+GF / ETFE+CF  |
| 161.01    | Rear casing / thrust ring   | Rear casing                           | PP+GF / ETFE+CF  |
|           |                             | Rear thrust ring                      | 995 Al <sub>2</sub> O <sub>3</sub> / SSiC                  |
| 161.02    | Backup plate                |                                       | SUS304   |
| 181       | Bracket *                   |                                       | PP+GF / FC   |
| 211       | Shaft                       |                                       | 995 Al <sub>2</sub> O <sub>3</sub> / SSiC                  |
| 220       | Front support, shaft        |                                       | ETFE+CF  |
| 230       | Impeller wear ring assembly | Impeller                              | PP+GF / ETFE+CF  |
|           |                             | Front wear ring                       | CARBON/SSiC/PTFE+CF  |
| 310       | Bearing                     |                                       | 995 Al <sub>2</sub> O <sub>3</sub> / CARBON / SSiC/PTFE+CF |
| 319       | Thrust ring & buffer        | Front buffer<br>(86G/J除外Except 86G/J) | ETFE   |
|           |                             | Front thrust ring                     | 995 Al <sub>2</sub> O <sub>3</sub> / SSiC                  |
| 403       | Gasket                      |                                       | EPDM / FKM / PTFE+FKM                                      |
| 847.01    | Magnet capsule * * * * *    |                                       | PP / ETFE , Nd-Fe-B  |
| 847.02    | Drive magnet * * * * *      |                                       | Nd-Fe-B  |
| 890       | Base plate *                |                                       | PP+GF / SUS304   |

**Note:** Dimension of the pump will differ depending on the brand and installation of the motor.

- \* Standard material of bracket and base of AMX series is PP+GF. FC bracket and SUS304 base can be offered in accordance with customer's requirement.
- \*\* The AMX Series has a unique 2-piece flange design, the flange adaptor and adjustable flange. Since the flange itself is not a wetted part, we offer PP+GF as material for the flange. ETFE+CF flanges are available by request only.
- \*\*\* We offer only PP+GF as material for Pump casing assembly, rear casing, bracket, front support, and impeller, PP as material for magnet capsule, and SUS304 as material for base plate of 86G and 86J.
- \*\*\*\* 1/2 and 1HP pumps use Ferrite metals for the magnets.