



Manufacture: NAKAKIN CO.,LTD. PUMP DIVISION

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No.1 in Japan

With built in safety mechanism, Nakakin pumps offer excellent discharge capacity, suction and consistent volume flow not found in non-contact structure pumps.

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Purées & Sauces

Confectionery



Beverages



Bakery



Meat Products





Nakamura Metal No.3 is a unique product that we developed using our advanced molding technology. It is a specil alloy that has minimum expansion even under high temperatures.



Raw Material

pump parts.



Nakakin inspects every single pump for accuracy, and finish up in high-load operation testing to ensure safety.





Nakamura Metal No. 3

Nakakin's production starts with excellent engineers and artisans melting and pouring metal into molds to make raw parts. Nakakin manufactures the major

Machining Accuracy and Assembly Precision



Product Lineup



Big Pump

Pump

with Flange Connection

(6s 1470L/min)



Mini Pump

Pump Unit



Jacket (Casing & Cover)



Customized Color



Unit with Variable Speed Changer



Vented Cover





Buffing (Buff Finish)



Unit with SUS Cover







Only Nakakin's consistent one-step production provides all customer needs.

Continuously producing pumps best meeting customer needs, Nakakin's outstanding technology is widely recognized both in Japan and overseas.

As this production system is flexible, please consult us about your particular needs and special requirements.





JM/JO

These models use inner seals , JM for mechanical sealing and JO for O-ring sealing. Simple structures making dismantling and reassembly easy and providing a long effective life with high performance make these models the most popular.



These models use outer mechanical sealing. Their simple structure makes dismantling and reassembly easy. Clients can select from single, quench, and tandem mechanisms. Designed to handle a wide variety of liquids, these models work especially well with corrosive and fiber-containing liquids.





Supported by high quality and high performance, each of Nakakin's four pump types is unique.

A casting foundry combining Japan's technologies and excellence in the art of design and production with our own casting foundry. Nakakin produces high quality and high Our wide range of approaches to sealing includes using inside

performance rotary piston pumps.

and outside mechanical seals to meet individual applications. Nakakin pumps are easy to clean, easy to dismantle, and easy to reassemble.





SC

The SC type is specifically designed for cleaning and washing ease. Using a flat cover and eliminating bosses allows these pumps to provide effective washing and cleaning while leaving less liquid residue. The simple structure makes dismantling and reassembly easy.







06

AMXN

Designed for completely aseptic liquid distribution, these pumps isolate liquids completely from the atmosphere to ensure aseptic conditions. Distributing mediums such as sterilized water and steam, these models are suited to aseptic production lines of products requiring long-term preservation such as dairy products and medications.

JM/JO

INSIDE MECHANICAL SEAL TYPE / O-RING SEAL TYPE



Features and Benefits

Smallest Clearance

Special alloy "Nakamura Metal No.3" can make the smallest clearance between rotors and casing.

- Convey a constant volume of liquid.
- Self-priming
- Distribution of all levels of viscosity

High Degree of Cleanability

Incredibly easy assembly /disassembly. Completely cleaned and sterilized with CIP & SIP processes. Standard: 95°C, High Temperature: 150°C

Inside Seal

Precision Pump - High rigidity is reached by shortest distance between bearing and rotor.

Specifications

| Size | Connection | Flow Rate |
|------|------------|------------|
| 2 | 1s | 8L/min |
| 4 | 1s | 20L/min |
| 10 | 1.5s | 40L/min |
| 16 | 1.5s | 60L/min |
| 25 | 1.5s | 1001 /min |
| 25 | 3s×2s | TOOL/MIN |
| 40 | 2s | 1051 /min |
| 40 | 3s×2s | 135L/min |
| 55 | 2s | 0701 /min |
| 55 | 3s×2s | 270L/MIN |
| 105 | 2.5s | 4401 /min |
| 125 | 3s | 410L/min |
| 160 | 4s | 710L/min |
| 200 | 4s | 930L/min |
| 300 | 65 | 14701 /min |





Mechanical Seal type

High durability and suitable for a wide variety of liquids

O-ring Seal type

Easy to dismantle and reassemble after cleaning

- Maximum Discharge Pressure 1.0 MPa=10 bar (For details see Condification Chart,P33,34)
- Vertical and Horizontal
- Double and Single Blade Rotors
- Interchangeable with RM/RO series





OUTSIDE MECHANICAL SEAL TYPE





Smallest Clearance

Special alloy "Nakamura Metal No.3" can make the smallest clearance between rotors and casing.

- Convey a constant volume of liquid.
- Self-priming
- Distribution of all levels of viscosity

High Degree of Cleanability

Incredibly easy assembly /disassembly. Completely cleaned and sterilized with CIP & SIP processes. Standard: 95°C, High Temperature: 150°C

Outside Seal

High Cleanability - A few parts in a wet area can be dismantled and reassembled easily.

Specifications

| Size | Connection | Flow Rate |
|------|------------|-----------|
| 2 | 1s | 8L/min |
| 4 | 1s | 20L/min |
| 10 | 1.5s | 40L/min |
| 16 | 1.5s | 60L/min |
| 25 | 1.5s | 100L/min |
| 40 | 2s | 135L/min |
| 55 | 2s | 270L/min |
| 125 | 2.5s | 410L/min |
| 160 | 4s | 710L/min |
| 200 | 4s | 930L/min |
| 300 | 6s | 1470L/min |





Single Mechanical Seal type

Standard.

Quench Seal type

Quenching Seal by Oil Seal. Moderate price compared to Tamdem. (0.03 MPa=0.3 bar)

Tamdem Seal type

Quenching Seal by Mechanical Seal. Steam is available. (0.25 MPa=2.5 bar)

Maximum Discharge Pressure 1.0 MPa=10 bar (For details see Condification Chart,P33,34)

- Vertical and Horizontal
- Double and Single Blade Rotors

Construction Diagram





SUPER CLEAN TYPE



Features and Benefits

Smallest Clearance

Special alloy "Nakamura Metal No.3" can make the smallest clearance between rotors and casing.

- Convey a constant volume of liquid.
- Self-priming
- Distribution of all levels of viscosity

Highest Degree of Cleanability

• Limited number of spaces within the pump for liquids to pool results in easy cleaning.

• Placed vertically with a CIP mechanism, this pump eliminates every last drop of liquid from the interior of the pump.

Incredibly easy assembly /disassembly. Completely cleaned and sterilized with CIP & SIP processes.
 Standard: 95°C, High Temperature: 150°C

Maximum Discharge Pressure 1.0 MPa=10 bar (For details see Condification Chart,P33,34)

Specifications

| Size | Connection | Flow Rate |
|------|------------|-----------|
| 15 | 1.5s | 70L/min |
| 30 | 2s | 125L/min |
| 60 | 2s | 240L/min |
| 130 | 3s | 480L/min |



Special Features for SC

• Fixed Shaft Rotor $\cdot \cdot \cdot$ Disassembly / assembly is now a simple process. Because the shaft is fixed to the rotor, the rotor can be easily and accurately installed.

• Flat Head Rotor & Cover · · · The head of the rotor and the cover is flat. This dramatically minimises the spaces in which liquid pooling may occur.

• Super Clean Mechanical Seal • • • The mechanical seal is simple and compact in design. There are no O-ring grooves, which may trap liquids and this contributes to easy cleaning.

• Loosening the nut at the rear of the rotor unitized with the shaft enables easy disassembly, making it convenient for maintenance such as replacing mechanical seals.

- Vertical and Horizontal
- Double and Single Blade Rotors







A MARK ASEPTIC



Features and Benefits

Smallest Clearance

Special alloy "Nakamura Metal No.3" can make the smallest clearance between rotors and casing.

- Convey a constant volume of liquid.
- Self-priming
- Distribution of all levels of viscosity

High Degree of Cleanability

Incredibly easy assembly /disassembly. Completely cleaned and sterilized with CIP & SIP processes. Standard: 95°C, High Temperature: 150°C

Special Features for AMXN

• The aseptic rotary pumps completely isolate the products from the atmosphere to maintain the products free from germs.

• Double layered Seal + Steam Barrier

The seal mechanism in the pump is double-layered with a steam barrier on the interior of the two steam pathways inside the pump. This prevents any contamination of the pump interior by airborne bacteria or the like.

Medium solution: Sterile water and steam

Specifications

| Size | Connection | Flow Rate |
|-------|------------|-----------|
| 2400 | 1.5s | 41L/min |
| 3400 | 1.5s | 57L/min |
| 7000 | 2s | 110L/min |
| 10000 | 2s | 176L/min |
| 14000 | 2s | 270L/min |
| 24000 | 3s | 430L/min |





CIP JET

Halls and Channels in casing and cover allow self-cleaning without disassembly, creating a very efficient cleaning process.(P36)

- Maximum Discharge Pressure 0.7 MPa=7 bar (For details see Condification Chart,P33,34)
- Vertical and Horizontal
- Double and Single Blade Rotors

JM/JO Structural Drawing

JMU Structural Drawing

Exploded view of components in contact with liquids



| No. | Parts | No. | Parts |
|-----|---------------|-----|-----------------|
| 3 | Casing | 20 | Hexagon cap nut |
| 4 | Casing cover | 43 | Cap bolt |
| 5 | Rotor | 50 | Nut O-ring |
| 12 | Cap nut | 51 | Rotor O-ring |
| 13 | Spring washer | 52 | Cover O-ring |

JM

Mechanical Seal Structure



| No. | Mechanical Seal |
|------|---------------------|
| 48-1 | Mating ring O-ring |
| 48-2 | Mating ring |
| 48-3 | Primary ring O-ring |
| 48-4 | Primary ring |
| 48-5 | Coil spring |
| 48-6 | Spring holder |
| | |

JO

O-ring Seal Structure



| NO. | O-Ing Seal |
|-----|--------------------|
| 44 | O-ring seal collar |
| 45 | Sleeve |
| 53 | Sleeve O-ring |
| 54 | Casing O-ring |
| 55 | Collar O-ring |
| 60 | Rotor |
| | |

Exploded view of components in contact with liquids



| No. | Parts | No. | Parts |
|-----|---------------|-----|-----------------|
| 3 | Casing | 20 | Hexagon cap nut |
| 4 | Casing cover | 43 | Cap bolt |
| 5 | Rotor | 50 | Nut O-ring |
| 12 | Cap nut | 51 | Rotor O-ring |
| 13 | Spring washer | 52 | Cover O-ring |



| No. | Mechanical Seal Parts on Pump Side |
|------|---------------------------------------|
| 48-1 | Mating ring O-ring |
| 48-2 | Mating ring |
| 48-3 | Primary ring O-ring |
| 48-4 | Primary ring |
| 48-5 | Wave spring |
| | |



| h Seal Parts ospheric Side | No. | Mechanical Seal Parts on Atmospheric Side |
|-------------------------------|-------|--|
| lt | 48-6 | Mating ring O-ring |
| retainer | 48-7 | Mating ring |
| r O-ring | 48-8 | Primary ring O-ring |
| sleeve | 48-9 | Primary ring |
| O-ring | 48-10 | Wave spring |
| | 48-11 | Cap bolt |

Structural Drawing

Exploded view of components in contact with liquids





| No. | Parts | No. | Parts |
|-----|-----------------|-----|---------------|
| 3 | Casing | 43 | Cap bolt |
| 4 | Casing cover | 50 | Washer |
| 5 | Rotor | 51 | Spring washer |
| 12 | Nut | 52 | Cover O-ring |
| 20 | Hexagon cap nut | | |

| Parts | No. | Parts |
|--------------|---|--|
| Casing | 33 | Rotor O-ring |
| Casing cover | 35 | Cover O-ring(in) |
| Rotor | 36 | Cover O-ring(out) |
| Cap nut | 42 | Hexagon cap nut |
| Nut O-ring | 43 | Cap bolt |
| | Parts Casing Casing cover Rotor Cap nut Nut O-ring | PartsNo.Casing33Casing cover35Rotor36Cap nut42Nut O-ring43 |

Structure in contact with liquids and structure of mechanical seal



Mechanical Seal Structure

| No. | Mechanical Seal |
|------|-----------------------------|
| 48-1 | Mating ring O-ring |
| 48-2 | Mating ring |
| 48-3 | Primary ring O-ring |
| 48-4 | Primary ring |
| 48-5 | Wave spring |
| 69 | Mechanical seal retainer |
| 70 | Flathead screw for retainer |
| | |



Exploded view of components in contact with liquids

| No. | Mechanical Seal Parts on Pump Side |
|-------|---|
| 46-1 | Mating ring O-ring |
| 46-2 | Mating ring |
| 48-3 | Primary ring O-ring |
| 46-4 | Primary ring |
| 46-5 | Coil spring |
| 46-11 | Spring holder |
| | |
| No. | Mechanical Seal Parts on Atmospheric Side |
| 46-6 | Mating ring O-ring |
| 46-7 | Mating ring |
| 46-8 | Primary ring O-ring |
| 46-9 | Primary ring |
| 46-10 | Wave spring |
| | |





JM/JO/JMU 55

PORT SIZE: 2" / PRODUCT: Water & Newtonian fluid



L/H L/M

100 200 300 400 500 600 700 800 rpm





*Actual performance may vary by application or product. *Refer to page 20 for the interpretation of the chart.

20

Performance Curve

JM/JO/JMU 160 PORT SIZE:4" / PRODUCT:Water & Newtonian fluid



JM/JO/JMU 300

PORT SIZE:6" / PRODUCT:Water & Newtonian fluid







SC 30

PORT SIZE: 2" / PRODUCT: Water & Newtonian fluid









*Actual performance may vary by application or product. *Refer to page 20 for the interpretation of the chart.

Performance Curve



How to Use the Performance Curve

Under the following conditions: Flow rate: 30 L/min, discharge pressure: 0.6 MPa and viscosity: 10 CPS



1.Come straight down (in the direction of \downarrow) from ① on "ALL VISCOSITIES CPS" in the upper right corner. 2.When reaching the 0.6 MPa line 2, move to direction of \leftarrow .

3. When reaching the rightmost grid of the diagram, draw line 3 in parallel with it.

4.From the intersection of 30 L/min line ④ and line ③, come straight down (in the direction of ↓) to draw line ⑤ and obtain the rotational speed of 270 rpm.

5.From the intersection of 30 L/min line ④ and the 0.6MPa power line, go up straight in the direction of 1 to draw line ⑥ and obtain the power (1.2 kW).

Dimensional Drawing



| 1 | уре | JO | JM (O) | JM |
|---|-------|------|--------|--------|--------|--------|--------|--------|-----------|-------|
| Ν | /lark | 4 | 10 | 16 | 25 | 40 | 55 | 125 | 160 · 200 | 300 |
| | Α | 238 | 323 | 323 | 336 | 355 | 407 | 437 | 566 | 853 |
| | В | 195 | 249 | 246 | 263 | 276 | 322.5 | 345 | 440.5 | 695 |
| | С | 34 | 62 | 60 | 58 | 58 | 63 | 63 | 75 | 110 |
| | D | 30 | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 100 |
| | E | 23 | 15 | 15 | 18 | 18 | 30 | 30 | 25 | 85 |
| | F | 75 | 80 | 80 | 99 | 99 | 115 | 115 | 198 | 265 |
| | G | 95 | 108 | 108 | 129 | 129 | 155 | 155 | 238 | 335 |
| | Н | 183 | 218 | 218 | 237 | 237 | 295 | 295 | 388 | 617 |
| | I | 100 | 140 | 140 | 175 | 175 | 243 | 243 | 314 | 400 |
| | J | 18 | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 70 |
| v | Width | 6 | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 22 |
| N | Depth | 3.5 | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 9 |
| | L | 76 | 107.5 | 107.5 | 133 | 133 | 185.5 | 185.5 | 237 | 307.5 |
| | М | 161 | 237 | 237 | 282 | 282 | 380 | 380 | 506 | 667 |
| | Ν | 167 | 180 | 180 | 217 | 217 | 270 | 270 | 380 | 500 |
| | 0 | 83.5 | 90 | 90 | 108.5 | 108.5 | 135 | 135 | 190 | 250 |
| | Ρ | 132 | 150 | 150 | 174 | 174 | 230 | 230 | 280 | 370 |
| | Ø | 154 | 174 | 174 | 198 | 198 | 260 | 260 | 320 | 420 |
| | R | 9 | 11 | 11 | 11 | 11 | 14 | 14 | 18 | 23 |
| | S | 48 | 65 | 65 | 84 | 84 | 115 | 115 | 154 | 185 |
| | Т | 19 | 24 | 30 | 36 | 47 | 47 | 60 | 96 | 150 |
| | U | 1s | 1.5s | 1.5s | 1.5s | 2s | 2s | 2.5s | 4s | 6s |
| | ۷ | 52 | 75 | 75 | 91 | 91 | 128 | 128 | 160 | 215 |
| | W | 85 | 123 | 123 | 120 | 120 | 150 | 150 | 165 | 267 |
| | Z | 11 | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 30 |
| W | eight | 15kg | 27.5kg | 28kg | 42kg | 45kg | 85.7kg | 94.4kg | 140kg | 420kg |

| | Туре | VJO | VJM (O) | VJM (O) | VJM (O) | VJM (O) | $\text{VJM}\left(\mathbf{O}\right)$ | VJM (O) | VJM (O) | VJM |
|---|--------|--------|---------|---------|---------|---------|-------------------------------------|---------|-----------|-------|
| | Mark | 4 | 10 | 16 | 25 | 40 | 55 | 125 | 160 · 200 | 300 |
| | Α | 238 | 323 | 323 | 336 | 355 | 407 | 437 | 566 | 872 |
| | В | 195 | 249 | 246 | 263 | 276 | 322.5 | 345 | 440.5 | 702 |
| | С | 34 | 62 | 62 | 58 | 58 | 63 | 63 | 75 | 110 |
| | D | 30 | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 100 |
| | E | 10 | 15 | 15 | 15 | 15 | 20 | 20 | 20 | 35 |
| | F | 58 | 60 | 60 | 75 | 75 | 125 | 125 | 153 | 235 |
| | G | 78 | 90 | 90 | 105 | 105 | 165 | 165 | 193 | 305 |
| | Н | 153 | 199 | 199 | 210 | 210 | 295 | 295 | 338 | 502 |
| | I. | 100 | 113 | 113 | 140 | 140 | 150 | 150 | 200 | 300 |
| | J | 18 | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 70 |
| ĸ | Width | 6 | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 22 |
| | Depth | 3.5 | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 9 |
| | М | 175 | 220 | 220 | 252 | 252 | 291 | 291 | 380 | 516 |
| | Ν | 167 | 203 | 203 | 248.5 | 248.5 | 285 | 285 | 390 | 550 |
| | 0 | 83.5 | 90 | 90 | 108.5 | 108.5 | 135 | 135 | 190 | 250 |
| | Р | 132 | 170 | 170 | 196 | 196 | 280 | 280 | 360 | 400 |
| | Q | 154 | 196 | 196 | 220 | 220 | 310 | 310 | 400 | 470 |
| | R | 9 | 11 | 11 | 11 | 11 | 17 | 17 | 19 | 23 |
| | S | 48 | 65 | 65 | 84 | 84 | 115 | 115 | 154 | 185 |
| | Т | 19 | 24 | 30 | 36 | 46 | 46 | 60 | 96 | 150 |
| | U | 1s | 1.5s | 1.5s | 1.5s | 2s | 2s | 2.5s | 4s | 6s |
| | V | 16.5 | 23 | 23 | 31.5 | 31.5 | 15 | 15 | 10 | 50 |
| | W | 85 | 124 | 124 | 120 | 120 | 150 | 150 | 165 | 267 |
| | Z | 12 | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 30 |
| ۷ | Veight | 16.0kg | 28.6kg | 29.2kg | 44.3kg | 47.2kg | 89.8kg | 98.2kg | 160kg | 450kg |

VJM/VJO Series



*Size and weight may be changed without prior notice.

Dimensional Drawing



| ٦ | Гуре | K | К | KZ | KZ | KZ | К | K | К |
|----------|-----------------|---------------|---------------|--------|--------|--------|---------------|---------------|---------------|
| Ν | Nark | J10 | J16 | J25 | J40 | J55 | J125 | J160 | J200 |
| | Α | 323 | 323 | 336 | 355 | 407 | 437 | 566 | 566 |
| B C | | 249 | 246 | 263 | 276 | 322.5 | 345 | 440.5 | 440.5 |
| | | 62 | 60 | 48 | 58 | 63 | 63 | 75 | 75 |
| | D | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 70 |
| | E | 15 | 15 | 18 | 18 | 30 | 30 | 25 | 25 |
| | F | 80 | 80 | 99 | 99 | 115 | 115 | 198 | 198 |
| | G | 108 | 108 | 129 | 129 | 155 | 155 | 238 | 238 |
| | н | 218 | 218 | 237 | 237 | 295 | 295 | 388 | 388 |
| | - | 140 | 140 | 175 | 175 | 243 | 243 | 314 | 314 |
| | J | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 55 |
| v | Width | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 16 |
| ĸ | Depth | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 6 |
| | L | 107.5 | 107.5 | 133 | 133 | 185.5 | 185.5 | 237 | 237 |
| | М | 237 | 237 | 282 | 282 | 380 | 380 | 506 | 506 |
| | N | 140 | 140 | 200 | 200 | 275 | 238 | 325 | 325 |
| | 01 | 90 | 90 | 110 | 110 | 135 | 135 | 190 | 190 |
| | 02 | 50 | 50 | 90 | 90 | 140 | 103 | 135 | 135 |
| | Р | 150 | 150 | 174 | 174 | 230 | 230 | 280 | 280 |
| | Q | 174 | 174 | 198 | 198 | 260 | 260 | 320 | 320 |
| | R | 11 | 11 | 11 | 11 | 14 | 14 | 18 | 18 |
| | Т | 24 | 30 | 36 | 47 | 47 | 60 | 96 | 96 |
| | U | 1.5s | 1.5s | 2s | 2s | 2s | 3s | 4s | 4s |
| | W | 123 | 123 | 120 | 120 | 150 | 150 | 165 | 165 |
| | Z | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 23 |
| Inci | sion part | | | | | | | | |
| | CA | 13 | 24 | 28 | 45 | 40 | 50 | 42 | 62 |
| | CB | 28 | 16 | 10 | 12 | 12.5 | 25 | 48 | 28 |
| | CC | 130 | 130 | 150 | 150 | 145 | 155 | 184 | 184 |
| | CD | 6.5 | 6.5 | 15 | 15 | 15 | 9 | 18 | 18 |
| | FA | 46 | 46 | 48 | 67 | 65 | 85 | 105 | 105 |
| | FB | 143 | 143 | 180 | 180 | 175 | 173 | 220 | 220 |
| | PA | 16 | 26 | 27 | 42 | 43 | 52 | 51.5 | 71.5 |
| | PB | 90 | 90 | 120 | 120 | 110 | 115 | 137 | 137 |
| | PC | 26 | 16 | 13 | 17 | 11 | 23 | 45 | 25 |
| | PD | 26.5 | 26.5 | 30 | 30 | 32.5 | 29 | 41.5 | 41.5 |
| | HA | M6 | M6 | M10 | M10 | M12 | M10 | M12 | M12 |
| Flange p | art seal system | Plate packing | Plate packing | O-ring | O-ring | O-ring | Plate packing | Plate packing | Plate packing |



| Т | уре | К | K | KZ | KZ | KZ | K | K | K |
|-----------|-----------------|---------------|---------------|--------|--------|--------|---------------|---------------|---------------|
| N | /lark | VJ10 | VJ16 | VJ25 | VJ40 | VJ55 | VJ125 | VJ160 | VJ200 |
| | Α | 323 | 323 | 336 | 355 | 437 | 437 | 556 | 556 |
| | В | 249 | 246 | 263 | 276 | 322.5 | 345 | 440.5 | 440.5 |
| | С | 62 | 62 | 58 | 58 | 63 | 63 | 75 | 75 |
| | D | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 70 |
| | E | 15 | 15 | 15 | 15 | 20 | 20 | 20 | 20 |
| | F | 60 | 60 | 75 | 75 | 125 | 125 | 153 | 153 |
| | G | 90 | 90 | 105 | 105 | 165 | 165 | 193 | 193 |
| | н | 199 | 199 | 210 | 210 | 295 | 295 | 338 | 338 |
| | 1 | 113 | 113 | 140 | 140 | 150 | 150 | 200 | 200 |
| | J | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 55 |
| ĸ | Width | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 16 |
| ĸ | Depth | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 6 |
| | M | 220 | 220 | 252 | 252 | 291 | 291 | 364 | 364 |
| | Ν | 163 | 163 | 230 | 230 | 290 | 254 | 335 | 335 |
| | 01 | 90 | 90 | 110 | 110 | 135 | 135 | 190 | 190 |
| | 02 | 50 | 50 | 90 | 90 | 140 | 103 | 135 | 135 |
| | Р | 170 | 170 | 196 | 196 | 280 | 280 | 360 | 360 |
| | Q | 196 | 196 | 220 | 220 | 310 | 310 | 400 | 400 |
| | R | 11 | 11 | 11 | 11 | 17 | 17 | 19 | 19 |
| | Т | 24 | 30 | 36 | 46 | 46 | 46 | 96 | 96 |
| | U | 1.5s | 1.5s | 2s | 2s | 2s | 3s | 4s | 4s |
| | V | 23 | 23 | 30 | 30 | 15 | 15 | 10 | 10 |
| | W | 124 | 124 | 120 | 120 | 150 | 150 | 165 | 165 |
| | Z | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 23 |
| Incis | sion part | | | | | | | | |
| | CA | 13 | 24 | 28 | 45 | 40 | 50 | 42 | 62 |
| | CB | 28 | 16 | 10 | 12 | 12.5 | 25 | 28 | 28 |
| | CC | 130 | 130 | 150 | 150 | 145 | 155 | 184 | 184 |
| | CD | 6.5 | 6.5 | 15 | 15 | 15 | 9 | 18 | 18 |
| | FA | 46 | 46 | 48 | 67 | 65 | 85 | 105 | 105 |
| | FB | 143 | 143 | 180 | 180 | 175 | 173 | 220 | 220 |
| | PA | 16 | 26 | 27 | 42 | 43 | 52 | 51.5 | 71.5 |
| | PB | 90 | 90 | 120 | 120 | 110 | 115 | 137 | 137 |
| | PC | 26 | 16 | 13 | 17 | 11 | 23 | 45 | 25 |
| | PD | 26.5 | 26.5 | 30 | 30 | 30 | 29 | 41.5 | 41.5 |
| | HA | M6 | M6 | M10 | M10 | M12 | M10 | M12 | M12 |
| Flange pa | art seal system | Plate packing | Plate packing | O-ring | O-ring | O-ring | Plate packing | Plate packing | Plate packing |

 $\% {\rm Size}$ and weight may be changed without prior notice.

JMU **Dimensional Drawing**



| Туре | JMU | JMU |
|-------|-------|-------|-------|-------|-------|-------|-------|---------|-------|
| Mark | 4 | 10 | 16 | 25 | 40 | 55 | 125 | 160.200 | 300 |
| Α | 254.5 | 328 | 328 | 362 | 372 | 432 | 458 | 613 | 853 |
| В | 207 | 271 | 266 | 287 | 291 | 347.5 | 364 | 464 | 695 |
| С | 34 | 62 | 60 | 58 | 58 | 63 | 63 | 75 | 110 |
| D | 30 | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 100 |
| E | 23 | 15 | 15 | 18 | 18 | 30 | 30 | 25 | 85 |
| F | 75 | 80 | 80 | 99 | 99 | 115 | 115 | 198 | 265 |
| G | 95 | 108 | 108 | 129 | 129 | 155 | 155 | 238 | 335 |
| Н | 183 | 218 | 218 | 237 | 237 | 295 | 295 | 388 | 617 |
| 1 | 100 | 140 | 140 | 175 | 175 | 243 | 243 | 314 | 400 |
| J | 18 | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 70 |
| Width | 6 | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 22 |
| Depth | 3.5 | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 9 |
| L | 76 | 107.5 | 107.5 | 133 | 133 | 185.5 | 185.5 | 237 | 307.5 |
| М | 161 | 237 | 237 | 282 | 282 | 380 | 380 | 506 | 667 |
| Ν | 167 | 180 | 180 | 217 | 217 | 270 | 270 | 380 | 500 |
| 0 | 83.5 | 90 | 90 | 108.5 | 108.5 | 135 | 135 | 190 | 250 |
| Р | 132 | 150 | 150 | 174 | 174 | 230 | 230 | 280 | 370 |
| Q | 154 | 174 | 174 | 198 | 198 | 260 | 260 | 320 | 420 |
| R | 9 | 11 | 11 | 11 | 11 | 14 | 14 | 18 | 23 |
| S | 48 | 65 | 65 | 84 | 84 | 115 | 115 | 154 | 185 |
| Т | 19 | 24 | 24 | 36 | 47 | 47 | 60 | 96 | 150 |
| U | 1s | 1.5s | 1.5s | 1.5s | 2s | 2s | 2.5s | 4s | 6s |
| ۷ | 2 | 75 | 75 | 91 | 91 | 128 | 128 | 160 | 215 |
| W | 85 | 123 | 123 | 120 | 120 | 150 | 150 | 165 | 267 |
| Z | 11 | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 30 |



| | Туре | VJMU | VJMU | VJMU | VJMU | VJMU | VJMU | VJMU | VJMU | VJMU |
|---|-------|-------|------|------|-------|-------|-------|------|---------|------|
| | Mark | 4 | 10 | 16 | 25 | 40 | 55 | 125 | 160.200 | 300 |
| | Α | 254.5 | 328 | 328 | 362 | 372 | 432 | 458 | 592 | 872 |
| | В | 207 | 271 | 266 | 287 | 291 | 347.5 | 364 | 464 | 702 |
| | С | 34 | 62 | 62 | 58 | 58 | 63 | 63 | 75 | 110 |
| | D | 30 | 50 | 50 | 50 | 50 | 54 | 54 | 70 | 100 |
| | E | 10 | 15 | 15 | 15 | 15 | 20 | 20 | 20 | 35 |
| | F | 58 | 60 | 60 | 75 | 75 | 125 | 125 | 153 | 235 |
| | G | 78 | 90 | 90 | 105 | 105 | 165 | 165 | 193 | 305 |
| | н | 153 | 199 | 199 | 210 | 210 | 295 | 295 | 338 | 502 |
| | - | 100 | 113 | 113 | 140 | 140 | 150 | 150 | 200 | 300 |
| | L | 18 | 22 | 22 | 26 | 26 | 36 | 36 | 55 | 70 |
| ĸ | Width | 6 | 6 | 6 | 8 | 8 | 10 | 10 | 16 | 22 |
| K | Depth | 3.5 | 3.5 | 3.5 | 4 | 4 | 5 | 5 | 6 | 9 |
| | М | 175 | 220 | 220 | 252 | 252 | 291 | 291 | 380 | 516 |
| | Ν | 183.5 | 203 | 203 | 248.5 | 248.5 | 285 | 285 | 390 | 550 |
| | 0 | 83.5 | 90 | 90 | 108.5 | 108.5 | 135 | 135 | 190 | 250 |
| | Р | 132 | 170 | 170 | 196 | 196 | 280 | 280 | 360 | 400 |
| | Ø | 154 | 196 | 196 | 220 | 220 | 310 | 310 | 400 | 470 |
| | R | 9 | 11 | 11 | 11 | 11 | 17 | 17 | 19 | 23 |
| | S | 24 | 32.5 | 32.5 | 42 | 42 | 57.5 | 57.5 | 77 | 92.5 |
| | Т | 19 | 24 | 30 | 36 | 46 | 46 | 60 | 96 | 150 |
| | U | 1s | 1.5s | 1.5s | 1.5s | 2s | 2s | 1.5s | 4s | 6s |
| | ۷ | 16.5 | 23 | 23 | 31.5 | 31.5 | 15 | 15 | 10 | 50 |
| | W | 85 | 124 | 124 | 120 | 120 | 150 | 150 | 165 | 267 |
| _ | Z | 12 | 18 | 18 | 20 | 20 | 23 | 23 | 23 | 30 |

Dimensional Drawing

Dimensional Drawing

SC Series



| Type Mark | SC15 | SC30 | SC60 | SC130 |
|--------------|-------|-------|-------|-------|
| Α | 377.5 | 477.5 | 547.5 | 577.5 |
| В | 324 | 380 | 470 | 485 |
| С | 55 | 56 | 65 | 65 |
| D | 50 | 50 | 60 | 60 |
| E | 14 | 15 | 20 | 20 |
| F | 80 | 99 | 115 | 115 |
| G | 108 | 129 | 155 | 155 |
| н | 49 | 60 | 80 | 80 |
| 1 | 205 | 259 | 358 | 358 |
| J | 22 | 34 | 45 | 45 |
| Vidth | 6 | 10 | 12 | 12 |
| epth | 3.5 | 5 | 5 | 5 |
| L | 107.5 | 133 | 185 | 185.5 |
| м | 276.5 | 340 | 459 | 459 |
| N | 180 | 217 | 270 | 270 |
| 0 | 90 | 108.5 | 135 | 135 |
| Р | 150 | 174 | 230 | 230 |
| Q | 174 | 198 | 260 | 260 |
| R | 11 | 11 | 14 | 14 |
| S | 65 | 84 | 115 | 115 |
| Т | 30 | 47 | 47 | 72 |
| U | 1.5s | 2s | 2s | 3s |
| v | 75 | 91 | 128 | 128 |
| W | 195 | 221 | 275 | 275 |
| Z | 18 | 20 | 23 | 23 |
| | | | | |

VSC130 577.5



| | Type Mark | VSC15 | VSC30 | VSC60 | Í |
|---|--------------|-------|-------|-------|---|
| | Α | 377.5 | 477.5 | 547.5 | ĺ |
| | В | 324 | 380 | 470 | ĺ |
| | С | 55 | 56 | 65 | ĺ |
| | D | 50 | 50 | 60 | ĺ |
| | E | 15 | 15 | 20 | ĺ |
| | F | 60 | 75 | 125 | ĺ |
| | G | 90 | 105 | 165 | ĺ |
| | н | 67 | 84 | 70 | ĺ |
| | I | 113 | 140 | 150 | l |
| _ <u>U_</u> | J | 22 | 34 | 45 | l |
| . S | K Width | 6 | 10 | 12 | ĺ |
| | Depth | 3.5 | 5 | 5 | Ĺ |
| | L. L. | 254.5 | 296 | 407.5 | ĺ |
| | м | 219.5 | 251.5 | 300 | ĺ |
| | N | 180 | 217 | 270 | ĺ |
| ╶┦─╶╬┄╾┼┝╎╾┼╾╌┥╌╴ᢓ ╶╴╢╌┤╷┽╌┼╎╾╌╌╸┤╌╌╢╗╢╞╧╤╌┼┰ | 0 | 90 | 108.5 | 135 | ĺ |
| | P | 170 | 196 | 280 | ĺ |
| | Q | 196 | 220 | 310 | ĺ |
| ╷ ┎╱╵╧┿┙╰╌╷┈╢╷ ╀┸┼╘┿┥┟╌╶╌╷ ── └┇╻╷ | R | 11 | 11 | 14 | l |
| | S | 97.5 | 126 | 172.5 | ĺ |
| $ = \frac{r}{2} = \frac{4 - \varphi R}{2} \frac{E}{2} = \frac{E}{2} = \frac{E}{2}$ | т | 30 | 47 | 47 | l |
| | U | 1.5s | 2s | 2s | Ĺ |

G

VSC Series

v W

 31.5



| ri | es | | | | | |
|---------|-------|-------|------|-------|-------|-------|
| | | | | | | |
| e rk | 2400 | 3400 | 7000 | 10000 | 14000 | 24000 |
| | 361.5 | 361.5 | 420 | 477 | 535 | 535 |
| | 301 | 293 | 341 | 382 | 443 | 440 |
| | 48 | 48 | 58 | 65 | 65 | 65 |
| | 48 | 48 | 50 | 62 | 60 | 60 |
| | 18 | 18 | 20 | 20 | 25 | 25 |
| | 90 | 90 | 104 | 130 | 160 | 160 |
| | 126 | 126 | 144 | 170 | 210 | 210 |
| | 236 | 236 | 277 | 312 | 353 | 353 |
| | 146 | 146 | 185 | 220 | 265 | 265 |
| | 24 | 24 | 35 | 38 | 42 | 42 |
| dth | 8 | 8 | 8 | 10 | 12 | 12 |
| pth | 4 | 4 | 4 | 5 | 5 | 5 |
| | 113.5 | 113.5 | 140 | 169.7 | 202.5 | 202.5 |
| | 225 | 225 | 323 | 366 | 436 | 436 |
| | 210 | 210 | 240 | 260 | 304 | 304 |
| | 105 | 105 | 120 | 130 | 152 | 152 |
| | 160 | 160 | 184 | 210 | 260 | 260 |
| | 190 | 190 | 214 | 240 | 300 | 300 |
| | 11 | 11 | 12 | 13 | 18 | 18 |
| | 65 | 65 | 90 | 100.6 | 125 | 125 |
| | 22 | 34 | 47 | 47 | 47 | 73 |
| | 1.5s | 1.5s | 2s | 2s | 2s | 3s |
| | 81 | 81 | 95 | 119.4 | 140 | 140 |
| | 128 | 128 | 153 | 166 | 168 | 168 |
| | 22 | 22 | 25 | 25 | 25 | 25 |

| e r | eries | | | | | | | | | | | | |
|--------|-------|-------|------|-------|-------|-------|--|--|--|--|--|--|--|
| | | | | | - | | | | | | | | |
| e k | 2400 | 3400 | 7000 | 10000 | 14000 | 24000 | | | | | | | |
| | 361.5 | 361.5 | 420 | 477 | 535 | 553 | | | | | | | |
| | 301 | 293 | 341 | 382 | 443 | 450 | | | | | | | |
| | 48 | 48 | 58 | 65 | 65 | 65 | | | | | | | |
| | 48 | 48 | 50 | 62 | 60 | 60 | | | | | | | |
| | 15 | 15 | 21 | 22 | 25 | 25 | | | | | | | |
| | 90 | 90 | 100 | 106 | 135 | 160 | | | | | | | |
| | 120 | 120 | 142 | 150 | 185 | 185 | | | | | | | |
| | 233 | 233 | 271 | 303 | 341 | 341 | | | | | | | |
| | 130 | 130 | 140 | 160 | 180 | 180 | | | | | | | |
| | 24 | 24 | 35 | 38 | 42 | 42 | | | | | | | |
| lth | 8 | 8 | 8 | 10 | 12 | 12 | | | | | | | |
| pth | 4 | 4 | 4 | 5 | 5 | 5 | | | | | | | |
| | 243 | 243 | 278 | 307 | 351 | 351 | | | | | | | |
| | 210 | 210 | 240 | 260 | 304 | 304 | | | | | | | |
| | 105 | 105 | 120 | 130 | 152 | 152 | | | | | | | |
| | 180 | 180 | 225 | 220 | 260 | 260 | | | | | | | |
| | 206 | 206 | 214 | 256 | 300 | 300 | | | | | | | |
| | 11 | 11 | 13 | 14 | 18 | 18 | | | | | | | |
| | 65 | 65 | 90 | 100.6 | 125 | 125 | | | | | | | |
| | 22 | 34 | 47 | 47 | 47 | 73 | | | | | | | |
| | 1.5s | 1.5s | 2s | 2s | 2s | 3s | | | | | | | |
| | 25 | 25 | 20 | 30 | 140 | 140 | | | | | | | |
| | 128 | 128 | 150 | 175 | 181 | 181 | | | | | | | |
| | 18 | 18 | 25 | 25 | 25 | 25 | | | | | | | |



Codification Chart



1Kind of Option

| | option | |
|------|------------------|--|
| Mark | Adaptation model | Contents |
| Α | AMXN | Aseptic type |
| В | JM/O · JMU | Vented-Cover (Relief Valve) |
| С | All models | CIP JET Pump type |
| CW | All models | For transport cold cream. Churning prevention type |
| D | All models | Single Blade Rotor |
| F | All models | Flushing Type |
| G | All models | Jacket (Casing / Casing Cover) |
| HP | All models | High Pressure Pump (Max. 1.5 MPa) |
| HT | All models | High Temperature Pump (Max. 150 ℃) |
| К | Inquiry required | Rectangular Port |
| KZ | Inquiry required | Rectangular Port with Slit for O-ring |
| N | All models | Smaller Clearance |
| Q | JMU | Quenching |
| S | All models | Vacuum Type |
| т | All models | Titanium Pump |
| v | All models | Vertical Type |
| w | JO · JMU · SC | Double O-ring Seal,Tandem Mechanical Seal Type |

2Pump Model

| JM | Inside mechanical seal type |
|------|---|
| JO | O-Ring seal type |
| JMU | Outside mechanical seal type ※Quenching, also tandem possible |
| SC | Super clean type |
| AMXN | Aseptic type |

③Pump Size: JM/JO/JMU

| Size | Port | Max Speed (rpm) | Max Capacity (L/min) | Displacement (L/rev) | Max.Pressure (Standard Pump) (MPa) | Max.Pressure ("HP"Pump) (MPa) |
|------|--------|--------------------|-------------------------|-------------------------|--|-------------------------------------|
| 2 | 1s | 800 | 8 | 0.010 | 0.5 | N/A |
| 4 | 1s | 800 | 20 | 0.025 | 0.7 | N/A |
| 10 | 1.5s | 800 | 40 | 0.050 | 1.0 | 1.5 |
| 16 | 1.5s | 600 | 60 | 0.100 | 1.0 | 1.5 |
| 25 | 1.5s | 450 | 100 | 0.220 | 1.0 | 1.5 |
| 40 | 2s | 450 | 135 | 0 300 | 1.0 | 15 |
| 40 | 3s×2s∗ | 450 | 155 | 0.300 | 1.0 | 1.5 |
| 55 | 2s | 450 | 270 | 0.600 | 1.0 | 15 |
| | 3s×2s≋ | 450 | 210 | 0.000 | 1.0 | 1.5 |
| 105 | 2.5s | 450 | 410 | 0.020 | 10 | 1.5 |
| 125 | 3s∗ | 450 | 410 | 0.920 | 1.0 | 1.5 |
| 160 | 4s | 450 | 710 | 1.580 | 1.0 | 1.5 |
| 200 | 4 | 450 | 930 | 2.060 | 1.0 | 1.5 |
| 300 | 6 | 450 | 1470 | 3.270 | 1.5 | N/A |
| | | | | | | |

%JM/JO Series Only

3Pump Size : SC

| Size | Port | Max Speed (rpm) | Max Capacity (L/min) | Displacement (L/rev) | Max.Pressure (Standard Pump) (MPa) |
|------|------|--------------------|-------------------------|-------------------------|--|
| 15 | 1.5s | 700 | 70 | 0.100 | 1.0 |
| 30 | 2s | 450 | 125 | 0.277 | 1.0 |
| 60 | 2s | 450 | 240 | 0.533 | 1.0 |
| 130 | 3s | 450 | 480 | 1.066 | 1.0 |

3Pump Size : AMXN

| Size | Port | Max Speed (rpm) | Max Capacity (L/min) | Displacement (L/rev) | Max.Pressure (Standard Pump) (MPa) |
|-------|------|--------------------|-------------------------|-------------------------|--|
| 2400 | 1.5s | 800 | 41 | 0.050 | 0.7 |
| 3400 | 1.5s | 600 | 57 | 0.095 | 0.7 |
| 7000 | 2s | 450 | 110 | 0.240 | 0.7 |
| 10000 | 2s | 450 | 176 | 0.390 | 0.7 |
| 14000 | 2s | 450 | 270 | 0.600 | 0.7 |
| 24000 | 3s | 450 | 430 | 0.955 | 0.7 |

(4) Material of Mechanical Seal

| Mark | Adaptation model | Contents |
|---------|------------------------------------|---|
| No Mark | JM · JMU | Carbon&Ceramic |
| т | $JM \cdot JMU \cdot SC \cdot AMXN$ | Tungsten Carbide & Tungsten Carbide |
| Т2 | JM · JMU | Tungsten Carbide & Tungsten Carbide for Liquid Sugar |
| Т3 | JM | Tungsten Carbide & Tungsten Carbide for Vacuum condition |
| Τ4 | JM | Tungsten Carbide & Tungsten Carbide for Liquid Sugar vacuum condition |
| SS | JM · JMU · SC | Silicon Carbide & Silicon Carbide |
| SNT | JM · JMU · SC | Knife-Edge Silicon Carbide & Tungsten Carbide |
| TNT | JM · JMU · SC | Knife-Edge Tungsten Carbide & Tungsten Carbide |
| ST | JM · JMU · SC | Silicon Carbide & Tungsten Carbide |
| TNS | JM · JMU · SC | Knife-Edge Tungsten Carbide & Silicon Carbide |
| TS | JM · JMU · SC | Tungsten Carbide & Silicon Carbide |
| СТ | JM • JMU | Carbon&Tungsten Carbide |
| CS | JM · JMU | Carbon&Silicon Carbide |
| | | |

| 5 Mate | rial of O-ring | | 6 | Connection | |
|---------------|----------------|---|-----|--------------------|---------------------|
| Mark | Materia | l | i i | Mark | Contents |
| No Ma | rk NBR | | | D | DIN11851 |
| VT | FKM | | Ī | SM | SMS |
| EP | EPDM | | - | DF | DIN Flange |
| SI | Silicone | | | тс | Tri Clamp |
| к | Kalrez | | - | С | IDF Clamp |
| Y | PTFE | | | F | JIS Flange |
| | | | - | Z+Connection Mark | Different Port Size |
| | | | | Further Connection | on Type on Request |

| (7) | Installa | tion Option |
|-----|----------|----------------------------|
| | Mark | |
| | | Special Option (e.g.) |
| | | -SUS316L(Wetted Materials) |
| | | -SUS316/(Botors) |

| | -SUSSIDE(Wetted Materials) |
|----|---|
| | -SUS316/(Rotors) |
| | -Electrical Polish |
| 7 | -Roughness of Surface (Ra≦0.8) |
| 2 | -Left Thread Shaft |
| | -Umbrella Rotors (e.g. Chocolate, Paste) |
| | -Special Material for Sleeve (Titanium Coating)%JO |
| | -Nickel Coating for Housing |
| | Further Options on Request |
| CW | -For transport cold cream. Churning prevention type |
| 3A | -3A Approved %JM,JMU Series |
| EH | -EHEDG Approved %JMU Series Only |
| EX | -ATEX Approved %QJMU,WJMU Series |
| | |

Contents Series Only

One-step Manufacturing System

Consult



Nakakin proposes semi custom made products that meet customers specifications and requests. Nakakin offers not only the pump functions that best fit customers' products but also parts, materials and colors to suit customers' preferences.

Manufacturing

Having started as a foundry, Nakakin uses casting know-how to manage consistent manufacturing from parts production to product assembly. Nakakin is proud of its, highly skilled artisans and technicians, capable of precision adjustment and assembly. This precision can not be achieved using machinery.

Quality Control



Nakakin products undergo as many as 100 inspection items and the tests are particular to the specifications of each pump. Only those pumps passing our stringent inspection and tests are delivered to customers This ensures high performance and customer satisfac-

tion



Nakakin tailors its delivery and shipping to meet individual customer requirement. Nakakin offers a complete support system, supplying customer with consumable parts, maintenance and troubleshooting.

Operating Principle



When rotor A and rotor B rotate, the capacity of space (c) between the vane A1 and vane B1 increases to generate high vacuum. This high vacuum draws the liquid into the pump casing through the inlet. At the outlet, vane B2 and vane A1 meet to decrease the capacity of the space. This creates pressure to discharge the liquid through the outlet



With the two rotors in this position, the capacity of space (c) becomes the smallest. The pump returns to step to repeat the pumping cycle again



Space (c) filled with the liquid is moving towards the outlet. When the capacity of space (e) is the smallest in step \bigcirc , it increases the capacity as the two meeting vanes separate, to generate a high vacuum which in turn pulls the liquid through the inlet.



When vane B1 and vane A2 meet, the capacity of space (c) decreases to generate pressure. This causes the liquid to be pumped out through the outlet. The capacity of space (d) increases when the two rotors rotate to separate the two vanes. This creates a vacuum to pull the liquid in



CIP JET Function

process

disassembling.

buildup.

liquid degradation.

- area) and the outlet (high pressure area).
- low pressure area (inlet) through the CIP JET holes and slits.
- liquid at the low pressure area.





Advantages

The automatic pressure regulation protects the pump from failure and mechanical problems.

Operating Principles

The "spring" and "piston" of the vented packing normally send pressure towards the portions of the pump that are in contact with the liquid.

When the pressure inside the pump (or portions in contact with the liquid) becomes higher than the pressure exerted by the spring, the pressure difference pushes the vented packing up in the opposite direction from the portions in contact with the liquid. This causes the liquid to reverse its flow through bypasses A and B, suppressing the pressure increase inside the pump (portions in contact with the liquid).

36



Company Profile



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2 Kasuga Plant

3 Head Office

5 Tokyo Office

Europe Office

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Inquiry Sheet for Nakakin Pump

| Company | |
|--|--|
| Name | |
| Tel | E-mail |
| Pump Spec Dump Unit(Pump+Motor | r) 🗌 Pump Only |
| Liquid Products | |
| Viscosity mPa·s (CP) | Temperature |
| Slurry □ No □ Include(mm) | Particles 🗆 No 🗆 Include(|
| Capacity | |
| Suction pressure | m,mmHg Specific gravity |
| Discharge pressure | |
| □ Cleaning Out of Place □ CIP·SIP (° | C) Working Hr. |
| Pump model | |
| Inlet port size | Outlet port size |
| Connection SMS DIF | Clamp ☐ IDF Union I 11851 ☐ Tri Clamp |
| Pump revolution | |
| □ Mechanical Seal Type □ O-Ring Sea | il Type |
| □ C&C □ T&T □ S&S □ T2 □ . | TR 🗆 SNT |
| □ NBR □ EPDM □ FKM □ Silicone | e 🗌 Kalrez 🗌 PTFE |
| MOTOR | |
| Manufacturer | IORD 🗆 SEW 🗆 Sumitomo 🛛 |
| Model Indoor Outdoor Explosion Proof eG3 d | 2G4 |
| Power | kw at 4 pole |
| Voltage □ 200 □ 220 V □ 50 □ | 60 Hz at 3 phase |
| Motor Revolution | rpm [|
| Revolution Range | Hz |
| WEIGHT PUMP- kg U | Init-weight kg C |
| · | · · · · · |

| | DATE : | |
|---|---|--|
| | NAKAKIN REF NO. | |
| | SERIAL NO. | |
| SET(S) | NOTE | ~ |
| | ουτ | |
| °C | | |
| | | |
| L/Hr | IN | |
| | | |
| MPa(G) | | OUT |
| Hr./DAY | | OUT |
| | MAII | |
| | Casing | SCS14 🗆 lacket |
| | Casing Cover | SCS14 🗆 Jacket |
| rpm | Nut | SUS316 |
| | Shaft | SUS329J1 |
| | Rotor | NAKAMURA-METAL NO.3 |
| | | |
| | Common Base Plate | □ SUS304 □ SS400 |
| | Common Base Plate | SORY |
| Inverter Mo | Common Base Plate ACCESS Detor Fixed Geared Mo | SUS304 SS400 |
| Inverter Ma Adjust Boli | Common Base Plate ACCESS Detor Fixed Geared Mc Caster | SUS304 SS400 SORY otor Variable Speed Changer |
| Inverter Ma Adjust Boli Motor Cov | Common Base Plate ACCESS Dotor Fixed Geared Mc t Caster er | SUS304 SS400 SORY otor Variable Speed Changer |
| Inverter Ma Adjust Boli Motor Cov Spare Part: | Common Base Plate ACCESS Detor Fixed Geared Mod t Caster er s | □ SUS304 □ SS400 SORY Detor □ Variable Speed Changer |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS Dotor Fixed Geared Mod t Caster er s | □ SUS304 □ SS400 SORY ator □ Variable Speed Changer |
| Inverter Mo Adjust Boli Motor Cov Spare Part: | Common Base Plate ACCESS Dotor Fixed Geared Mod t Caster er s | SORY SORY |
| Inverter Ma Adjust Boli Motor Cov Spare Part: | Common Base Plate ACCESS Dotor Fixed Geared Mod t Caster er s Maker Standard Othe | □ SUS304 □ SS400 SORY ator □ Variable Speed Changer United Stress () |
| Inverter Ma Adjust Boli Motor Cov Spare Part: DLOR: | Common Base Plate ACCESS Dotor Fixed Geared Mod t Caster er S Maker Standard Othe | SORY SORY btor □ Variable Speed Changer ers() |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo Caster er s Maker Standard Othe | SORY |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mc t Caster er s Maker Standard Othe | □ SUS304 □ SS400 SORY Notor □ Variable Speed Changer Pers() |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo t Caster er s Maker Standard Othe | SORY SORY |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo t Caster er Maker Standard Othe | □ SUS304 □ SS400 SORY ator □ Variable Speed Changer ers() |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo Caster er S Maker Standard Othe | □ SUS304 □ SS400 SORY ator □ Variable Speed Changer Pers() |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo t Caster er s Maker Standard Othe | □ SUS304 □ SS400 |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mc t Caster er Maker Standard Othe | □ SUS304 □ SS400 SORY Notor □ Variable Speed Changer Pers() |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo t Caster er Maker Standard Othe | □ SUS304 □ SS400 |
| Inverter Ma Adjust Bolt Motor Cov Spare Part: | Common Base Plate ACCESS otor Fixed Geared Mo Caster er S Maker Standard Othe | □ SUS304 □ SS400 SORY ator □ Variable Speed Changer ers() |