

MPJOINT

Quick, Simple, and Economical Pipe Joint



Pipe Coupling for pipe connection

GRIP TYPE Utility Model



MJG 15~400A / MJGL 15~300A / MGLP 20~200A MJGF 65~400A / MJGFL 65~300A

Grip type couplings are axially restrained, and a good alternative to welding, flange, groove joint, union, etc.

MJG/MJGL have double grip rings which hold pipes tightly and prevent them from moving or separating from each other.

MGLP with a single grip ring and thinner casing and gasket is suitable for low-pressure pipelines (e.g., rainwater pipe) at lower costs.

MJGF and MJGFL with a thicker casing can withstand higher pressure.

GRIP TYPE FOR FITTINGS Patent



MJET 15~400A

Because elbow/tee is arc-shaped, other methods (groove joint, socket, union, coupling, etc.) need the end of elbow/tee and pipe to be grooved, threaded, or welded for connection.

MJET is the world's first coupling to connect pipe to elbow/tee without such preprocessing.

SLIP TYPE (FLEXIBLE TYPE)

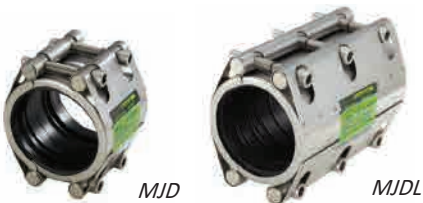


MJS, MJL 15~600A / MJSF, MJSFL 65~600A

Slip type couplings are axially non restrained. They allow expansion and contraction of pipes which happen due to environmental factors. Pipes need to be fixed adequately to avoid fall-out caused by axial force.

MJSF and MJSFL can withstand higher pressure.

SLIP TYPE (FLEXIBLE TYPE) - 2~4 LOCKS



MJD 13~1000A / MJDL 15~1000A / MJDF, MJDFL 65~1000A

MJT, MJTL, MJTF, MJTFL 1100~1500A

MJF, MJFL, MJFF, MJFFL 1600~4000A

These are composed of two, three, or four pieces of casing and a lock part at each end. They have better tightening capabilities and a wider coupling range. They are easy to install even on large diameter pipes. Pipes need to be fixed adequately to avoid fall-out caused by axial force.

MJDF, MJDFL / MJTF, MJTFL / MJFF, MJFFL can withstand higher pressure.

SLIP-GRIP TYPE Utility Model



MJSG 15~400A / MJSGL 15~300A

Slip-grip type coupling is a combination of slip type and grip type. The grip rings hold a pipe tightly at one side. The slip part on the other side allows pipe expansion and contraction. Pipes need to be fixed adequately to avoid fall-out caused by axial force.

Repair Clamp for leakage repair

HINGE TYPE - BOLT INSERTING



MJH 13~600A / MJHL 25~500A

With hinge on the opposite side of lock part, you can easily and quickly open clamp and cover up the leaking area of pipes.

HINGE TYPE - BOLT ROTATING Patent



MJHT 15~600A

This is the improved version of MJH. You can lock up clamp by simply ① swiveling bolt, the end of which is already inserted into bar nut, ② putting it onto bar washer, and ③ bolting up. The process is very simple and reduces working time compared to MJH or other types.

MULTI-LOCKS TYPE - 2~4 LOCKS



MJD 13~1000A / MJDL 15~1000A / MJDF, MJDFL 65~1000A

MJT, MJTL, MJTF, MJTFL 1100~1500A

MJF, MJFL, MJFF, MJFFL 1600~4000A

These are composed of two, three, or four pieces of casing and a lock part at each end. They have better tightening capabilities and a wider clamping range. They are easy to install even on large diameter pipes.

MJDF, MJDFL / MJTF, MJTFL / MJFF, MJFFL can withstand higher pressure.

ELBOW REPAIR CLAMP Utility Model



MJER 13~500A

This is useful for repairing a leaking area on an elbow or weld, or covering up a weld to prevent leaks. This is a top-bottom separated type, like MJD. You can use MJD for elbow repair over 500A.

SOCKET REPAIR CLAMP



MJCX 20~50A

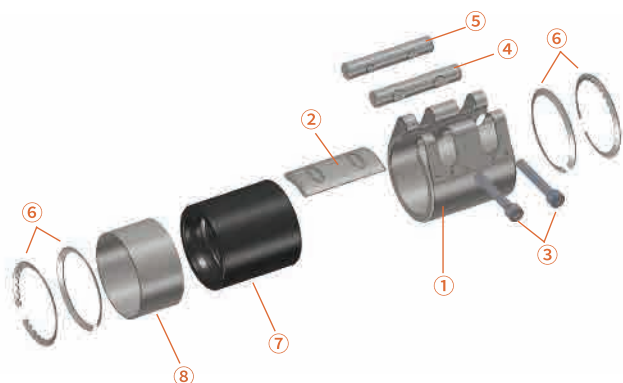
The connecting part of the socket method is half thick compared to the other part of a pipe. So, it is weak against vibration or impacts. MJCX protects the weak part and also covers up damaged ones.

※ The damaged area of pipeline should be smaller than gasket's "l" value (refer to our website).

If bigger than "l", the solution is to do a "partial replacement of pipe" using pipe coupling 2pcs.

※ For installation, do not overlap the ends of gasket, but face them.

NAME AND MATERIAL OF EACH PART



| | |
|----------------|--|
| ① Casing | SUS304, SUS316 |
| ② Slide | SUS304, SUS316 |
| ③ Bolt | SUS304, SUS316, SCM435 galv. |
| ④ Bar Washer | SUS303F, SUS304, SUS316, S45C galv. |
| ⑤ Bar Nut | SUS303F, SUS304, SUS316, S45C galv. |
| ⑥ Grip Ring | SUS301H, SUS304H (grip types only) |
| ⑦ Gasket | EPDM, NBR, Silicone, FKM(Viton) |
| ⑧ Strip Insert | SUS304, SUS316 (option for straight pipe coupling & clamp) |

* SUS = STS = stainless steel

Material and Characteristics of Gasket

| | |
|----------------------------|---|
| EPDM | <ul style="list-style-type: none"> • Characteristic: aging / weather / ozone / electric resistance • Temperature: -30 ~ 110°C • Use: air, oxygen, hydrogen, nitrogen, ammonia gas, water, potable water, brine, black water, sewage, boric acid, methyl alcohol, ammonium hydroxide, ethylene glycol, hydrochloric acid, sodium acetate, acetic acid, glacial acetic acid, propylene glycol, sulfuric acid(~50%), etc. (pH2~11) |
| NBR | <ul style="list-style-type: none"> • Characteristic: oil / abrasion / aging resistance • Temperature: -20 ~ 80°C • Use: air, oxygen, hydrogen, carbon dioxide, nitrogen, water, potable water, brine, black water, sewage, natural gas, LNG, LPG, diesel oil, paraffin, fuel oil, hydraulic oil, lubricating oil, gasoline, butane, ethylene, octane, boric acid, methyl alcohol, ethylene glycol, fatty acid, etc. (pH2~11) |
| Silicone | <ul style="list-style-type: none"> • Characteristic: heat / cold / weather resistance • Temperature: -40 ~ 220°C • Use: high-temperature line / air, oxygen, nitrogen, water, brine, black water, sewage, boric acid, methyl alcohol, ammonium hydroxide, acetic acid, glacial acetic acid, propylene glycol, etc. |
| FKM/FPM (Viton) | <ul style="list-style-type: none"> • Characteristic: heat / chemical / medicine resistance • Temperature: -18 ~ 300°C (Special Viton: steam ~230°C) • Use: air, oxygen, hydrogen, carbon dioxide, nitrogen, water, brine, black water, sewage, natural gas, LNG, LPG, diesel oil, paraffin, bunker oil, fuel oil, crude oil, hydraulic oil, lubricating oil, heavy oil, turbine oil, gasoline, naphthalene, benzene, butane, ethylene, octane, cresol, styrene, toluene, propylene, boric acid, ammonium hydroxide, hydrochloric acid, chlorine, ethylene chloride, aqua regia, chlorine dioxide, fatty acid, nitric acid, propylene glycol, sulfuric acid, etc. |

※ Gaskets should be selected according to the fluid type, temperature, etc.

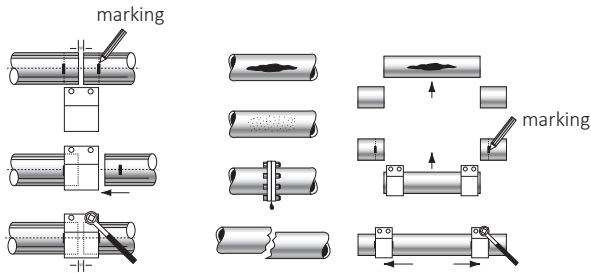
※ Users should test the suitability of gaskets under their own operating conditions.

CHARACTERISTICS OF PRODUCT

- * Assembly type saves work time.
- * Applicable to various pipe materials, even connects pipes of different materials (e.g., steel pipe + PVC pipe).
- * Using a (torque) wrench to install eliminates worry about fire.
- * No preprocessing is necessary at pipe ends (no groove, no thread, etc.).
- * Rubber gaskets accommodate vibration, impact, noise, angular deflection, and gap between pipe ends. This makes couplings seismic design.
- * Installation is done on one side. It enables products to be stored or work to be done in a narrow area.
- * Stainless steel design is much lighter than cast iron products, reducing the load on pipelines.
- * Grip type couplings resist axial movement.
- * Slip (flexible) type couplings allow pipe expansion and contraction.
- * Repair clamps provide semi-permanent repair with speed and no downtime.
- * Couplings can be assembled and disassembled several times.

INSTALLATION GUIDE

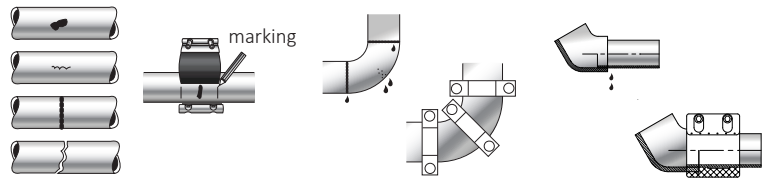
PIPE COUPLING



pipe connection

partial replacement

REPAIR CLAMP



straight pipe repair

elbow repair

socket repair

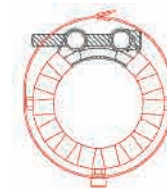
- * Remove burrs and contaminants on pipe surface.
- * Tighten bolts little by little & alternately up to the torque value on the label.
Overtightened, casing or bolts can be broken. On the other hand, below the torque value, product performance would be lower than its capability.
- * Pipes should be anchored and supported properly, conforming to the relevant industry standards.

MISCELLANEOUS

FRC (Fire-Resistant Cover)

IACS(International Association of Classification Societies) and other societies regulate that only approved fire-resistant types can be installed on specific applications (for details, refer to [Shipbuilding] on page 6). FRC is wrapped around couplings and makes them resistant to a fire of $800\pm 50^{\circ}\text{C}$ for 30 minutes or longer.

- * Applicable to MJG, MJGF



ACCESSORY TYPE

Accessories such as drain valve and gauge can be installed.

- MJG-A: 50A~400A
- MJS-A: 50A~600A
- MJH-A: 50A~600A
- MJD-A: 50A~2000A



STRIP INSERT (Inner Stainless Steel Plate)

Strip Insert prevents rubber gasket from being sucked into a vacuum or suction pipe.

- Material: SUS304, SUS316
- Size: 15A~600A



CERTIFICATION



ISO 9001



CE Mark
EU



ABS
USA



BV
France



DNV
Norway-Germany



LR
UK



RINA
Italy



NK
Japan



Korean Water



Japanese Water / Fire

INDUSTRY & PIPELINE (examples)

- **General Industry** - chemical, petrochemical, steel mill, cement, mining, paper, pharmaceuticals, semiconductor, fiber & textile, food & beverage, etc.

Raw material transfer line, cooling water line, vacuum line, plumbing system, ventilation system, exhaust system, dust collector, cleaning equipment, sludge line, sewage & wastewater line, sprinkler, steam line, conduit pipe, fuel line, material storage tank

- **Water & Environment**

- Various kinds of pipeline at purification plant, sewage treatment plant, seawater desalination plant, pumping station
- Water and sewage pipeline (incl. underground piping)

- **Oil & Gas**

Oil & gas distribution line

- **Civil Engineering & Construction**

Plumbing system, heating/ ventilating/ air-conditioning system, fuel line, fire fighting line, rainwater pipe, district heating system, agricultural water line, industrial water line, conduit pipe

- **Power**

Circulating water system, cooling water system, sewage & wastewater line, atmospheric gas line, dust collector

- **Machinery & Equipment**

Engine, fire truck, drinking fountain, dust collector, train, air compressor, automatic winder, other machine and equipment

- **Maintenance of pipeline**

- **Shipbuilding** (according to IACS rule)

Flammable fluids (flash point $\leq 60^{\circ}\text{C}$)

- Cargo oil lines *
- Crude oil washing lines *
- Vent lines *

Inert gas

- Water seal effluent lines *
- Scrubber effluent lines *
- Main lines *
- Distributions lines *

Flammable fluids (flash point $> 60^{\circ}\text{C}$)

- Cargo oil lines *
- Fuel oil lines *
- Lubricating oil lines *
- Hydraulic oil *
- Thermal oil *

Sea Water

- Bilge lines *
- Permanent water filled fire extinguishing systems *
(e.g. fire main, sprinkler systems)
- Non-permanent water filled fire extinguishing systems *
(e.g. foam, drencher systems and fire main)
- Ballast system *
- Cooling water system *
- Tank cleaning services
- Non-essential systems

Fresh water

- Cooling water system *
- Condensate return *
- Non-essential system

Sanitary / Drains / Scuppers

- Deck drains (internal)
- Sanitary drains

Sounding / Vent

- Water tanks / Dry spaces
- Oil tanks (flash point $> 60^{\circ}\text{C}$)

Miscellaneous

- Service air (non-essential)
- Brine
- Steam

* : FRC is required (page 5).

PIPE MATERIAL

Steel, stainless steel, cast iron, ductile iron, copper, concrete, Cu-Ni, aluminum, PVC, PPR, PE, GRE, GRP, etc.

* Pipes of different materials can be connected by coupling as long as they have the same outside diameter (within coupling range).

e.g., steel pipe + PVC pipe

INSTALLATION EXAMPLES



| Item No. | Pipe Outside Diameter | | | Coupling / Clamping Range (mm) | | | Max. WP (bar) | | Product Length (mm) | |
|-----------|-----------------------|--------------|-----------------------|--|---|-------------------|---------------|------------------|---------------------|--|
| | ND | inch | actual OD (mm) | MJG / MJGL / MGLP MJSG / MJSGL / MJET | MJS / MJL / MJR / MJRL MJH / MJHL / MJHT | MJD / MJDL / MJER | ship | general industry | standard | long |
| U2 | 13A-1 | | 15.8 | - | MJH: 14.0 ~ 16.5 | 14.0 ~ 17.0 | 16 | 32 | 60 (MJER:27) | 100 |
| 01 | 15A-1 | 1/2 | 21.3 21.7 21.8 | 21.2 ~ 22.0 | 21.0 ~ 22.0 / MJH: ~23.0 | 21.0 ~ 23.0 | | | | |
| 02 | 15A-2 | | 20.0 | 19.5 ~ 20.5 | 19.5 ~ 20.5 | 19.5 ~ 21.3 | | | | |
| 03 | 15A-3 | | 22.2 | 21.2 ~ 22.5 | 21.2 ~ 22.7 / MJH: (15A-1) | (15A-1) | | | | |
| 04 | 20A-1 | 3/4 | 26.7 26.9 27.2 | 26.7 ~ 27.7 | 26.0 ~ 28.0 | 26.0 ~ 29.0 | | | | |
| 05 | 20A-2 | | 25.0 | 24.5 ~ 25.5 | 24.0 ~ 26.0 | 24.0 ~ 26.5 | | | | |
| 06 | 20A-3 | | 28.2 | 27.5 ~ 29.0 | 26.4 ~ 29.0 | 26.4 ~ 29.5 | | | | |
| 07 | 25A-1 | 1 | 33.4 33.7 34.0 | 33.0 ~ 34.6 | 33.0 ~ 35.0 | 33.0 ~ 35.5 | | | | |
| 08 | 25A-2 | | 30.0 | 29.5 ~ 30.5 | 29.0 ~ 31.0 | 29.0 ~ 31.5 | | | | |
| 09 | 25A-3 | | 32.0 | 31.5 ~ 32.5 | 31.0 ~ 33.0 | 31.0 ~ 33.5 | | | | |
| N9 | 25A-4 | | 35.0 | 34.5 ~ 35.5 | 34.0 ~ 36.0 | (25A-1) | | | | |
| 10 | 32A-1 | | 38.0 | 37.5 ~ 38.5 | 37.0 ~ 39.0 | 37.0 ~ 39.5 | | | | |
| 11 | 32A-2 | 1 1/4 | 42.2 42.4 42.7 | 41.9 ~ 43.0 | 42.0 ~ 44.0 | 41.0 ~ 44.5 | | | | |
| 12 | 32A-3 | | 44.5 | 44.0 ~ 45.0 | 44.0 ~ 46.0 | 44.0 ~ 46.5 | | | | |
| 13 | 32A-4 | | 40.0 40.9 41.3 | 39.5 ~ 41.5 | 39.5 ~ 41.5 | 39.5 ~ 41.8 | | | | |
| 15 | 40A-1 | 1 1/2 | 48.3 48.6 | 47.8 ~ 49.0 | 47.5 ~ 49.5 | 47.5 ~ 50.5 | 14 | 28 | 80 (40) | 150 |
| 17 | 40A-3 | | 50.0 50.8 | 49.5 ~ 51.5 | 49.2 ~ 51.5 | 48.6 ~ 51.5 | | | | |
| 18 | 50A-1 | | 54.0 | 53.4 ~ 54.6 | 53.0 ~ 55.0 | 53.0 ~ 56.0 | | | | |
| 19 | 50A-2 | | 57.0 | 56.4 ~ 57.6 | 56.0 ~ 58.0 | 56.0 ~ 59.0 | | | | |
| 20 | 50A-3 | 2 | 60.3 60.5 | 59.0 ~ 61.5 | 59.0 ~ 61.5 | 59.0 ~ 62.0 | | | | |
| 21 | 50A-4 | | 63.0 | 62.4 ~ 63.6 | 62.0 ~ 64.0 | 62.0 ~ 65.0 | | | | |
| 23 | 65A-1 | | 73.0 | 71.5 ~ 74.1 | 72.5 ~ 75.5 | 71.5 ~ 76.5 | | | | |
| 24 | 65A-2 | 2 1/2 | 76.1 76.3 | 75.0 ~ 77.2 | 75.0 ~ 78.0 | 75.0 ~ 79.0 | | | | |
| 25 | 65A-3 | | 69.0 | 68.0 ~ 70.1 | 68.5 ~ 71.0 | 67.5 ~ 72.0 | | | | |
| 26 | 65A-4 | | 66.7 | 65.2 ~ 67.3 | 65.4 ~ 68.3 | 64.4 ~ 69.0 | | | | |
| 27 | 80A-1 | | 84.0 | 83.0 ~ 84.9 | 82.5 ~ 85.5 | 81.0 ~ 86.0 | | | | |
| 28 | 80A-2 | 3 | 88.9 89.1 | 87.8 ~ 91.0 | 88.0 ~ 91.0 | 86.0 ~ 92.0 | | | | |
| 30 | 80A-4 | | 79.9 | 78.8 ~ 80.8 | 78.8 ~ 82.0 | 77.0 ~ 83.0 | | | | |
| 32 | 90A-1 | 3 1/2 | 101.6 | 100.4 ~ 102.6 | 100.0 ~ 103.0 | 100.0 ~ 104.0 | | | | |
| 34 | 100A-1 | | 104.0 | 103.0 ~ 104.8 | 102.0 ~ 105.0 | 102.0 ~ 106.0 | 12 | 24 | 110 (60) | 200 |
| 35 | 100A-2 | | 108.0 | 106.5 ~ 108.5 | 106.0 ~ 109.0 | 106.0 ~ 110.0 | | | | |
| 36 | 100A-3 | 4 | 114.3 | 113.2 ~ 115.4 | 113.0 ~ 116.0 | 113.0 ~ 118.0 | | | | |
| 37 | 100A-4 | | 106.3 | 105.0 ~ 107.4 | 105.0 ~ 107.5 | 105.0 ~ 108.5 | | | | |
| 38 | 100A-5 | | 110.0 | 108.5 ~ 111.0 | 108.5 ~ 111.5 | 108.5 ~ 113.5 | | | | |
| 39 | 125A-1 | | 133.0 | 131.6 ~ 134.4 | 131.0 ~ 135.0 | 131.0 ~ 135.5 | | | | |
| 40 | 125A-2 | 5 | 139.7 139.8 | 137.7 ~ 140.9 | 138.0 ~ 142.0 | 138.0 ~ 142.5 | | | | |
| 41 | 125A-3 | | 141.1 141.3 | 139.7 ~ 142.5 | 139.5 ~ 143.5 | 139.5 ~ 144.0 | | | | |
| 42 | 125A-4 | | 127.0 | 125.6 ~ 128.4 | 125.0 ~ 129.0 | 125.0 ~ 129.5 | | | | |
| 43 | 125A-5 | | 129.0 | 127.5 ~ 130.0 | 127.5 ~ 130.0 | 127.5 ~ 131.0 | | | | |
| Q2 | 125A-9 | | 125.0 | 123.0 ~ 126.0 | 123.0 ~ 126.0 | 123.0 ~ 126.5 | | | | |
| 54 | 125A-12 | | 130.2 | 128.8 ~ 131.6 | 129.0 ~ 131.0 | 128.2 ~ 132.7 | | | | |
| 44 | 150A-1 | | 154.0 | 151.5 ~ 155.0 | 151.5 ~ 155.5 | 151.5 ~ 156.0 | | | | |
| 45 | 150A-2 | | 159.0 | 156.5 ~ 160.0 | 156.0 ~ 160.0 | 156.0 ~ 161.0 | | | | |
| 46 | 150A-3 | 6 | 165.2 | 163.3 ~ 166.7 | 164.0 ~ 167.0 | 164.0 ~ 168.5 | 8 | 16 | 111 (60) | 201 |
| 47 | 150A-4 | | 168.3 | 166.6 ~ 170.0 | 166.0 ~ 170.0 | 166.0 ~ 170.5 | | | | |
| 49 | 150A-6 | | 150.0 | 147.5 ~ 151.0 | 148.0 ~ 152.0 | 146.8 ~ 152.5 | | | | |
| Q6 | 175A-1 | | 180.0 | 178.0 ~ 182.0 | 178.0 ~ 182.0 | 178.0 ~ 183.0 | | | | |
| 51 | 200A-1 | 8 | 216.3 | 214.5 ~ 218.3 | 214.0 ~ 218.5 | 214.0 ~ 219.0 | | | | |
| 52 | 200A-2 | | 219.1 | 217.0 ~ 221.0 | 216.5 ~ 221.5 | 216.5 ~ 222.0 | | | | |
| 54 | 200A-4 | | 200.0 | 198.2 ~ 201.5 | 198.0 ~ 203.0 | 198.0 ~ 203.5 | | | | |
| 55 | 200A-5 | | 203.0 204.0 | 202.7 ~ 206.7 | 202.0 ~ 206.0 | 202.0 ~ 206.5 | | | | |
| 56 | 250A-1 | 10 | 267.0 267.4 | 264.8 ~ 270.0 | 262.0 ~ 269.0 | 262.0 ~ 270.0 | | | | |
| 57 | 250A-2 | | 273.1 | 270.4 ~ 275.6 | 270.0 ~ 276.0 | 270.0 ~ 277.0 | | | | |
| 59 | 250A-4 | | 252.0 254.0 | 251.4 ~ 256.6 | 251.0 ~ 257.0 | 251.0 ~ 257.0 | | | | |
| 61 | 300A-1 | 12 | 318.5 | 316.0 ~ 322.0 | 316.0 ~ 322.5 | 316.0 ~ 323.0 | 7 | 14 | 150 (61) | 250 (300,400: by special order) |
| 64 | 300A-2 | | 323.9 | 321.0 ~ 327.4 | 322.0 ~ 328.0 | 322.0 ~ 329.0 | | | | |
| 66 | 300A-6 | | 304.0 | 301.5 ~ 306.6 | 301.5 ~ 308.0 | 301.5 ~ 309.0 | | | | |
| 67 | 350A-1 | 14 | 355.6 | 352.0 ~ 360.0 | 352.0 ~ 359.5 | 352.0 ~ 361.0 | | | | |
| 71 | 400A-1 | 16 | 406.4 | 402.0 ~ 410.0 | 402.0 ~ 410.0 | 402.0 ~ 411.0 | | | | |
| 74 | 450A-1 | 18 | 457.2 | | 453.0 ~ 460.0 | 453.0 ~ 462.0 | | | | |
| 77 | 500A-1 | 20 | 508.0 | | 504.0 ~ 512.0 | 504.0 ~ 513.0 | | | | |
| 80 | 550A-1 | 22 | 558.8 | | 555.0 ~ 563.0 | 554.0 ~ 564.0 | | | | |
| 83 | 600A-1 | 24 | 609.6 | | 605.0 ~ 614.0 | 605.0 ~ 615.0 | | | | |

[Remark]

- * Burst pressure \geq working pressure for ship x ship safety factor (4)
Burst pressure \geq working pressure for industry x industry safety factor (2)
- * The sizes highlighted in bold are JWC standards.
- * There are some more sizes available. Visit our website for further information.
- * It is not recommended to use couplings for food ingredient conveying line where those fluids can get jammed in rubber gasket and rotted.

* Please check pipe OD in millimeter, pressure, fluid type & temperature, etc.

| how to order | for example |
|---|---|
| Model + Pipe OD + Gasket material (+ Casing & other materials) + Quantity (+ Certification) | MJG 100A(114.3mm), NBR (for diesel oil), SUS304 casing, SUS304 bolt, SUS303F bar, 350pcs , ABS approval |



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