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CUPLA®

World's Leading Manufacturer
NITTO KOHKI's Quick-action Couplings

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NITTO
NITTO KOHKI CO., LTD.

⚠ Before using, please be sure to read the "Precautions" sheet attached to the product or the "Precautions" items on the package.

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World's leading Couplings - CUPLA®

NITTO KOHKI CO., LTD.

CERTIFIED JQA MANAGEMENT SYSTEM QUALITY SYSTEM
ISO 9001 Certified
JQA-2025

Cat.No. C-021

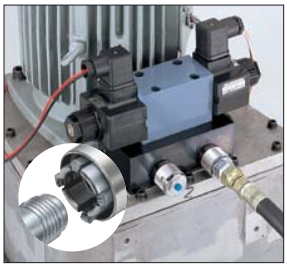
CUPLA®

World's Leading Manufacturer
NITTO KOHKI's Quick-action Couplings

NITTO
NITTO KOHKI CO., LTD.

354-02-7 Cupla Hyo-1/4 CMYK

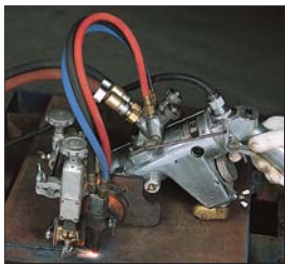
▲ For piping to household gas appliances



▲ For testing various devices for filling leakage, pressure and vacuum

▲ For piping to pneumatic tools

▲ For coolant piping for molds



▲ For piping for welding / cutting equipment

▲ For piping for hydraulic units

▲ For dialysis fluid piping

▲ For piping for semiconductor manufacturing equipment, and high purity chemicals tanks

▲ For hot and cold water piping to household appliances

▲ For replacing machine tool attachments

▲ For the nuclear industry

▲ For rocket and the space development industry

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Standard Cupla Series

Nitto Kohki is engaged in the development, manufacture and marketing of a variety of couplings products to suit different fluids and applications. "Standard Cupla Series" are groups of products with a record of widespread acceptance and a reputation for high performance and high quality. In each case, these are standard stock items that satisfy you with both price and delivery. Please refer to the following indexes, which are arranged by fluids, can consult the relevant pages for more detail.

For Air (Hi Cupla Series)

Hi Cupla (p.13)
General purpose Cupla for air lines

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Steel (chrome-plated), Brass, Stainless steel
Packing material: NBR, FKM
Fitting sizes: 1/4" ~ 1"

Hi Cupla TW (p.15)
Two-way flow type for air piping

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Steel (chrome-plated)
Packing material: NBR, FKM
Fitting sizes: 1/4" ~ 1/2"

Vibration-proof Plug Hose (p.16)
Rubber hose and plug set for vibrating tools and impact tools

Working pressure: 1.5 MPa
Plug material: Steel (chrome-plated)
Air hose: Rubber hose for air
Fitting sizes: 1/4", 3/8"

Hi Cupla 200 (p.17)
One-touch Cupla for air lines

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
FittingSize: 1/4" ~ 1/2"

Nut Cupla (p.19)
For fitting to urethane hose

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
Fitting sizes: ø5 x ø8 ~ ø11 x ø16

Nut Cupla 200 (p.19)
For fitting to urethane hose

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Steel (chrome-plated), Reinforced plastic
Packing material: NBR
Fitting sizes: ø5 x ø8 ~ ø11 x ø16

Rotary Nut Cupla (p.21)
Cupla with swivel mechanism for fitting to urethane hose

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
Fitting sizes: ø6.5 x ø10, ø8.5 x ø12.5

Oil Cupla (p.22)
Air line Cupla with oiler function

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Diecast aluminum/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: ø6.5 x ø10, ø8.5 x ø12.5

Duster Cupla (p.23)
Air line Cupla with air duster function

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Aluminum/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 1/2", ø6.5 x ø10, ø8.5 x ø12.5

Super Duster Cupla (p.24)
Air line Cupla with air duster function

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Aluminum/Steel
Packing material: NBR
Fitting sizes: ø6.5 x ø10, ø8.5 x ø12.5

Lock Cupla 200 (p.25)
Air line Cupla with lock mechanism

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 1/2"

Purge Line Cupla (p.26)
Simple branching air line Cupla with purge function

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/2"

Purge Hi Cupla (p.27)
Air line Cupla with purge mechanism

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 3/4"

Rotary Line Cupla RT type (p.29)
Rotating type simple branching air line Cupla

Valve / One-way shut-off

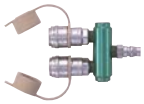
Working pressure: 1.5 MPa
Body material: Brass/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4"

Rotary Line Cupla RE type (p.29)
Rotating type simple branching air line Cupla

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Brass/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/2"

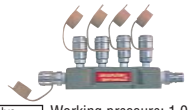
Line Cupla 200T (p.31)
Simple branching air line Cupla



Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Aluminum/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4"

Line Cupla 200L (p.31)
Simple branching air line Cupla



Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Aluminum/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/2"

Line Cupla 200S (p.31)
Simple branching air line Cupla

Valve / One-way shut-off

Working pressure: 1.0 MPa
Body material: Aluminum/Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/2"

Hi Cupla Ace (p.33)
Lightweight plastic Cupla for piping connections

Valve / One-way shut-off

Working pressure: 1.5 MPa
Body material: Engineering plastics (PBT, POM)
Packing material: NBR
Fitting sizes: 1/4", 3/8", ø5 x ø8 ~ ø8.5 x ø12.5

Rotary Plug (p.35)
For pneumatic tools and devices

Valveless

Working pressure: 1.5 MPa
Body material: Steel(nickel-plated)
Packing material: NBR
Fitting sizes: 1/4", 3/8"

Twist Plug (p.36)
For pneumatic tools and devices

Valveless

Working pressure: 1.0 MPa
Body material: Steel (nickel-plated)
Packing material: NBR
Fitting sizes: 1/8" ~ 3/8"

Purge Plug (p.37)
Air line Cupla with purge mechanism

Valve / Purge valve

Working pressure: 1.0 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 1/2", ø6.5 x ø10, ø8.5 x ø12.5

NBR : Nitrile butadiene rubber
FKM : Fluoro-rubber

■The Hi Cupla Series group of product are provided with interchangeability. This means that each product can be connected to another product within the group.

For Air

Micro Cupla (p.38)
For piping for pneumatic control devices

Valve
One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR, FKM
Fitting sizes: 1/8". M5, ø4 etc.

Micro Cupla with Tube Fitter (p.38)
For piping for pneumatic control devices

Valve
One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 4 mm, 6mm (OD) tube

Micro Line Cupla (p.38)
Lightweight and compact for use on scientific equipment

Valve
One-way shut-off

Working pressure: 1.0 Mpa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8"

Small Cupla (p.41)
Lightweight and compact for use on scientific equipment

Valve
One-way shut-off

Working pressure: 0.7 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8", 1/4"

Small Cupla with Tube fitter (p.41)
Lightweight and compact for use on scientific equipment

Valve
One-way shut-off

Working pressure: 0.7 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8", 1/4"

Small Line Cupla (p.41)
Lightweight and compact for use on scientific equipment

Valve
One-way shut-off

Working pressure: 0.7 Mpa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8", 1/4"

Super Cupla (p.43)
Light, compact for piping connections

Valve
One-way shut-off

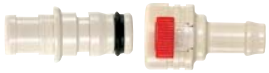
Working pressure: 1.0 MPa
Body material: Steel (chrome-plated), Aluminum
Packing material: NBR, FKM
Fitting sizes: 1/8", 1/4"

Super Cupla with Tube Fitter (p.43)
Light, compact for piping connections

Valve
One-way shut-off

Working pressure: 1.0 MPa
Body material: Steel (chrome-plated), Aluminum
Packing material: NBR
Fitting sizes: 6 mm (OD) tube, 8 mm (OD) tube

Plastic Cupla BC Type (p.45)
For low pressure air piping



Valve
Straight through

Working pressure: 0.07 MPa
Body material: Resin
Packing material: NBR
Fitting sizes: 1/4", 3/8"

Plastic Cupla BCC Type (p.46)
For low pressure air piping

Valve
One-way shut-off

Working pressure: 0.07 MPa
Body material: Resin
Packing material: NBR
Fitting sizes: 3/8"

Multi Cupla MAM type (p.89)
Multiple air line system

Valve
One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8"

For Oxygen / Fuel Gas

Mini Cupla (p.47)
General purpose model for use on welding / cutting

Valve
One-way shut-off

Working pressure: 0.7 MPa
Body material: Brass
Packing material: NBR
Fitting sizes: 1/4" ~ 3/8"

Line Cupla Mini (p.47)
Simple branching coupler for oxygen and gas fuel

Valve
One-way shut-off

Working pressure: 0.7 MPa
Body material: Steel (chrome-plated),
Packing material: NBR
Fitting sizes: 1/4" ~ 3/8"

Mini Cupla Super (p.49)
Heavy duty model for use on gas welders

Valve
One-way shut-off

Working pressure: 0.7 MPa
Body material: Steel/Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 3/8"

For Inert Gas / Vacuum

SP-V Cupla (p.51)
For vacuum

Valve
Two-way shut-off

Working pressure: 5.0 MPa
Body material: Brass, Stainless steel
Packing material: CR, etc.
Fitting sizes: 1/4" ~ 3/4"

PCV Pipe Cupla (p.53)
For connection to copper pipe

Valve
Straight through

Working pressure: 3.0 MPa
Body material: Brass
Packing material: CR, etc.
Copper pipe sizes: 3/16" ~ 5/8"

NBR : Nitrile butadiene rubber
FKM : Fluoro-rubber
CR : Chloroprene rubbers

■When placing your order :

Please make your selection after you have confirmed the contents of the details page for each product (on the right beside the product name) and the packing material and body material selection tables (pages 99 to 103).

For Gases and Liquids

SP Cupla (p.55)
For medium pressure and general purpose

Valve — Two-way shut-off

Working pressure: 7.5 MPa
Body material: Brass, Stainless steel, Steel (zinc-plated)
Packing material: NBR, etc.
Fitting sizes: 1/8" ~ 2"

TSP Cupla (p.57)
For medium pressure and general purpose

Valve — Straight through

Working pressure: 7.5 MPa
Body material: Brass, Stainless steel, Steel (zinc-plated)
Packing material: NBR, etc.
Fitting sizes: 1/8" ~ 2"

Lever Lock Cupla Metal Type (p.59)
For large diameter, low pressure connections

Valve — Straight through

Working pressure: 1.8 MPa, etc.
Body material: Al.alloy, Cu.alloy, Stainless steel
Packing material: NBR, etc.
Fitting sizes: 3/4" ~ 4"

Lever Lock Cupla Plastic Type (p.61)
For large diameter, low pressure connections

Valve — Straight through

Working pressure: 0.5 MPa, etc.
Body material: Polypropylene (PP)
Packing material: NBR, etc.
Fitting sizes: 3/4" ~ 3"

Hi Cupla (p.13)
General purpose Cupla for air lines

Valve — One-way shut-off

Working pressure: 1.5 MPa
Body material: Brass, Stainless steel
Packing material: NBR
Fitting sizes: 1/4" ~ 1"

Micro Cupla (p.38)
For piping for pneumatic control devices

Valve — One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR, FKM
Fitting sizes: 1/8" ø4, ø6 (OD) tube

Small Cupla (p.41)
Lightweight and compact for use on scientific equipment

Valve — One-way shut-off

Working pressure: 0.7 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8", 1/4"

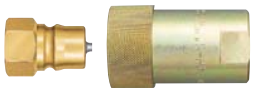
S210 Cupla (p.69)
Stainless steel for 20.6 MPa (210 kgf/cm²) high pressure

Valve — Two-way shut-off

Working pressure: 20.6 MPa, etc.
Body material: Stainless steel (SUS 304)
Packing material: FKM, etc.
Fitting sizes: 1/4" ~ 1"

For Hydraulics

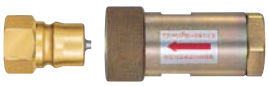
HSP Cupla (p.63)
For hydraulic pressures up to 20.6 MPa (210 kgf/cm²)



Valve — Two-way shut-off

Working pressure: 20.6 MPa, etc.
Body material: Special steel (Chrome-molybdenum steel,zinc-plated)
Packing material: NBR, FKM
Fitting sizes: 1/4" ~ 2"

Super HSP Cupla (p.65)
Connects hydraulic piping with residual plug pressure up to 20.6 MPa.



Valve — Two-way shut-off

Working pressure: 20.6 MPa, etc.
Body material: Special steel (zinc-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 1"

210 Cupla (p.67)
For hydraulic pressures up to 20.6 MPa (210 kgf/cm²)

Valve — Two-way shut-off

Working pressure: 20.6 MPa, etc.
Body material: Carbon steel (zinc-plated)
Packing material: NBR, FKM
Fitting sizes: 1/4" ~ 1"

S210 Cupla (p.69)
Stainless steel for 20.6 MPa (210 kgf/cm²) high pressure

Valve — Two-way shut-off

Working pressure: 20.6 MPa, etc.
Body material: Stainless steel (SUS 304)
Packing material: FKM, etc.
Fitting sizes: 1/4" ~ 1"

280 Cupla (p.71)
For 27.5 ~ 31.5 MPa (281 ~ 321 kgf/cm²) hydraulic pressure

Valve — Two-way shut-off

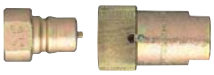
Working pressure: 31.5 MPa, etc.
Body material: Special steel (zinc-plated)
Packing material: NBR
Fitting sizes: 1/4" ~ 1"

350 Cupla (p.73)
For hydraulic pressures up to 34.5 MPa (352 kgf/cm²)

Valve — Two-way shut-off

Working pressure: 34.5 MPa
Body material: Special steel (Chrome-molybdenum steel, zinc-plated)
Packing material: FKM, etc.
Fitting sizes: 3/8" ~ 2"

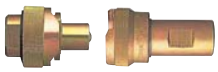
450B Cupla (p.75)
For hydraulic pressures up to 44.1 MPa (450 kgf/cm²)



Valve — Two-way shut-off

Working pressure: 44.1 MPa
Body material: Special steel (zinc-plated)
Packing material: NBR, FKM
Fitting sizes: 3/8"

700R Cupla (p.76)
For hydraulic pressures up to 68.6 MPa (700 kgf/cm²)



Valve — Two-way shut-off

Working pressure: 68.6 MPa
Body material: Special steel (zinc-plated)
Packing material: NBR, FKM
Fitting sizes: 3/8", 1/2"

For cooling water and heating oil (for mold)

Mold Cupla (p77)
General purpose type and mold coolant port coupling

Valve — One-way shut-off, Straight through

Working pressure: 1.0 MPa
Body material: Brass
Packing material: NBR, FKM
Fitting sizes: 1/8" ~ 3/8"

Flow Meter (p.79)
Specialized flow meter with valve for molds

Working pressure: 0.5 MPa
Body material: Brass, Polycarbonate
Packing material: NBR
Fitting sizes: 3/8"

Hi Cupla (p.13)
General purpose Cupla for air lines

Valve — One-way shut-off

Working pressure: 1.5 MPa
Body material: Brass, Stainless steel
Packing material: NBR, FKM
Fitting sizes: 1/4" ~ 1"

SP Cupla (p.55)
For medium pressure and general purpose

Valve — Two-way shut-off

Working pressure: 7.5 MPa
Body material: Brass, Stainless steel
Packing material: NBR, etc.
Fitting sizes: 1/8" ~ 2"

TSP Cupla (p.57)
For medium pressure and general purpose

Valve — Straight through

Working pressure: 7.5 MPa
Body material: Brass, Stainless steel
Packing material: NBR, etc.
Fitting sizes: 1/8" ~ 2"

Lever Lock Cupla Metal Type (p.59)
For large diameter, low pressure connections

Valve — Straight through

Working pressure: 1.8 MPa, etc.
Body material: Al.alloy, Cu.alloy, Stainless steel
Packing material: NBR, etc.
Fitting sizes: 3/4" ~ 4"

For High Purity Chemicals

Semicon Cupla SP Type (p.80)
For semiconductor manufacturing equipment

Valve — Two-way shut-off

Working pressure: 0.2 MPa
Body material: Stainless steel (SUS 304), electropolished
Packing material: FKM, EPDM, FFKM, Kalrez (KL)
Fitting sizes: 1/8" ~ 3/4"

Semicon Cupla SCS Type(p.81)
Fluororesin valve type

Valve — Two-way shut-off

Working pressure: 0.2 MPa
Body material: Stainless steel (SUS 304), electropolished
Packing material: FFKM, etc.
Fitting sizes: 1/8", 1/4"

Semicon Cupla SCT Type(p.82)
PTFE type

Valve — Two-way shut-off

Working pressure: 0.2 MPa
Body material: Tetra fluoro-plastic (PTFE)
Packing material: FEP-covered Fluoro-rubber
Fitting sizes: 1/4" ~ 1"

Semicon Cupla SCF Type(p.83)
All fluororesin type

Valve — One-way shut-off

Working pressure: 0.2 MPa
Body material: Fluoro-resin (PFA)
Packing material: FEP-covered Fluoro-rubber
Fitting sizes: 1/4", 3/8"

NBR : Nitrile butadiene rubber
FKM : Fluoro-rubber
EPDM : Ethylene propylene rubber
FFKM : Perfluoroelastomer

Semi-Standard Cupla Series

"Semi-Standard Cupla Series" are products with an already established record but are not standard stock items.

Multi Cupla Series

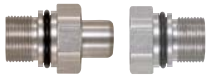
Multi Cupla MAS Type (p.85)
7.0 MPa (71 kgf/cm²) diffusion type

Valve — Two-way shut-off

Working pressure: 7.0 MPa
Body material: Stainless Steel
Packing material: FKM
Fitting sizes: 1/4" ~ 1"

■Applicable fluid: Air, water, hydraulic oil

Multi Cupla MAT Type (p.85)
7.0 MPa (71 kgf/cm²) diffusion type



Valve — Two-way shut-off

Working pressure: 7.0 MPa
Body material: Stainless Steel
Packing material: FKM
Fitting sizes: 1/4" ~ 1"

■Applicable fluid: Air, water, hydraulic oil

Multi Cupla MALS Type (p.87)
14.0 MPa (142 kgf/cm²) airless type

Valve — Two-way shut-off

Working pressure: 14.0 MPa
Body material: Steel (Kanigen-plated)
Packing material: FKM
Fitting sizes: 1/4" ~ 3/4"

■Applicable fluid: Air, hydraulic oil, non-flammable hydraulic fluid

Multi Cupla MALT Type (p.87)
14.0 MPa (142 kgf/cm²) airless type

Valve — Two-way shut-off

Working pressure: 14.0 MPa
Body material: Steel (Kanigen-plated)
Packing material: FKM
Fitting sizes: 1/4" ~ 3/4"

■Applicable fluid: Air, hydraulic oil, non-flammable hydraulic fluid

Multi Cupla MAM type (p.89)
Multiple air line system

Valve — One-way shut-off

Working pressure: 1.0 MPa
Body material: Brass (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8"

■Applicable fluid: Air

For Artificial Dialyzing Fluid

Artificial Kidney Cupla (Plastic) (p.90)
For dialyzer piping

Valve — Straight through

Working pressure: 0.06 MPa
Body material: Modified polyphenylene ether
Packing material: Silicone rubber
Fitting sizes: ø6 x ø12, ø8 x ø13.5

Artificial Kidney Cupla (Stainless Steel) (p.90)
For dialyzer piping

Valve — Straight through

Working pressure: 1.5 MPa
Body material: Stainless Steel (SUS 304)
Packing material: FKM
Fitting sizes: 3/8"

Other

Residual Pressure Release Jig (p.91)

Valve — Two-way shut-off

Working pressure: Compatible with residual pressure release Cuplas
Body material: Steel
Packing material: NBR, FKM
Fitting sizes: Compatible with residual pressure release Cuplas

Dust Caps (Dip mole cap) (p.91)

Body material: Vinyl chloride
Fitting sizes: Compatible with Cupla to be capped

For Vacuum

Screw Cupla PCS Type (p.93)
For vacuum and pressure testing

Valve — Straight through

Working pressure: 3.0 MPa
Body material: Steel (partially stainless steel)
Packing material: CR, NBR, FKM
Fitting sizes: 7/16" ~ 7/8"

■Please inquire about larger sizes.

For Inert Gases

Charge Cupla CS Type (p.94)
For industrial gases

Valve — Two-way shut-off

Working pressure: 3.0 MPa
Body material: Stainless steel (partially aluminum, brass)
Packing material: Chloroprene rubber (CR), FKM
Fitting sizes: 1/4", 3/8"

*Interchangeable with SP-V Cupla plugs

Auto Cupla AC Type (p.95)
For industrial gases

Valve — Two-way shut-off

Working pressure: 3.0 MPa
Body material: Stainless steel (partially aluminum, brass)
Packing material: CR, FKM, NBR
Fitting sizes: 1/4", 3/8"

*Interchangeable with SP-V Cupla plugs

Auto Cupla ACV Type (p.95)
For industrial gases

Valve — Two-way shut-off

Working pressure: 3.0 MPa
Body material: Stainless (partially aluminum, brass)
Packing material: Chloroprene rubber (CR), FKM, NBR
Fitting sizes: 1/4", 3/8"

*Interchangeable with SP-V Cupla plugs

Airless Cupla CNA Type(p.96)
For industrial gases

Valve — Two-way shut-off

Working pressure: 3.0 MPa
Body material: Stainless steel
Packing material: FKM, EPDM
Fitting sizes: 1/4" ~ 1"

For Water

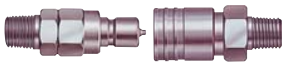
TSP-HP Cupla (for High Pressure) (p.96)
High pressure and general purpose type

Valve — Straight through

Working pressure: 9.0 MPa
Body material: Stainless steel
Packing material: NBR, etc.
Fitting sizes: 1/4" ~ 1/2"

For Gases and Liquids

Compact Cupla (p.97)
For small pneumatic devices



Valve — Two-way shut-off

Working pressure: 0.7 MPa
Body material: Stainless steel (partially aluminum, brass)
Packing material: NBR
Fitting sizes: 1/8"

Cupla Safety Mechanism

Safety Cap (p.97)
For Cupla dust-proofing and body protection

Cupla with Single Lock (BL) (p.98)
Mechanism to prevent disconnection

Cupla with Safety Lock (SL) (p.98)
Mechanism to prevent disconnection

NBR : Nitrile butadiene rubber
FKM : Fluoro-rubber
EPDM : Ethylene propylene rubber
FFKM : Perfluoroelastomer
CR : Chloroprene rubber

■When placing your order:
Please make your selection after you have confirmed the contents of the details page for each product (on the right beside the product name) and the packing material and body material selection tables (pages 99 to 103).

Special Made-to-Order Cuplas

Nitto Kohki is developing Cuplas with various functions and specifications to suit the user's application. The following Cuplas are presented as examples of these.

■When placing your order:
Since the Cuplas in this group are special made-to–order items, please ask about the details.

For Gases and Liquids (Pipe Cupla Series)

For expanded pipe [known locally as "belled pipe"]
PCB Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Brass (partly stainless steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For bulge pipe
PCBW Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Brass (partly stainless steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For beaded pipe
PCP Cupla

Valve
Straight through

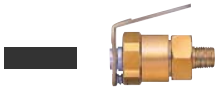
Working pressure: To be determined by negotiation
Body material: POM (polyacetal) (partly stainless steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For straight pipe
PCBL Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Stainless steel (partially brass)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For straight pipe
PCL Cupla



Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Brass (partially steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For expanded pipe
PCW Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Brass (partially stainless steel, steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For Inert Gas and Vacuum

For high pressure pipe
PCA Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Brass (partially stainless steel, steel)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For pipe inner locking
PCIO Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Stainless steel (partially brass)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For special shaped pipe
PCD Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Stainless steel (partially aluminum)
Packing material: CR, FKM, EPDM
Pipe sizes: Compatible with your specifications

For copper pipe
Auto Cupla

Valve
Straight through

Working pressure: To be determined by negotiation
Body material: Stainless steel (partially brass)
Packing material: CR, FKM, NBR
Pipe sizes: Compatible with your specifications

For Water

For scientific equipment piping
Airless Cupla

Valve
Two-way shut-off

Working pressure: 3.0 MPa
Body material: Stainless steel
Packing material: FKM, EPDM
Fitting sizes: 1/4" ~ 1"

For High Purity Chemicals

For semiconductor manufacturing equipment
Semicon Cupla SML Type

Valve
Two-way shut-off

Working pressure: 0.2 MPa
Body material: Stainless steel (SUS 304)
Packing material: FKM, EPDM, FFKM, Karletz (KL)
Fitting sizes: 1/8", 1/4"

For semiconductor manufacturing equipment
Semicon Cupla SCF Straight Type

Valve
Two-way shut-off

Working pressure: 0.2 MPa
Body material: Fluoro-resin (PFA)
Packing material: FEP-covered Fluoro-rubber, Fluoro-resin
Fitting sizes: 3/8", 1/2"

NBR : Nitrile butadiene rubber
FKM : Fluoro-rubber
EPDM : Ethylene propylene rubber
FFKM : Perfluoroelastomer
CR : Chloroprene rubber

For Pneumatics, Hydraulics

For connecting pneumatic/hydraulic equipment
Screw Cupla NCM Type

Valve
Two-way shut-off

Working pressure: 14.0 MPa
Body material: Steel (chrome-plated)
Packing material: NBR
Fitting sizes: 1/8" ~ 1"

For Manipulators

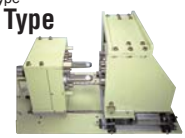
For manipulators
New Clear Cupla MP Type

Valve
Two-way shut-off

Working pressure: 5.0 MPa
Body material: Stainless steel (SUS 304)
Packing material: FKM, etc.
Fitting sizes: 1/4" ~ 1"

Automatic Multi-coupling Systems

Fully automatic type
AMCS-FA Type



Valve
Two-way shut-off

Working pressure: To be determined by negotiation
Body material: To be determined by negotiation
Packing material: To be determined by negotiation
Fitting sizes: To be determined by negotiation

Semi-automatic type
AMCS-SA Type

Valve
Two-way shut-off

Working pressure: To be determined by negotiation
Body material: To be determined by negotiation
Packing material: To be determined by negotiation
Fitting sizes: To be determined by negotiation

Safety Equipment, etc.

For safety equipment and automatic connection/disconnection applications
Automatic disconnection Cupla

Valve
Two-way shut-off

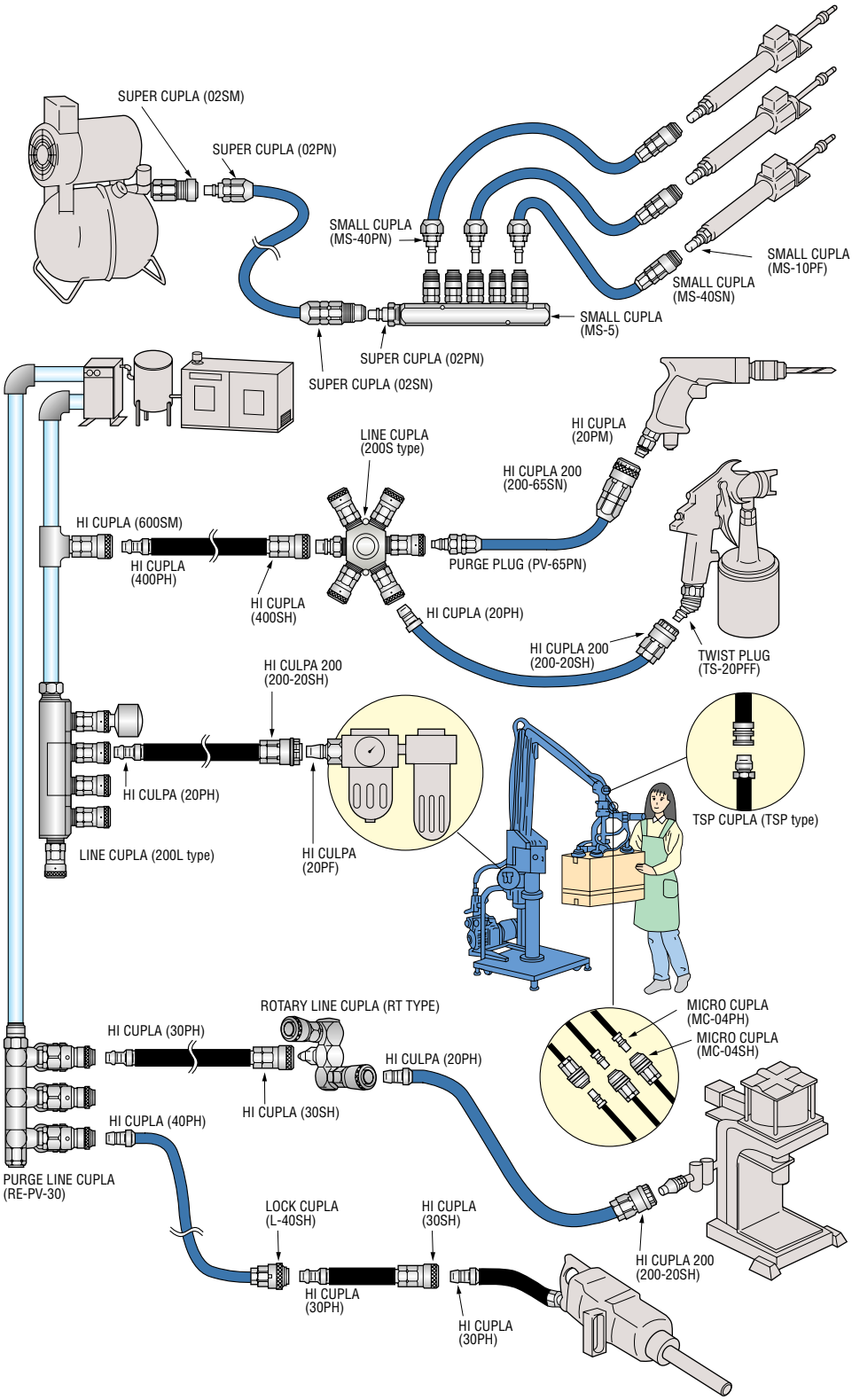
Working pressure: To be determined by negotiation
Body material: To be determined by negotiation
Packing material: To be determined by negotiation
Fitting sizes: To be determined by negotiation

Series of Cuplas for Piping of Pneumatic Tools

The world brand "CUPLA" will quickly meet all needs of air piping from main piping and relay piping in factories to the end connection of pneumatic tools.

Air piping by using Cuplas (Example)

For main piping | **Intermediate piping** | **For pneumatic tools & devices**



Select the right Cupla for the job

Nitto Kohki has a Cupla for every application and function (see Index on pages 3 to 7).
To select the right Cupla for your job, you will need to check the following items.

Items to be checked when selecting Cuplas

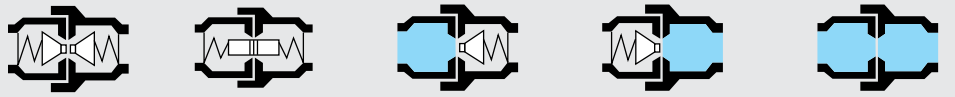
Fluid Type and Temperature	Select a Cupla with body material and packing material that suit the fluid type and temperature.	There are different body materials and packing materials to suit different fluids. For example, we recommend steel Hi Cuplas for air and brass or stainless steel for water. Please refer to the selection charts at the back of this book (pages 99 to 103) for details about the relationship between fluids and materials.
Fluid Pressure	Select a Cupla with a pressure resistance that suits the fluid pressure.	Fluid pressure is also a key to Cupla selection. Series of hydraulic Cuplas have different structures to cope with pressure resistances ranging between 5.0 MPa (50 kgf/cm^2) and 68.6 MPa (700 kgf/cm^2).
Automatic Shut-off Valve Structure	Select a Cupla with a valve structure that suits the piping application.	Valve structures may be two-way shut-off, one-way shut-off, or straight through types. Choose carefully. Unless it is a two-way shut-off type, the internal fluid will flow out when the Cupla is disconnected.
Operating Environment	Select a Cupla with structure and materials that suit the operating environment.	In choosing the type of Cupla, body material and packing material, consider temperature, dirt and dust, and corrosion in the operating environment.
Size and type of connections	Finally, take care in specifying the size and type of the connections	Having checked the type and materials for the Cupla, now specify the size and type of connection to suit the type of piping. Choose carefully, as size affects the fluid flow rate. (Note: Type and size may be limited by the type of Cupla) Hose nipple / Female thread / Male thread / Nut

▲If you cannot find a suitable Cupla, please enter the above details in the "Cupla Inquiry Form" at the back of this book (p.110) and send it to Nitto Kohki by fax or post.

Symbols

Each product in this catalog is marked with symbols to help you to quickly select a suitable Cupla: 1) Type of valve structure, 2) Working pressure, 3) Applicable fluids. Please use them as a guide to type selection.

■ Valve structure ·Plug ·Socke ·Valve



Two-way shut-off | Airless | One-way shut-off | One-way shut-off | Straight through

■ Working pressure

1.0 MPa

■ Applicable fluids

Air | Water | Hydraulic oil | Steam | Oxygen, Fuel Gas | Cooling water | Industrial gas | Inert gas, vacuum, helium | Food, Drinking water | High purity chemicals

Artificial dialyzing fluid | Radioactive fluid | Corrosive fluid | City gas, Propane | Heating oil | Powder

Glossary

The following terms are used in detailed Cupla data pages (pages 15 to 104).
Use this list when checking Cupla specifications.

Glossary

■Product Codes

The product code of a Cupla indicates its size, whether plug or socket, and type of connection. Pressure is also shown for some hydraulic Cuplas. Check the following tables and be sure you understand the product codes before making your selection.

Product code (e.g.: Hi Cupla 200)

200 - 20 S H

Series name

*2

Type of connection

Symbol	H	M	F
Meaning	Hose	Male thread	Female thread

Plug or socket

Symbol	P	S
Meaning	Plug	Socket

*1

Size

Symbol	1	2	3	4	6	8	10	12	16	20	24	32
Nominal diameter	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"

*1: Some products have a different number of digits. For example, if the number corresponding to "20" in the case of a Hi Cupla 20SH were shown as "2" the size would be 1/4".
*2: For a product with only one type of connection, this symbol is omitted. For example, SP Cuplas have only female thread connections so the product code indicates only size and plug or socket identification.

■Body Material

This indicates the material that is used for the plug body and socket body that form the flow path of fluid through the Cupla. Some products have internal components of a different material. Please ask for details.

■Size

This indicates the dimensions of the pipe thread connection and the hose size to be used.

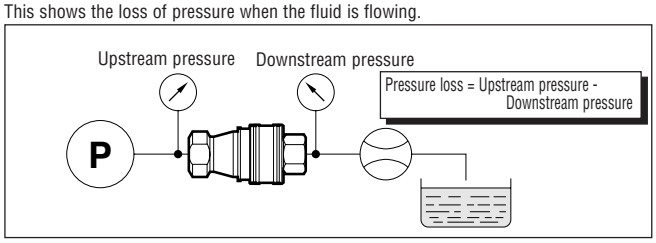
■Pressure

Working pressure: This shows the normal allowable pressure when the Cupla is used continuously.

Pressure resistance: This shows the maximum pressure that will not affect the performance of the Cupla if there is a temporary increase in pressure.

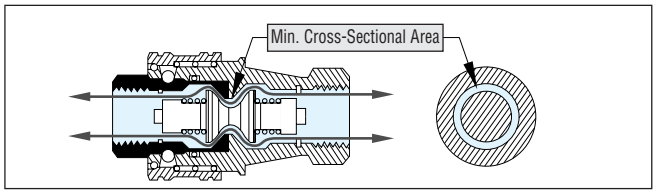
■Pressure Loss

This shows the loss of pressure when the fluid is flowing.



■Min. Cross-sectional Area

This shows the minimum cross-sectional area of the fluid path when the Cupla is connected. The position is different in some products.



■Packing Material

This shows the material used to seal the Cupla, usually an O-ring. The standard material is nitrile butadiene rubber. For materials other than those shown below, please specify silicone (SI), butyl (IIR), Kalrez (KL) or rubber for food, depending on your application.

● Properties of rubbers used for O-rings

Packing material		Working Temp. Range	Characteristics
Symbol	Nitto symbol		
NBR	SG	-20°C ~ +80°C	Standard packing with excellent oil and wear resistance. High nitrile is particularly oil resistant. Low nitrile has excellent low temperature resistance but less oil resistance.
H-NBR	H708	-20°C ~ +120°C	For freezer oil resistant and alternate fluorocarbon (HFC134a) resistant applications.
FKM	X-100	-20°C ~ +180°C	Excellent heat resistance, also oil and chemical resistant for wide-ranging uses.
CR	X-306	-20°C ~ +80°C	Excellent weather resistance, also little affected by ultraviolet or ozone.
	C308	-20°C ~ +80°C	In addition to conventional properties, suitable for alternate fluorocarbon (HFC134a) resistant applications.
EPR, EPDM	E.P.T	-40°C ~ +150°C	Excellent resistance to steam and hot water, also excellent resistance to weather and ozone.
FFKM	P	-20°C ~ +180°C	Excellent resistance to chemicals and solvents.

NBR : Nitrile butadiene rubber
H-NBR : Hydrogen added nitrile butadiene rubber
FKM : Fluoro-rubber
CR : Chloroprene rubber
FFKM : Perfluoroelastomer
EPR, EPDM : Ethylene propylene rubber

■Working Temperature Range

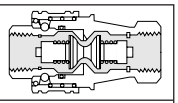
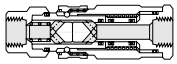
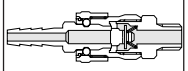
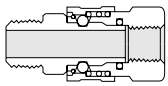
This shows the minimum and maximum temperatures at which Cuplas with packing material can be used. However, since they cannot by used continuously at the minimum or maximum working temperatures, please ask us if you need to do this.

■Storage Temperature Range

This shows the allowable range of temperatures for storage. The properties of the rubber will not change within this temperature range.

■Automatic Shut-off Valves

This shows the structure of valves that open and shut automatically on connection and disconnection.

Two-way shut-off		Automatic shut-off valves are mounted in both plug and socket. This structure prevents an outflow of fluid from the lines on disconnection.	
Airless		Similar to "Two-way shut-off" but "Airless" structure allows extremely little admixture of air on connection and prevents dropping of fluid on disconnection.	
One-way shut-off		This structure prevents an outflow of fluid from the socket side only on disconnection. Structures are also available with an automatic shut-off valve mounted in the plug.	
Straight through		No shut-off valves are mounted in both plug and socket. Fluid flows out on disconnection.	

■Suitability for Vacuum Uses

Indicates whether performance required for vacuum applications is present. (Note that this is different for connection and disconnection.)

■Interchangeability

Indicates whether the plug and socket from Cuplas with different model names and product codes can be connected.

■Max. Tightening Torque, Tightening Torque Range

Considering a balance between leakage and endurance when fitting a Cupla, this indicates the proper torque value or torque range to be applied when Cupla fittings are being tightened.

■Flow Direction

Due to structure, some Cuplas are limited as to the direction of fluid flow. Check the flow direction and be sure to fit the Cuplas correctly.

Cupla Quality Control

Cuplas are delivered to the user only after passing the most stringent quality control procedures, including careful selection of materials, unending pursuit of processing precision and rigorous endurance testing.Long years of devotion to thorough quality control are paying dividends in reliability today but still we persist in challenging even higher quality.

Products that earn the constant trust from users

▲ Electron microscope

▲ Gauging and measuring with various testing devices

▲ Automatic coupling inspection equipment

▲ Inspection in clean room

▲ Composite environment tests

▲ Hydraulic impact tester

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⚠ Beware of Imitations

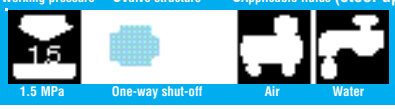
Similar products that invite misidentification or confusion with Nitto Kohki Cuplas, and products that claim to have compatible mating parts, have recently appeared on the market.
Even if it were possible to connect a Nitto Kohki Cupla with a coupling of another brand, Nitto Kohki cannot accept responsibility for any accident that may result. Nitto Kohki Cuplas are produced with unique tolerances and precision based on strict quality control and are not interchangeable with couplings made by others. Therefore, their use in connection with another brand of coupling is quite capable of causing sudden damage to the Cupla or personal injury. When ordering and purchasing, please be sure to check that the following marks are inscribed on Nitto Kohki Cupla products.

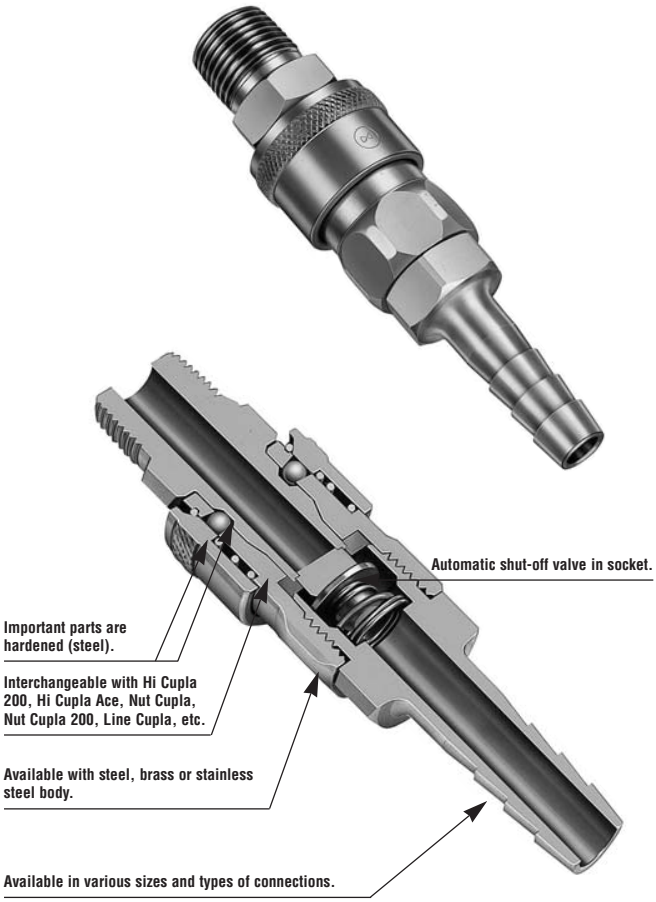
For Air

Hi Cupla

General purpose Cupla for air lines

● Working pressure ●Valve structure ●Applicable fluids (steel applies to air only)





From factory air line to pneumatic tool connection, available in various body materials, sizes and connection types. Excellent durability in any environment!

- ●An excellent general-purpose Cupla for connecting factory air supply to pneumatic tool hose.
- ●Steel Cupla is suitable for air and brass or stainless is suitable for water. Note that fluid will flow out from the plug on disconnection.
- ●Important structural parts of steel models are hardened for added strength. Extremely wear resistant and durable.
- ●Available in various body materials, sizes and connection types to suit a wide range of applications.

Specifications

Body material	Steel (chrome-plated)	Brass	Stainless steel
Size	1/8" (10 type), 1/4" (20 type), 3/8" (30 type), 1/2" (40 type), 1/2" (400 type), 3/4" (600 type), 1" (800 type)		
Working pressure MPa {kgf/cm²}	1.5 {15}	1.0 {10}	1.5 {15}
Pressure resistance MPa {kgf/cm²}	2.0 {20}	1.5 {15}	2.0 {20}

Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-20˚C ~ +80˚C	Standard material
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Order product

NBR=Nitrile butadiene rubber

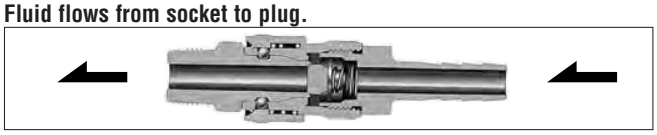
Max. Tightning Torque* N•m {kgf•cm}

Size		1/8"	1/4"	3/8"	1/2"	3/4"	1"
Torque	Steel (chrome-plated)	7 {71}	14 {143}	22 {224}	60 {612}	100 {1020}	100 {1020}
	Brass	—	9 {92}	11 {112}	30 {306}	50 {510}	50 {510}
	Stainless steel	—	14 {143}	22 {224}	60 {612}	100 {1020}	100 {1020}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

(1) Models 10 (1/8"), 17 (1/4"), 20 (1/4"), 30 (3/8") and 40 (1/2") have sockets and plugs that can be interchanged regardless of connection type.

(2) Models 400 (1/2"), 600 (3/4") and 800 (1") have sockets and plugs that can be interchanged regardless of connection type. However (1) and (2) can not be interchanged with each other.

(3) Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

■17, 20, 30, 40 type

Socket \ Plug	17PH	20PH	20PM/PF	30PH	30PM/PF	40PH	40PM/PF
17SH	16	16	16	16	16	16	16
20SH	16	20	20	20	20	20	20
20SM/SF	16	20	33	33	33	33	33
30SH	16	20	33	33	33	33	33
30SM/SF	16	20	33	33	33	33	33
40SH	16	20	33	33	33	33	33
40SM/SF	16	20	33	33	33	33	33

■400, 600, 800 type

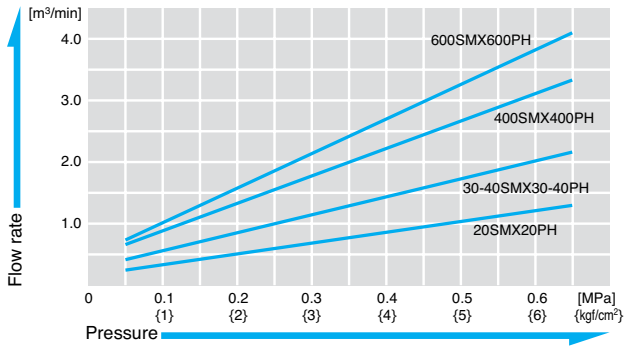
Socket \ Plug	400PH	400PM/PF	600PH	600PM/PF	800PH	800PM/PF
400SH	64	64	64	64	64	64
400SM/SF	64	94	94	94	94	94
600SH	64	94	94	94	94	94
600SM/SF	64	94	94	94	94	94
800SH	64	94	94	94	94	94
800SM/SF	64	94	94	94	94	94

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

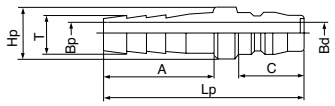
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



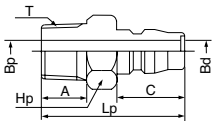
Product Codes and Dimensions Tables

Plug P



•For hose connection (PH)

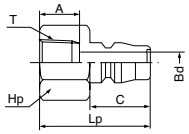
Product code	Application	Mass (g)			Dimensions (mm)						
		Steel	Brass	Stainless	Lp	øHp	A	C	øT	øBp	øBd
17PH	For 1/4" hose	24	-	-	54	16	27	20	7.2	4.5	7.5
20PH	For 1/4" hose	28	30	26	57	16	30	20	9	5	7.5
30PH	For 3/8" hose	31	34	27	61	16	34	20	11.3	7.5	7.5
40PH	For 1/2" hose	53	58	47	63	20	36	20	15	7.5	7.5
400PH	For 1/2" hose	66	72	67	66	22	36	23	15	9	13
600PH	For 3/4" hose	121	132	129	77	30	45	23	21	13	13
800PH	For 1" hose	152	167	150	85	34	54	23	27	20	13



•For female thread connection (PM)

Product code	Application	Mass (g)			Dimensions (mm)						
		Steel	Brass	Stainless	Lp	Hp	A	C	T	øBp	øBd
10PM	Rc1/8 (PT1/8)	22	-	-	37	Hex.14	10	20	R1/8	4	7.5
20PM	Rc1/4 (PT1/4)	25	28	27	41	Hex.14	13	20	R1/4	7.5	7.5
30PM	Rc3/8 (PT3/8)	46	50	45	42	Hex.19	14	20	R3/8	7.5	7.5
40PM	Rc1/2 (PT1/2)	59	66	62	46	Hex.22	16	20	R1/2	12	7.5
400PM	Rc1/2 (PT1/2)	69	77	70	50	Hex.22	16	23	R1/2	13	13
600PM	Rc3/4 (PT3/4)	116	126	115	55	Hex.32	18	23	R3/4	19	13
800PM	Rc1 (PT1)	152	152	198	63	Hex.35	22	23	R1	22	13

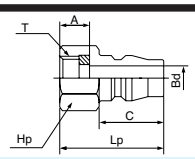
Option (steel only):PT treads with a seal tape and NPT treads for 20PM, 30PM and 40PM models.



•For male thread connection (PF)

Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Lp	Hp	A	C	T	øBd
20PF	R1/4 (PT1/4)	28	30	30	36	Hex.17	13	20	Rc1/4	7.5
30PF	R3/8 (PT3/8)	39	41	41	37	Hex.21	14	20	Rc3/8	7.5
40PF	R1/2 (PT1/2)	70	77	69	38	Hex.29	15	20	Rc1/2	7.5
400PF	R1/2 (PT1/2)	82	89	81	41	Hex.29	15	23	Rc1/2	13
600PF	R3/4 (PT3/4)	116	126	118	45	Hex.35	17	23	Rc3/4	13
800PF	R1 (PT1)	190	202	192	54	Hex.41	22	23	Rc1	13

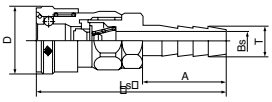
Option (steel only):NPT threads for 20PF, 30PF and 40PF models.



•For male thread connection <parallel threads> (PFF)

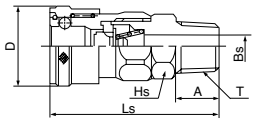
Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Lp	Hp	A	C	T	øBd
20PFF	G1/4 (PF1/4)	23	–	–	32	Hex.17	9	20	G1/4	7.5

Socket S



•For hose connection (SH)

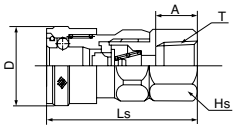
Product code	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless	Ls	øD	A	øT	øBs
17SH	For 1/4" hose	99	-	-	69.5	26.5	27	7.2	4.5
20SH	For 1/4" hose	103	107	100	72.5	26.5*1	30	9	5
30SH	For 3/8" hose	106	111	101	76.5	26.5*1	34	11.3	7.5
40SH	For 1/2" hose	118	124	118	78.5	26.5*1	36	15	9
400SH	For 1/2" hose	220	240	218	83	35	36	15	9
600SH	For 3/4" hose	251	273	242	92	35	45	21	14
800SH	For 1" hose	273	299	272	102	35	55	27	16



•For female thread connection (SM)

Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Ls	øD	Hs	A	T	øBs
10SM	Rc1/8 (PT1/8)	98	-	-	52.5	26.5*1	Hex.19	10	R1/8	5
20SM	Rc1/4 (PT1/4)	101	104	96	55.5	26.5*1	Hex.19	13	R1/4	7
30SM	Rc3/8 (PT3/8)	108	119	105	56.5	26.5*1	Hex.19	14	R3/8	8
40SM	Rc1/2 (PT1/2)	131	136	120	59.5	26.5*1	Hex.23*2	16	R1/2	9
400SM	Rc1/2 (PT1/2)	213	232	207	63	35	Hex.29	16	R1/2	13
600SM	Rc3/4 (PT3/4)	260	283	241	67	35	Hex.32	19	R3/4	16
800SM	Rc1 (PT1)	288	317	303	72	35	Hex.36*3	22	R1	16

Option (steel only):PT threads with a seal tape and NPT threads for 20SM, 30SM and 40SM models.



•For male thread connection (SF)

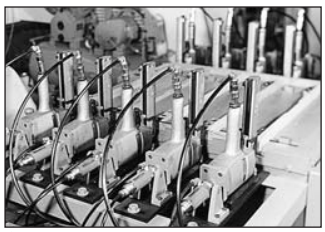
Product code	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless	Ls	øD	Hs	A	T
20SF	R1/4 (PT1/4)	95	103	98	49.5	26.5*1	Hex.19	13	Rc1/4
30SF	R3/8 (PT3/8)	103	105	99	50.5	26.5*1	Hex.21	14	Rc3/8
40SF	R1/2 (PT1/2)	139	149	138	52.5	26.5*1	Hex.29	15	Rc1/2
400SF	R1/2 (PT1/2)	216	235	216	57	35	Hex.29	15	Rc1/2
600SF	R3/4 (PT3/4)	260	283	258	61	35	Hex.35	17	Rc3/4
800SF	R1 (PT1)	324	353	317	68	35	Hex.41	22	Rc1

Option (steel only):NPT threads for 20SF, 30SF and 40SF models.

Note: Plugs and sockets pictured above are steel 20, 30 and 40 models. *1 øD=25.4 for brass and stainless steel models. *2 Hs=Hex.22 for brass and stainless steel models. *3 Hs=Hex.38 for brass and stainless steel models.

Examples of Usages

▲ Pneumatic tools



▲ Automatic woodworking assembler

• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Air

Hi Cupla TW Type

Bi-directinal fluid fllows for air lines

●Working pressure ●Valve structure ●Applicable fluids

Fluid flows in either direction from plug or socket! Ideal for connecting from factory air supply to pneumatic tools.

- **Can be connected to Hi Cupla plugs (Models 20, 30 and 40) and allows fluid to flow from either plug or socket.**
- **Wide range of uses such as laying air pipes in factory or connecting hoses of pneumatic devices.**
- **Important structural parts are hardened for added strength. Extremely wear resistant and durable.**
- **Available in various sizes and connection types to suit a wide range of applications.**

Specifications

Body material*	Steel (chrome-plated)			
Size	1/4" (20 type), 3/8" (30 type), 1/2" (40 type)			
Working pressure MPa {kgf/cm²}	1.5 {15}			
Pressure resistance MPa {kgf/cm²}	2.0 {20}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-20˚C ~ +80˚C	Standard material
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material

* Made-to-order products: Brass, Stainless steel NBR : Nitrile butadiene rubber

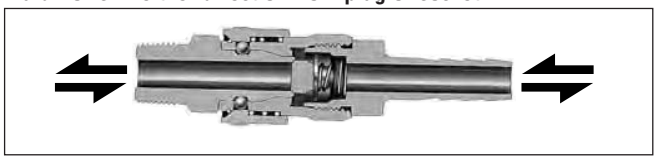
Max. Tightning Torque* N•m {kgf•cm}

Size	1/4"	3/8"	1/2"
Torque	14 {143}	22 {224}	60 {612}

* Recommende value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

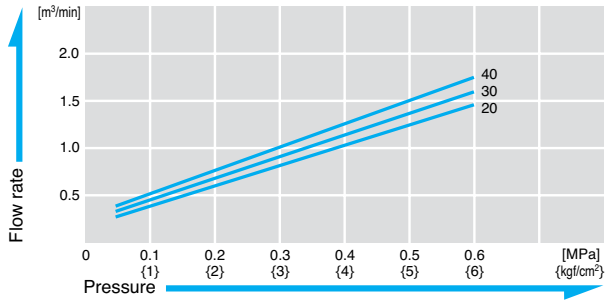
Can be connected to Hi Cupla Models 20, 30 and 40. Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

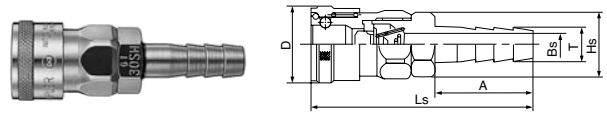
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



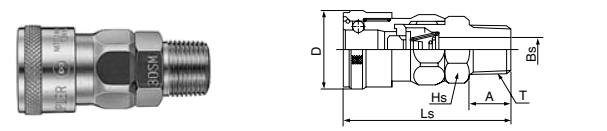
Product Codes and Dimensions Tables

S Socket



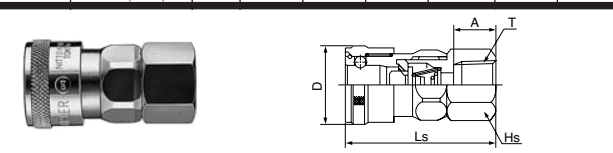
•For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	øD	Hs	A	øT	øBs
TW-20SH	For 1/4" hose	98	72.5	26.5	Hex.19	30	9	5
TW-30SH	For 3/8" hose	102	76.5	26.5	Hex.19	34	11.3	7.5
TW-40SH	For 1/2" hose	117	78.5	26.5	Hex.19	36	15	9



•For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	øD	Hs	A	T	øBs
TW-20SM	Rc1/4 (PT1/4)	95	55.5	26.5	Hex.19	13	R1/4	7
TW-30SM	Rc3/8 (PT3/8)	109	56.5	26.5	Hex.19	14	R3/8	8
TW-40SM	Rc1/2 (PT1/2)	116	59.5	26.5	Hex.23	16	R1/2	9



•For male thread connection (SF)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	Hs	A	T
TW-20SF	R1/4 (PT1/4)	95	49.5	26.5	Hex.19	13	Rc1/4
TW-30SF	R3/8 (PT3/8)	96	50.5	26.5	Hex.21	14	Rc3/8
TW-40SF	R1/2 (PT1/2)	137	52.5	26.5	Hex.29	15	Rc1/2

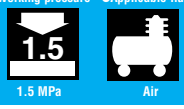
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

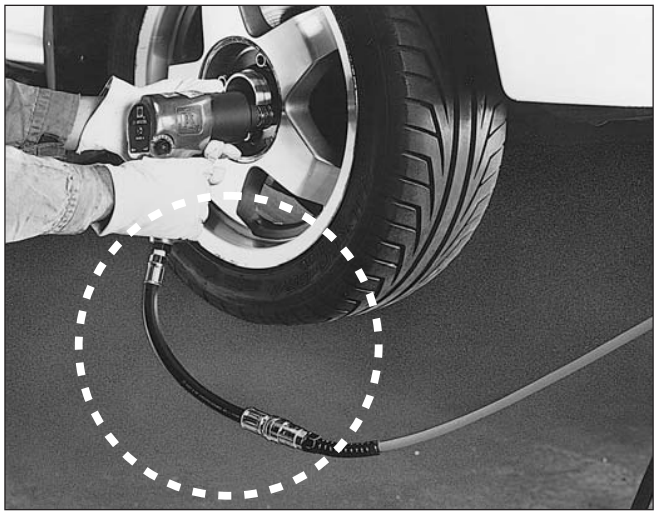
For Air

Anti-vibration Plug Hose

Plug set with rubber hose for vibrating tools and impact tools

●Working pressure ●Applicable fluids





Protects the Cupla from shock caused by vibrating tools and impact tools.

- ●Stabilizes "Cupla" life and prevents wear caused by vibration by absorbing strong shocks from vibrating tools.
- ●Prevents unnoticed flow restriction due to "Cupla" wear from vibration.
- ●Flexible rubber hose allows free movement of tool
- ●Compatible with Hi Cupla sockets (Models 20, 30 and 40)

Specifications

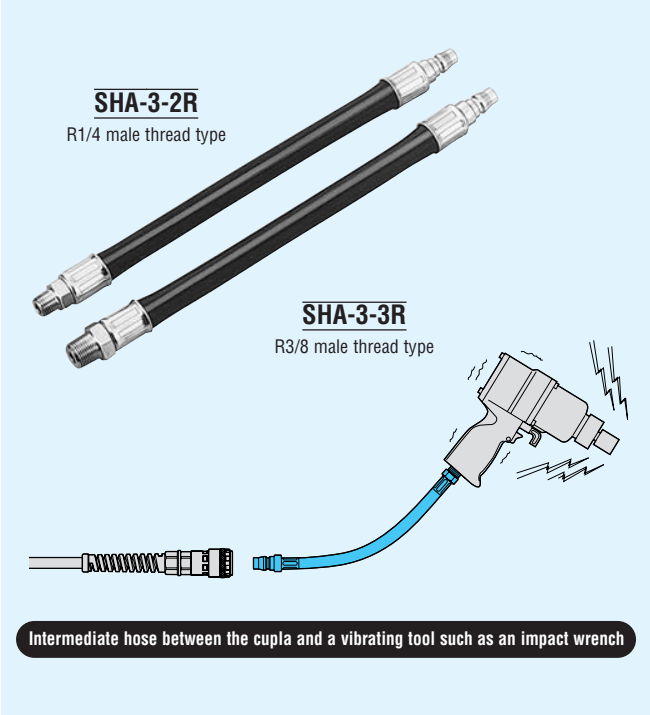
Applicable fluids	Air	
Size	R(PT)3/8", R(PT)1/4"	
Fitting Port (Plug)	Type: SHA-3-2R	Hi Cupla 30PH
	Type: SHA-3-3R	
Working pressure MPa {kgf/cm²}	1.5 {15}	
Pressure resistance MPa {kgf/cm²}	2.0 {20}	
Air Hose	Rubber hose for air	
Overall Length	310 mm	
Min. Bending Radius	135 mm	

Applications

Suitable for tools subject to impact wrenches in the automobile maintenance and sheet steel industries and tackers, nailers and concrete breakers in the construction industry.

Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

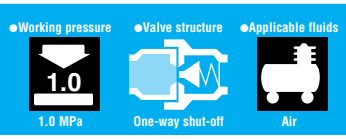


Intermediate hose between the cupla and a vibrating tool such as an impact wrench

For Air

Hi Cupla 200

One-touch Cupla for air lines



Simple and secure one-touch connection! Big flow rate! End face packing system. Gives excellent handling.

- One touch! Just push the plug into the socket for simple, secure connection. Cuts connection time, improves efficiency.
- Applying valve structure with low pessure loss gives increased flow rate (15% up on previous model by our company comparison)
- Uses end face packing system for sealing when connected.
  - •Low connection load improves connection/disconnection.
  - •Compared with external O-ring system, no packing damage due to lack of lubrication and handling is superior.
- Available only with steel body. Unsuitable for water or oil.

Specifications

Body material	Steel (chrome-plated)			
Size	1/4" (20 type), 3/8" (30 type), 1/2" (40 type)			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR: Nitrile butadiene rubber

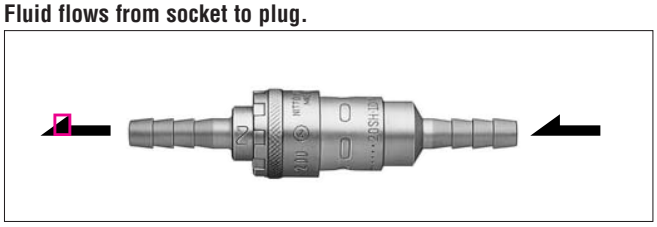
Max. Tightning Torque* N•m {kgf•cm}

Size	1/4"	3/8"	1/2"
Torque	14 {143}	22 {224}	60 {612}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

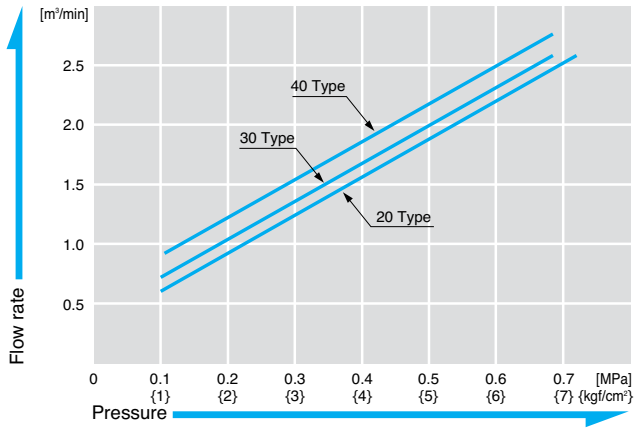
Socket \ Plug	17PH	20PH	30PH	40PH	20PM	30PM	40PM	20PF	30PF	40PF
200-17SH	16	16	16	16	16	16	16	16	16	16
200-20SH	16	20	20	20	20	20	20	20	20	20
200-30SH	16	20	41	41	41	41	41	41	41	41
200-40SH	16	20	41	41	41	41	41	41	41	41
200-20SM	16	20	41	41	41	41	41	41	41	41
200-30SM	16	20	41	41	41	41	41	41	41	41
200-40SM	16	20	41	41	41	41	41	41	41	41
200-20SF	16	20	41	41	41	41	41	41	41	41
200-30SF	16	20	41	41	41	41	41	41	41	41
200-40SF	16	20	41	41	41	41	41	41	41	41

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

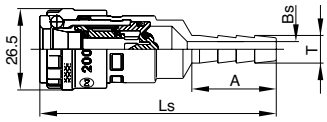
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



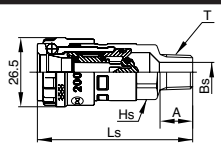
Product Codes and Dimensions Tables

S Socket



•For hose connection (SH)

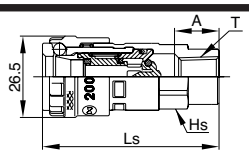
Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	A	øT	øBs
200-17SH	For 1/4" hose	86	77	27	7.2	4.5
200-20SH	For 1/4" hose	90	77	27.5	9	5
200-30SH	For 3/8" hose	92	79	32	11.3	7.5
200-40SH	For 1/2" hose	104	79.5	32	15	10



•For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	Hs	A	T	øBs
200-20SM	Rc1/4 (PT1/4)	89	60	Hex.19	13	R1/4	7.5
200-30SM	Rc3/8 (PT3/8)	91	60.5	Hex.19	13.5	R3/8	10
200-40SM	Rc1/2 (PT1/2)	102	56	Hex.24	16	R1/2	13

Option: PT threads with a seal tape and NPT threads

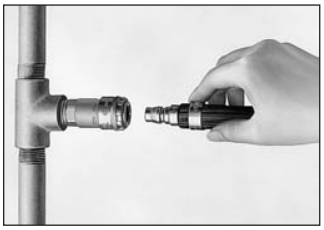


•For male thread connection (SF)

Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	Hs	A	T
200-20SF	R1/4 (PT1/4)	94	57.5	Hex.19	14.5	Rc1/4
200-30SF	R3/8 (PT3/8)	103	55.5	Hex.22	13	Rc3/8
200-40SF	R1/2 (PT1/2)	138	57.5	Hex.29	16	Rc1/2

Option: NPT threads

Examples of Usages



▲ Air piping

▲ Pneumatic tool

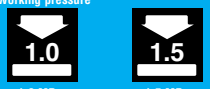
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

Nut Cupla & Nut Cupla 200

For fitting to urethane hose

●Working pressure



1.0 MPa　1.5 MPa

●Valve structure

One-way shut-off

●Applicable fluids

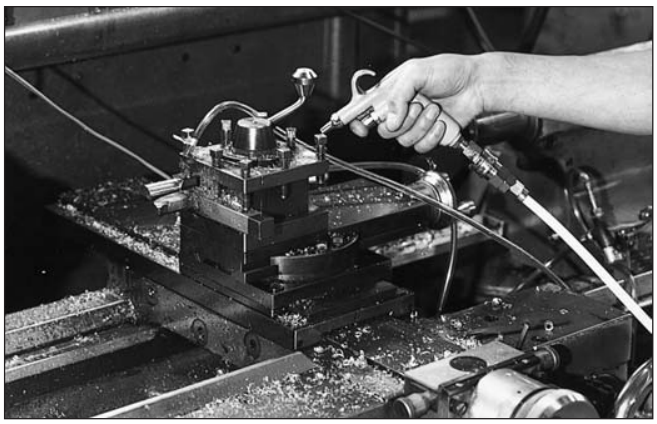
Air

Nut Cupla　Nut Cupla 200　Nut Cupla 200 with Spring Nut

No hose clamping band required! Simple, secure, urethane hose connection! Fitted with spring nut to eliminate kinking worries.

- Same series as Hi Cupla and Hi Cupla 200.
- Spring nut available to prevent hose kinking.
- No protruding hose clamping band screw to snag when the hose is moved.
- To fit hose, simply slide it over the nipple and tighten the nut.
- Tightening outside of hose reduces hose slipping or fluid leaking.

Example of Usage



▲ Air duster

Specifications

Body material	Steel (chrome-plated)			
Size	For ø5 x ø8 hose, ø8 x ø12 hose			
	For ø6 x ø9 hose, ø8.5 x ø12.5 hose			
	For ø6.5 x ø10 hose, ø11 x ø16 hose			
Working pressure MPa {kgf/cm²}	Nut Cupla: 1.5 {15}, Nut Cupla 200: 1.0 {10}			
Pressure resistance MPa {(kgf/cm²}	Nut Cupla: 2.0 {20}, Nut Cupla 200: 1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

NBR : Nitrile butadiene rubber

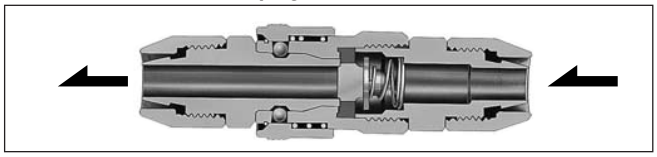
Tightning Torque Range* N•m {kgf•cm}

Product code	SN, PN type	65SNG, PNG type	85SNG, PNG type
Torque	9 ~ 11 {92 ~ 112}	5 ~ 6 {51 ~ 61}	7 ~ 8 {71 ~ 82}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40. Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

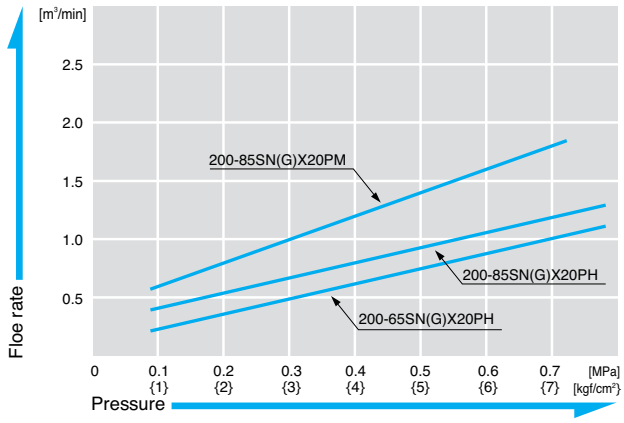
Socket \ Plug	20PH	30PH	40PH	20PM	30PM	40PM	20PF	30PF	40PF
200-50SN	16	16	16	16	16	16	16	16	16
200-60SN	20	22	22	22	22	22	22	22	22
200-65SN	20	22	22	22	22	22	22	22	22
200-80SN	20	41	41	41	41	41	41	41	41
200-85SN	20	40	41	41	41	41	41	41	41
200-110SN	20	40	41	41	41	41	41	41	41
200-50SNG	16	16	16	16	16	16	16	16	16
200-65SNG	20	22	22	22	22	22	22	22	22
200-85SNG	20	40	41	41	41	41	41	41	41

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

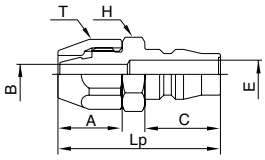
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



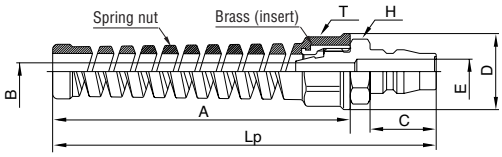
Product Codes and Dimensions Tables

Plug P



●For urethane hose connection (PN) ( ) : Old product code

Product code	Application	Mass (g)	Dimensions (mm)						
			Lp	C	A	øB	øE	H	T
50PN (10PAH)	For ø5 x ø8 hose	30	43	20	17	4.5	7.5	Hex.17	Hex.17
60PN (20PAH)	For ø6 x ø9 hose	40	43	20	17	5.3	7.5	Hex.17	Hex.17
65PN	For ø6.5 x ø10 hose	42	43	20	17	5.3	7.5	Hex.17	Hex.17
80PN (30PAH)	For ø8 x ø12 hose	50	45	20	19	7.5	7.5	Hex.19	Hex.19
85PN	For ø8.5 x ø12.5 hose	52	45	20	19	7.5	7.5	Hex.19	Hex.19
110PN* (40PAH)	For ø11 x ø16 hose	75	52	20	23	10	7.5	Hex.23	Hex.24

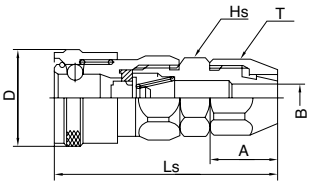


●For urethane hose with spring nut connection (PNG)

Product code	Application	Mass (g)	Dimensions (mm)							
			Lp	C	A	øD	øB	øE	H	T
50PNG*	For ø5 x ø8 hose	41	116	20	90	23	4.5	7.5	Hex.17	Hex.19
65PNG	For ø6.5 x ø10 hose	43	116	20	90	23	5.3	7.5	Hex.17	Hex.19
85PNG	For ø8.5 x ø12.5 hose	55	116	20	90	26	7.5	7.5	Hex.19	Hex.22

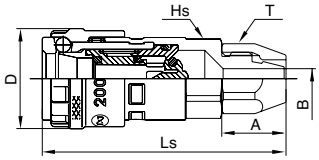
*Made-to-order item.

S Socket



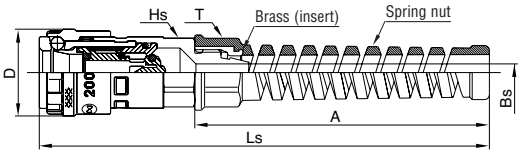
●For urethane hose connection (SN) ( ) : Old product code

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	øD	øB	Hs	T
50SN (10SAH)	For ø5 x ø8 hose	117	60	17	26.5	4.5	Hex.19	Hex.19
60SN (20SAH)	For ø6 x ø9 hose	115	59.5	17	26.5	5.3	Hex.19	Hex.19
65SN	For ø6.5 x ø10 hose	115	59.5	17	26.5	5.3	Hex.19	Hex.19
80SN (30SAH)	For ø8 x ø12 hose	120	61.5	19	26.5	7.5	Hex.19	Hex.19
85SN	For ø8.5 x ø12.5 hose	120	61.5	19	26.5	7.5	Hex.19	Hex.19
110SN* (40SAH)	For ø11 x ø16 hose	153	64.5	23	26.5	10	Hex.23	Hex.23



●For urethane hose connection (SN)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	øD	øB	Hs	T
200-50SN	For ø5 x ø8 hose	105	64.5	17	26.5	4.5	Hex.19	Hex.17
200-60SN	For ø6 x ø9 hose	105	64.5	17	26.5	5.3	Hex.19	Hex.17
200-65SN	For ø6.5 x ø10 hose	106	64.5	17	26.5	5.3	Hex.19	Hex.17
200-80SN	For ø8 x ø12 hose	112	66.5	19	26.5	7.5	Hex.19	Hex.19
200-85SN	For ø8.5 x ø12.5 hose	113	66.5	19	26.5	7.5	Hex.19	Hex.19
200-110SN*	For ø11 x ø16 hose	127	62	23	26.5	10	Hex.23	Hex.24



●For urethane hose with spring nut connection (SNG)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	øD	øBs	Hs	T
200-50SNG*	For ø5 x ø8 hose	105	137.5	90	26.5	4.5	Hex.19	Hex.19
200-65SNG	For ø6.5 x ø10 hose	107	137.5	90	26.5	5.3	Hex.19	Hex.19
200-85SNG	For ø8.5 x ø12.5 hose	116	137.5	90	26.5	7.5	Hex.19	Hex.22

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

Rotary Nut Cupla

Cupla with swivel mechanism for fitting to urethane hose

●Working pressure 1.5 MPa ●Valve structure One-way shut-off ●Applicable fluids Air

Swivel mechanism eliminates hose twisting!

- **Ball bearing swivel mechanism eliminates hose twisting and relieves load on hands.**
- **To fit the hose, simply insert it into the nipple and tighten the nut.**
- **Spring nut to prevent hose kinking is standard equipment. (SNRG Model)**
- **No protruding hose clamp screw to snag when the hose is moved.**

Specifications

Body material	Steel (chrome-plated)			
Size	for ø6.5 x ø10, ø8.5 x ø12.5 urethane hose			
Working pressure MPa {kgf/cm²}	1.5 {15}			
Pressure resistance MPa {kgf/cm²}	2.0 {20}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

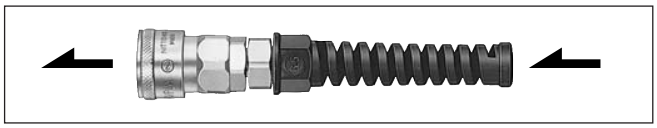
Tightning Torque Range* N•m {kgf•cm}

Product code	65, 85SNR	65SNRG	85SNRG
Torque	9 ~ 11 {92 ~ 112}	5 ~ 6 {51 ~ 61}	7 ~ 8 {71 ~ 82}

* Recommende value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

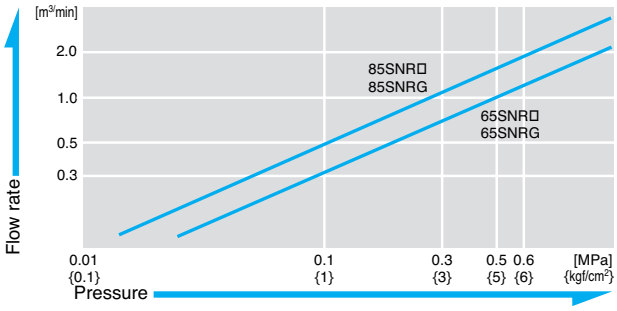
Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

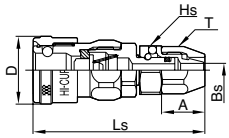
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



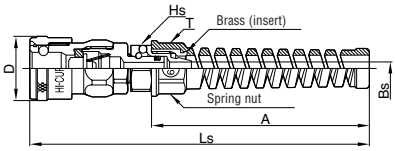
Product Codes and Dimensions Tables

S Socket



•For hose connection (SNR)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	øD	øBs	Hs	T
65SNR	For ø6.5 x ø10 hose	120	67.3	17	26.5	5.3	Hex.19	Hex.17
85SNR	For ø8.5 x ø12.5 hose	136	69.3	19	26.5	7.5	Hex.21	Hex.19



•For hose with spring nut connection (SNRG)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	øD	øBs	Hs	T
65SNRG	For ø6.5 x ø10 hose	121	140.3	90	26.5	5.3	Hex.19	Hex.19
85SNRG	For ø8.5 x ø12.5 hose	139	140.3	90	26.5	7.5	Hex.21	Hex.22

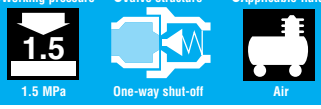
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

Oil Cupla

Air line Cupla with oiler function

●Working pressure ●Valve structure ●Applicable fluids



▲Lubricating a pneumatic tool

Cupla with an oiler function! One shot press button oiling for pneumatic tools!

- ●Cupla and oiler in one compact unit.
- ●The tedious and easily overlooked task of oiling pneumatic tools is now a simple handy button operation. Extends tool life.
- ●To fit the hose, simply push it over the nipple and tighten a nut.
- ●Spring nut to prevent hose kinking is standard equipment.

Specifications

Body material	Steel (chrome-plated) with diecast aluminum oiler tank			
Size	for ø6.5 x ø10, ø8.5 x ø12.5 urethane hose			
Working pressure MPa {kgf/cm²}	1.5 {15}			
Pressure resistance MPa {kgf/cm²}	2.0 {20}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

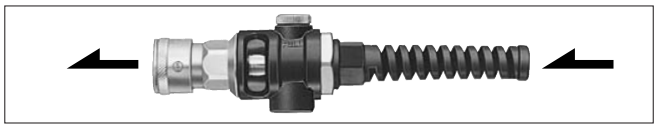
Tightning Torque Range* N•m {kgf•cm}

Product code	OC-65SNG	OC-85SNG
Torque	5 ~ 6 {51 ~ 61}	7 ~ 8 {71 ~ 82}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

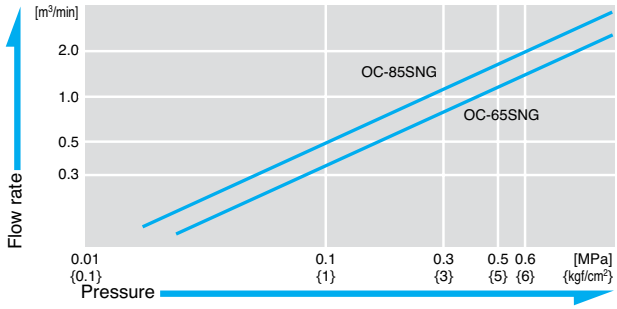
Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

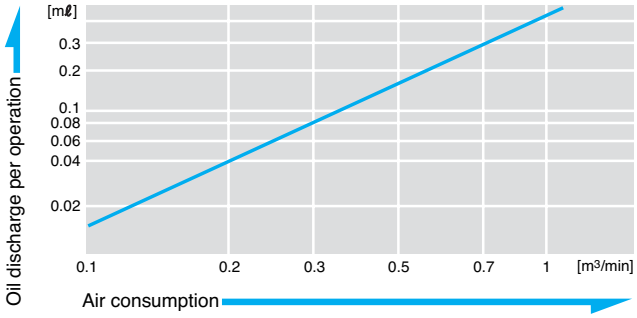
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



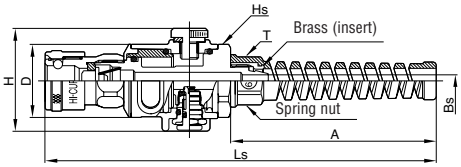
Oil Ejection Characteristics

[Measuring conditions] •Initial pressure: 0.6 MPa (6 kgf/cm²) •Fluid content: Full line (5.1mℓ)



Product Codes and Dimensions Tables

S Socket



•For hose with spring nut connection (SNG)

Product code	Application	Mass (g)	Dimensions (mm)						
			Ls	A	H	øD	øBs	Hs	T
OC-65SNG	For ø6.5 x ø10 hose	250	172	90	45	32	5.3	Hex.29	Hex.19
OC-85SNG	For ø8.5 x ø12.5 hose	260	172	90	45	32	7.5	Hex.29	Hex.22

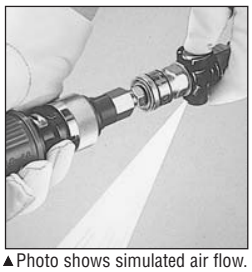
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

Duster Cupla

Air line Cupla with air duster function

●Working pressure ●Valve structure ●Applicable fluids



▲Photo shows simulated air flow.

Three roles in one: Cupla, Duster, Swivel! Dusts without removing the tool!

- ●Hi Cupla with compact duster function.
- ●Improves working efficiency by enabling dusting while tool is still connected.
- ●Ball bearing swivel mechanism eliminates hose twisting and reduces load on hands.
- ●Application of pressure balance valve enables easier Duster button control.
- ●Emptying drain before starting work is also simple.

Specifications

Body material	Body: Aluminum, Cupla: Steel (chrome-plated)			
Size	For 1/4", 3/8", 1/2" hose, for ø6.5 x ø10, ø8.5 x ø12.5 urethane hose			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

Tightning Torque Range* N•m {kgf•cm}

Product code	DCS-65PNG	DCS-85PNG
Torque	5 ~ 6 {51 ~ 61}	7 ~ 8 {71 ~ 82}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.

Interchangeability

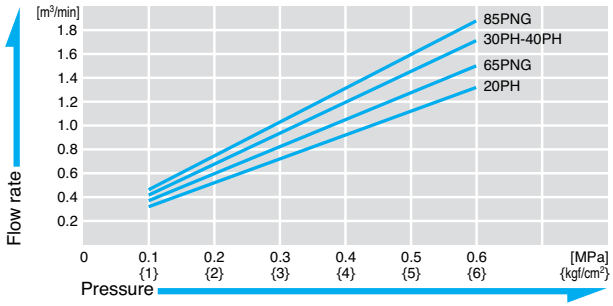
Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

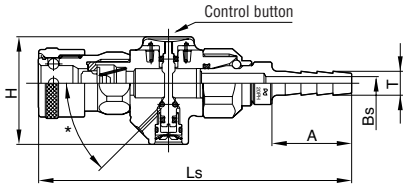
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Product Codes and Dimensions Tables

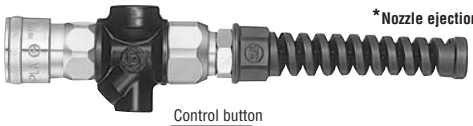
S Socket

*Nozzle ejection angle 45°

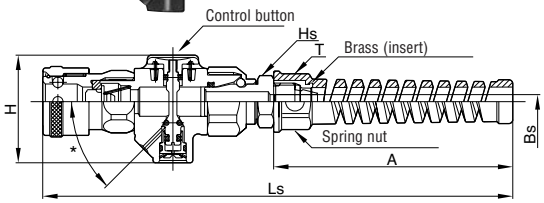


•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	A	H	øBs	øT
DCS-20PH	For 1/4" hose	168	117.9	30	40.5	5.0	9.0
DCS-30PH	For 3/8" hose	171	121.9	34	40.5	7.5	11.3
DCS-40PH	For 1/2" hose	193	123.9	36	40.5	7.5	15



*Nozzle ejection angle 45°



•For hose with spring nut connection (PNG)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	H	øBs	Hs	øT
DCS-65PNG	For ø6.5 x ø10 hose	176	176.9	90	40.5	5.3	Hex.17	Hex.19
DCS-85PNG	For ø8.5 x ø12.5 hose	185	176.9	90	40.5	7.5	Hex.19	Hex.22

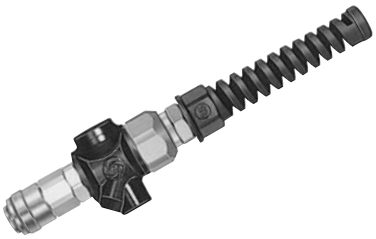
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

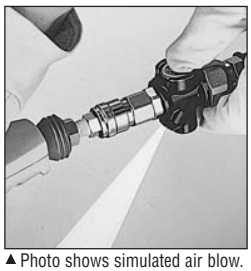
For Air

Super Duster Cupla

Air line Cupla with air duster function

●Working pressure ●Valve structure ●Applicable fluids





▲Photo shows simulated air blow.

Three roles in one: Cupla, Duster, Swivel! Dusts without removing the tool!

- ●Super Cupla with compact duster function.
- ●Quickly connects or disconnects pneumatic tools to air lines. Improves working efficiency by enabling dust and swarf to be removed while tool is still connected.
- ●Cuts much of the tedious work of changing to or picking up an air duster.
- ●Ball bearing swivel mechanism eliminates hose twisting and reduces load on hands.
- ●Big, 19.5 mm diameter control button uses a pressure balance valve and is easy to control, even while wearing gloves.
- ●Emptying drain before starting work is also simple.

Specifications

Body material	Body: Aluminum, Cupla: Steel			
Size	For ø6.5 x ø10 urethane hose			
Working pressure MPa {kg/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

NBR : Nitrile butadiene rubber

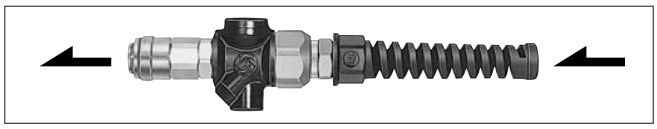
Tightning Torque Range* N•m {kgf•cm}

Product code	SDS-65PNG
Torque	5 ~ 6 {51 ~ 61}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

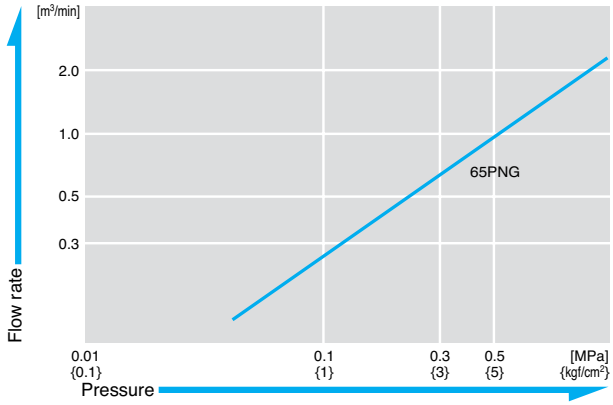
Can be connected to Super Cupla plugs.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

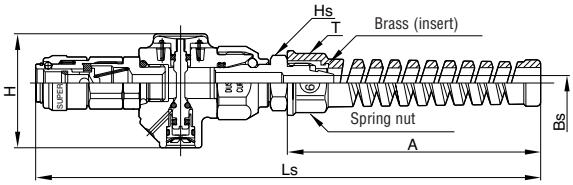
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Product Codes and Dimensions Tables

S Socket



•For hose with spring nut connection (PNG)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	A	H	øBs	Hs	T
SDS-65PNG	For ø8.5 x ø12.5 hose	158	179.4	90	40.5	5.3	Hex.17	Hex.19

• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Air

Lock Cupla 200

New, one-touch, quick-connecting air line Cupla with lock mechanism

●Working pressure ●Valve structure ●Applicable fluids

One-touch for smooth connection. Internal lock mechanism for safety!

- **Lock mechanism prevents unexpected disconnection after connection. Suitable intermediate Cupla for hose extensions.**
- **Simply push the plug into the socket (or socket over plug) for one-touch connection. Excellent handling improves working efficiency.**
- **Ball bearing type swivel mechanism reduces load on hands and prevents hose twisting. (SNRG model)**
- **For hose connection, simply slide it over the nipple and tighten the nut. (SNRG model)**
- **Spring nut to prevent hose kinking is standard equipment. (SNRG model)**
- **Low pressure loss valve mechanism gives improved flow rate.**

Specifications

Body material	Steel (chrome-plated)			
Size	1/4" (20 type), 3/8" (30type),1/2" (40 type) For ø6.5 x ø10, ø8.5 x ø12.5 urethane hose			
Working pressur MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

Tightning Torque Range* N•m {kgf•cm}

Type of connection	Thread			Spring nut	
Applicable size	1/4"	3/8"	1/2"	ø6.5 x ø10	ø8.5 x ø12.5
Torque	14 {143}	22{224}	60{612}	5 ~ 6 {51 ~ 61}	7 ~ 8 {71 ~ 82}

* Recommended value

Fluid Flow Direction

Fluid should flow from the socket side to the plug side.

Interchangeability

Can be connected to Hi Cupla Series plugs (Models 20, 30 and 40). Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

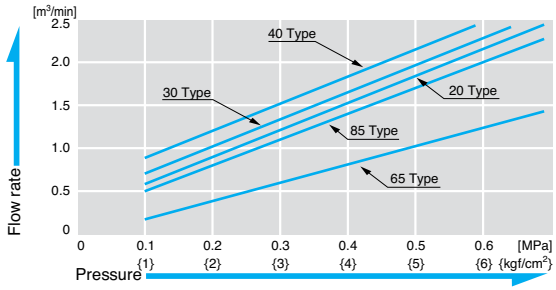
Not suitable for use with vacuum, either alone or in combination.

Min. Cross-Sectional Area (mm²)

Lock Cupla 200 \ Plug	20PH	30PH	40PH	20PM	30PM	40PM	20PF	30PF	40PF
L200-20SH	20	20	20	20	20	20	20	20	20
L200-30SH	20	41	41	41	41	41	41	41	41
L200-40SH	20	41	41	41	41	41	41	41	41
L200-20SM	20	41	41	41	41	41	41	41	41
L200-30SM	20	41	41	41	41	41	41	41	41
L200-40SM	20	41	41	41	41	41	41	41	41
L200-20SF	20	41	41	41	41	41	41	41	41
L200-30SF	20	41	41	41	41	41	41	41	41
L200-40SF	20	41	41	41	41	41	41	41	41
L200-65SNRG	20	20	20	20	20	20	20	20	20
L200-85SNRG	20	38	38	38	38	38	38	38	38

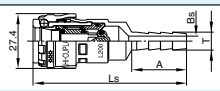
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



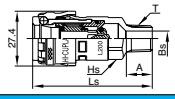
Product Codes and Dimensions Tables

S Socket



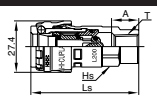
•For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	A	øT	øBs
L200-20SH	For 1/4" hose	90	77	27.5	9	5
L200-30SH	For 3/8" hose	92	79	32	11.3	7.5
L200-40SH	For 1/2" hose	104	79.5	32	15	10



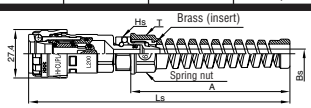
•For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	Hs	A	T	øBs
L200-20SM	Rc1/4 (PT1/4)	89	60	Hex.19	13	R1/4	7.5
L200-30SM	Rc3/8 (PT3/8)	91	60.5	Hex.19	13.5	R3/8	10
L200-40SM	Rc1/2 (PT1/2)	102	56	Hex.24	16	R1/2	13



•For male thread connection (SF)

Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	Hs	A	T
L200-20SF	R1/4 (PT1/4)	94	57.5	Hex.19	14.5	Rc1/4
L200-30SF	R3/8 (PT3/8)	103	55.5	Hex.22	13	Rc3/8
L200-40SF	R1/2 (PT1/2)	138	57.5	Hex.19	16	Rc1/2



•For hose with spring nut connection (SNRG)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	A	Hs	T	øBs
L200-65SNRG	For ø6.5 x ø10 hose	125	147.8	90	Hex.19	Hex.19	5.3
L200-85SNRG	For ø8.5 x ø12.5 hose	132	146.8	90	Hex.21	Hex.22	7.5

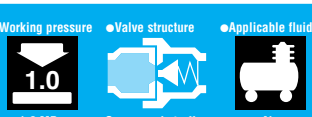
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

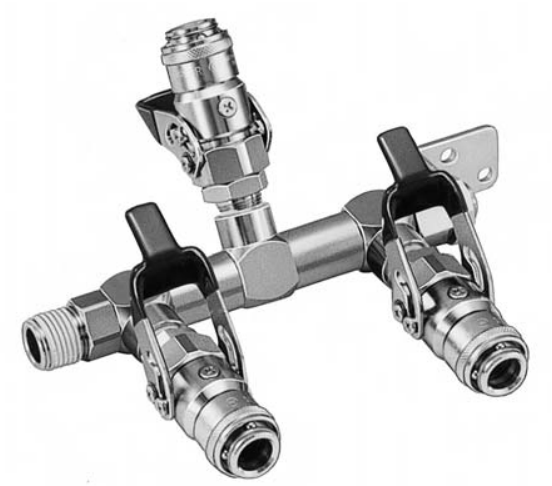
For Air

Purge Line Cupla

Simple branching air line Cupla with purge function

●Working pressure ●Valve structure ●Applicable fluids





Depressurize by operating a lever. Very smooth Cupla connection/disconnection!

- ●One-touch system, just push the plug to connect.
- ●Trouble-free structure. No noise from releasing air in pipeline, no kick from plug on disconnection.
- ●Extremely soft connection. Excellent handling, not affected by internal pressure.
- ●Safe design - socket valve does not open or close unless plug is connected.
- ●Even after connection, a lever operation opens/closes valve for perfect control of air flow or shut-off.
- ●Enables simultaneous air supply to three branches from a single air line. (A single Purge Hi Cupla is also available - see pages 27-28 for details)

Specifications

Body material	Brass (chrome-plated)			
Size	Intake port	R1/2 (PT1/2)		
	Outlet port	3/8" socket (PV-30SM)		
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

Max. Tightning Torque* N•m {kgf•cm}

Size	R1/2 (PT1/2)
Torque	30 {306}

* Recommended value

Fluid Flow Direction

Fluid flows from the intake port to the outlet port.
Please refer to the flow directions (arrows) on the "Product Codes and Dimensions Tables" on the right.

Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

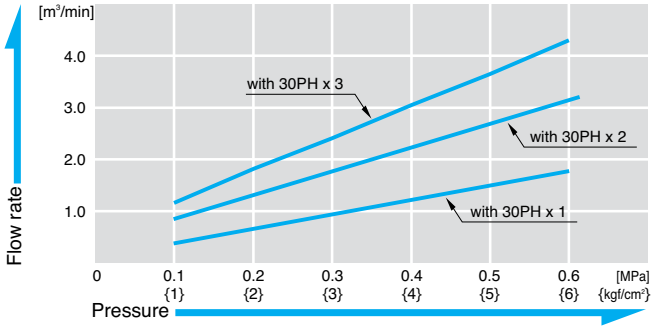
41

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature

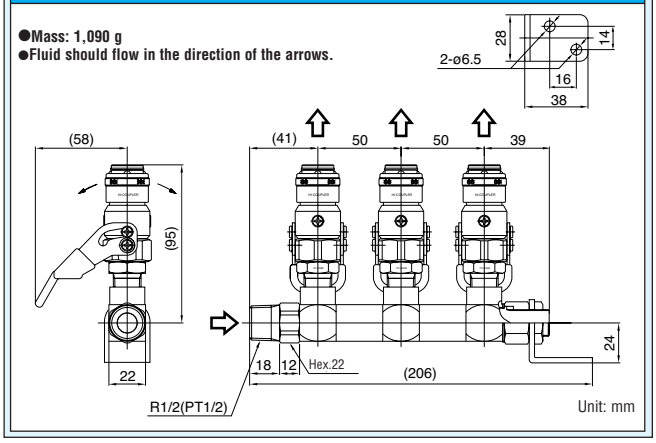


Product Codes and Dimensions Tables

S Socket

•RE-PV-30 (for three branch lines)

●Mass: 1,090 g
●Fluid should flow in the direction of the arrows.



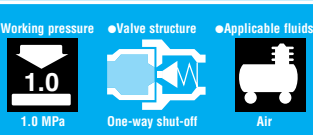
• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

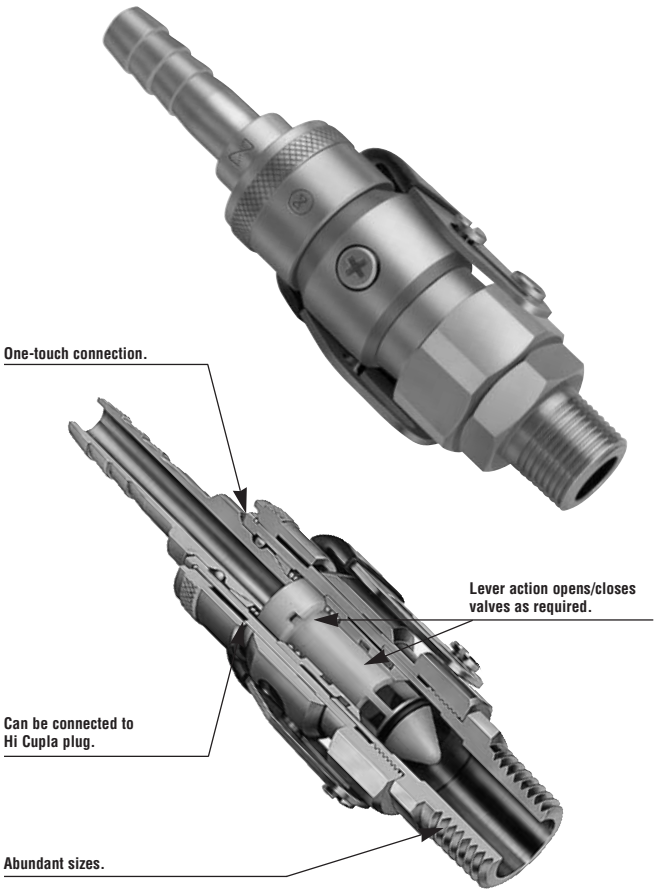
For Air

Purge Hi Cupla

Air line Cupla with purge mechanism

●Working pressure ●Valve structure ●Applicable fluids





One-touch connection irrespective of internal pressure! Eliminates unpleasant noise and kick on disconnection.

- Just push the plug in for one-touch connection. We take pride that this is a one-hand operation, regardless of internal socket pressure.
- Even after connection, a unique lever operation gives perfect control over valve opening/closing.
- For disconnection, a lever action releases air from the plug side eliminating unpleasant noise and reaction.
- Safe design prevents lever-operated valve from opening when plug is not connected.

Specifications

Body material	Brass (chrome-plated)			
Size	1/4" (20 type), 3/8" (30 type), 1/2" (40 type), 1/2" (400 type), 3/4" (600 type)			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

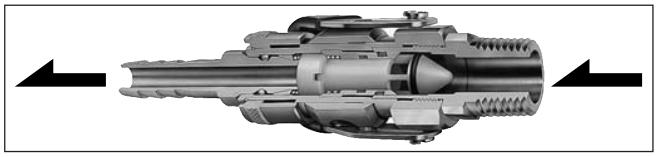
Max. Tightning Torque* N•m {kgf•cm}

Product code	PV-20SM	PV-30SM	PV-40SM	PV-400SM	PV-600SM
Torque	9 {92}	11 {112}	30 {306}	30 {306}	50 {510}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

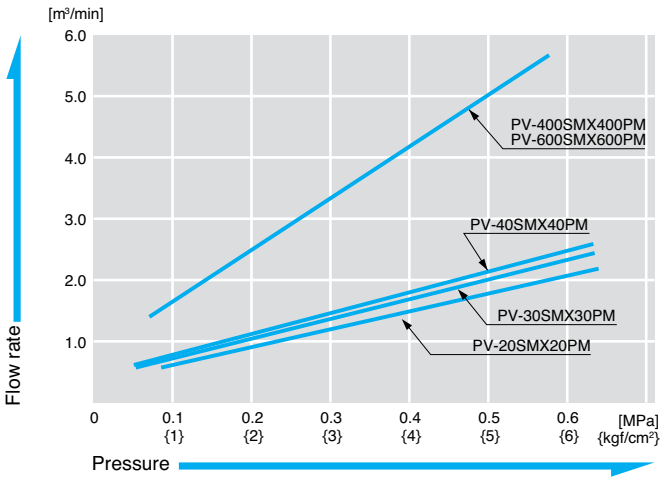
Product code	PV-20SM	PV-30SM	PV-40SM	PV-400SM	PV-600SM
Area	38	38	38	120	120

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

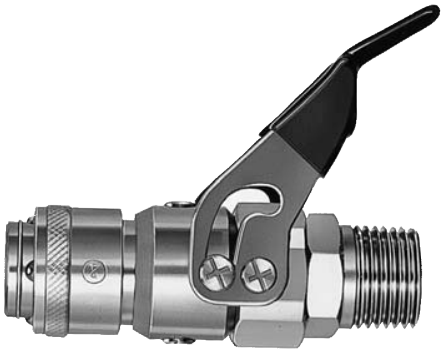
Pressure - Flow Rate Characteristics

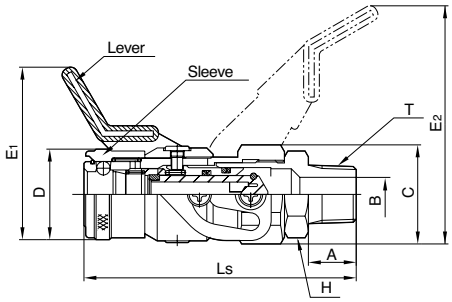
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Product Codes and Dimensions Tables

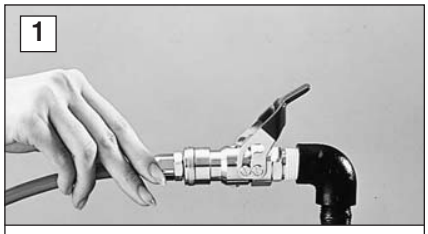
S Socket



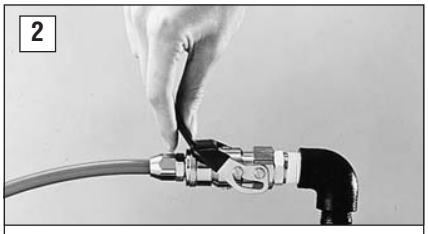


Product code	Application	Mass (g)	Dimensions (mm)								
			Ls	øD	E_1	E_2	H	øC	A	T	øB
PV-20SM	Rc1/4 (PT1/4)	225	79	26.5	47	70	Hex.22	29	13	R1/4	7
PV-30SM	Rc3/8 (PT3/8)	229	80	26.5	47	70	Hex.22	29	14	R3/8	10
PV-40SM	Rc1/2 (PT1/2)	235	82	26.5	47	70	Hex.22	29	16	R1/2	14
PV-400SM	Rc1/2 (PT1/2)	411	94	35	58	80	Hex.30	37.5	16	R1/2	13
PV-600SM	Rc3/4 (PT3/4)	424	97	35	58	80	Hex.30	37.5	19	R3/4	18

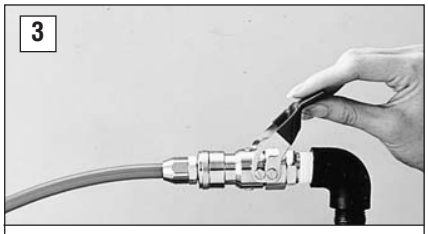
How to Operate



Connection is completed in a one-touch operation by inserting the plug into the socket.

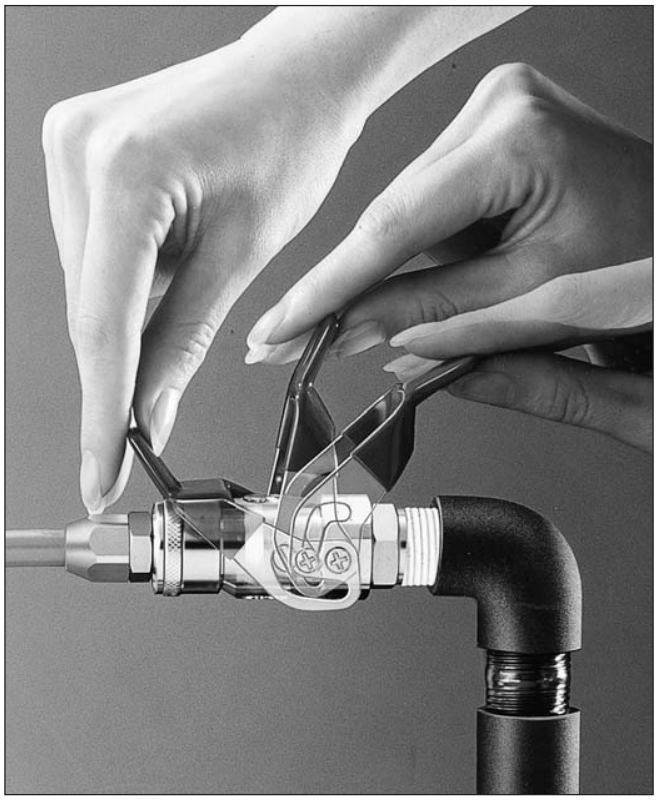


Lowering the lever opens the valve and allows the fluid to flow. (When lowered, the lever becomes a sleeve stopper and prevents disconnection)



When the lever is raised, air on the plug side is purged, eliminating unpleasant noise and reaction on disconnection.
In this state, the socket valve is closed.

Example of Usage



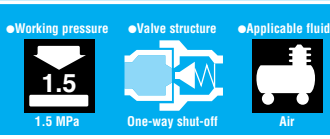
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

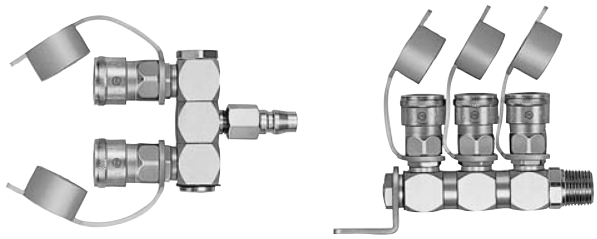
For Air

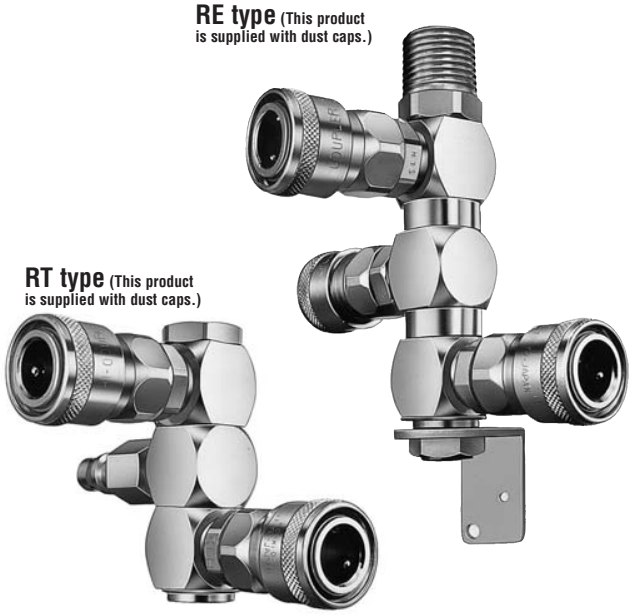
Rotary Line Cupla

Rotating type simple branching air line Cupla

●Working pressure ●Valve structure ●Applicable fluids







Several air outlets can be turned freely through 360°
Speedy branching of Hi Cupla lines.

- ●Enables several air lines to be quickly taken from one supply line at the one time.
- ●Air outlets are free to move through 360°. Hose twisting can be eliminated by a swivel mechanism.
- ●Choose between RT type (2 branches) and RE type (3 branches) to suit your application.

Specifications

Body material	Body: Brass (chrome-plated), Cupla: Steel (chrome-plated)			
Product code	RT Type (for two branch lines)		RE Type (for three branch lines)	
Size	Inlet	1/4" Hi Cupla (20PF)	Inlet	R1/2 (PT1/2) male thread
	Outlet	2 sockets (20 type)	Outlet	3 sockets (20 type)
Working pressure MPa {kgf/cm²}	1.5 {15}			
Pressure resistance MPa {kgf/cm²}	2.0 {20}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

*This product is supplied with dust caps as standard equipment. NBR : Nitrile butadiene rubber

Fluid Flow Direction

Fluid flows from the inlet port to the outlet port.

Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

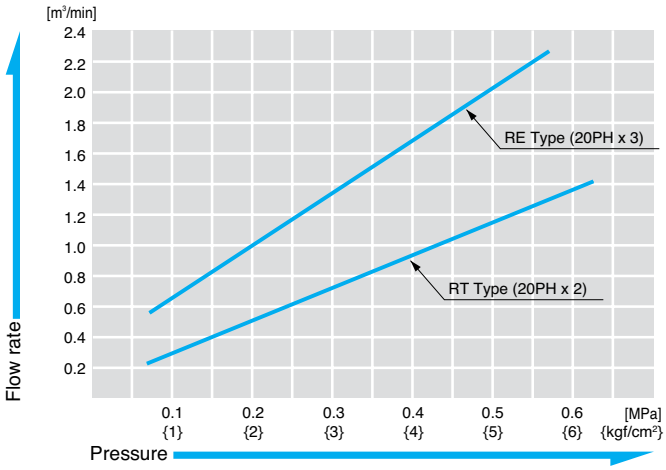
Product code	RT type	RE type
Min. cross-sectional area	32	

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature

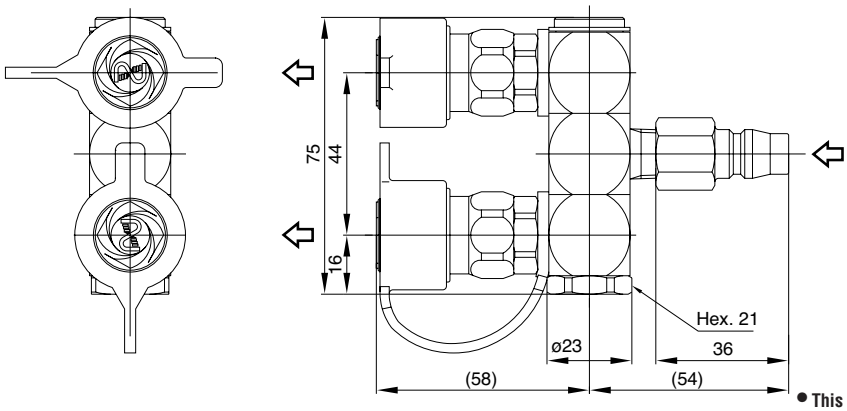


Product Codes and Dimensions Tables

S Socket

•RT Type (for two branch lines)

- Mass: 460 g
- Fluid should flow in the direction of the arrows.

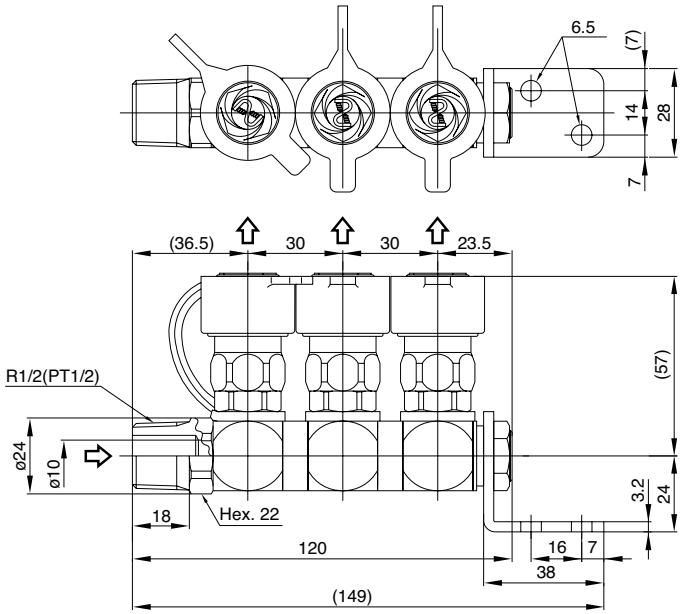


Unit: mm

- This product is supplied with dust caps as standard equipment.

•RE Type (for three branch lines)

- Mass: 630 g
- Fluid should flow in the direction of the arrows.



Unit: mm

- This product is supplied with dust caps as standard equipment.

Example of Usage

▲Air pipe branching

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Air

Line Cupla 200T, 200L, 200S

Simple branching air line Cupla

●Working pressure ●Valve structure ●Applicable fluids

▲ 200T type

▲ 200L type (Accessory 400SH)

▲ 200S type (Accessory 400SH)

Enables several air lines to be taken simultaneously from one supply line! Gives speedy branching of Hi Cuplas

- ●One-touch! Connection is simple and reliable - just push the plug into the socket. Short connection time improves efficiency!
- ●Enables several air lines to be quickly taken simultaneously from one supply line.
- ●Choose between the 2-branch type (Model 200T), the 5-branch straight type (Model 200L) and the 5-branch star type (Model 200S) to suit your application.

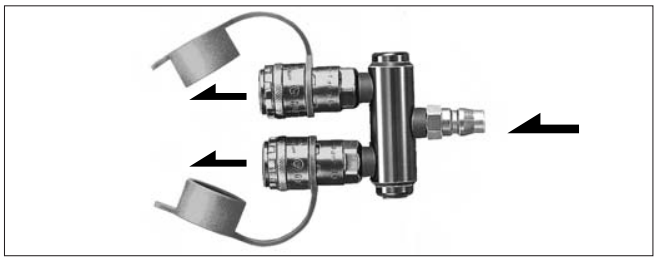
Specifications

Body material	Body: Aluminum, Cupla: Steel (chrome-plated)			
Size	Inlet	200T type: 20PM, 200L/S: 400PM		
	Outlet	200T type: 200-20SM, 200L/S: 200-20SM, 200-40SM		
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

* This product is supplied with dust caps as standard equipment. NBR : Nitrile butadiene rubber

Fluid Flow Direction

Fluid flows from the Inlet port to the outlet port.



Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40. Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

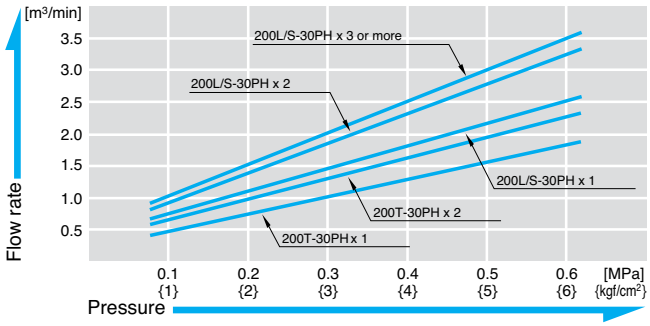
Product code	200T, 200L, 200S
Min. cross-sectional area	19

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

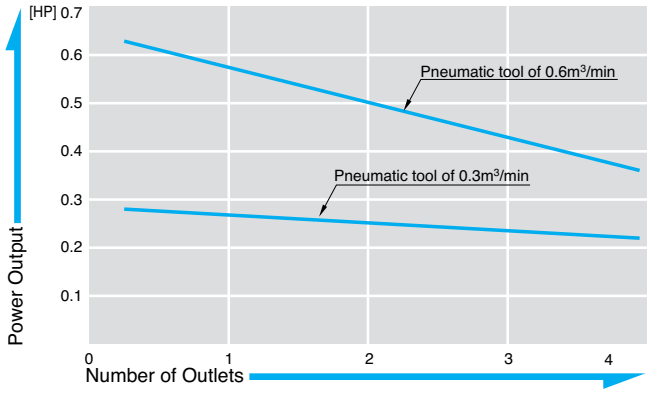
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Number of Outlets - Power Output (HP) Diagram (200L/200S types)

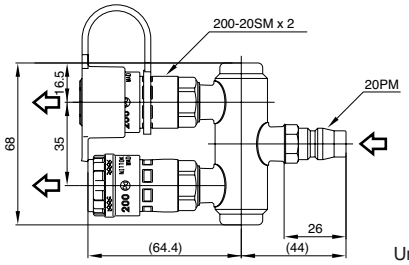
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Product Codes and Dimensions Tables

S Socket

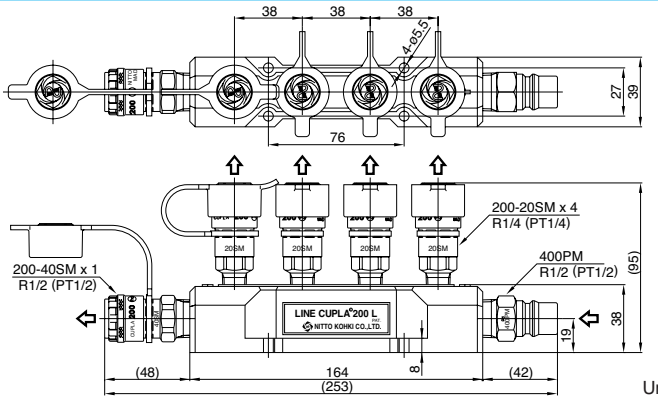
•200T Type (for two branch lines)



Unit: mm

- Mass: 272g
- Fluid should flow in the direction of the arrow.
- This product is supplied with dust caps as standard equipment.

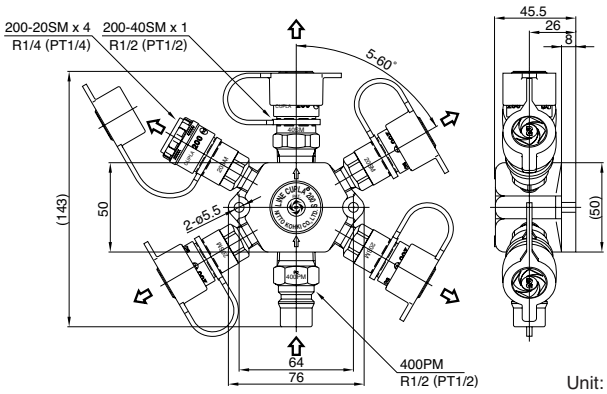
•200L Type (for five branch lines, straight type)



Unit: mm

- Mass: 890g
- Fluid should flow in the direction of the arrow.
- This product is supplied with dust caps as standard equipment.
- Accessory: 400SH

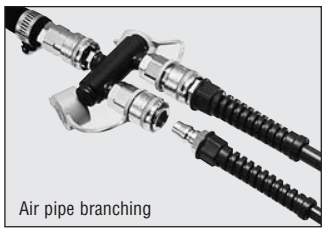
•200S Type (for five branch lines, star type)



Unit: mm

- Mass: 769g
- Fluid should flow in the direction of the arrow.
- This product is supplied with dust caps as standard equipment.
- Accessory: 400SH

Examples of Usages



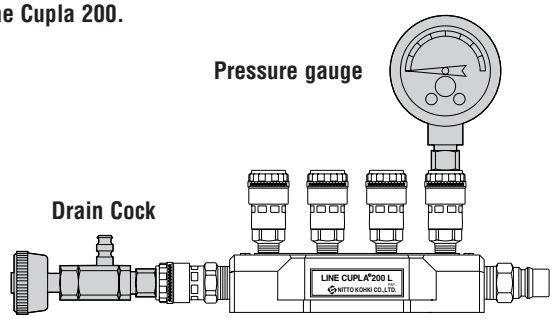
Air pipe branching

▲ Air pipe branching

▲ Air pipe branching

Optional items : Pressure Gauge and Drain Cock

- For convenient flow control after piping, a "Pressure Gauge" and "Drain Cock" are available as optional items for use with Line Cupla 200.



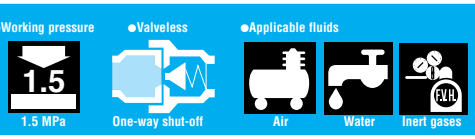
*Actual appearance may differ due to product improvement

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Air

Hi Cupla Ace

Lightweight plastic Cupla with automatic lock system for air line

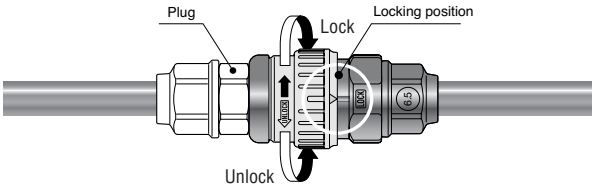


One-touch connection. Plastic Cuplas with a built-in locking mechanism! Pressure ratings comparable to steel Cuplas.

- ●Body made of engineering plastics with excellent strength.
- ●Owing to lightweight body, there is little risk of damage if it contacts unfinished work such as an automobile.
- ●A built-in "automatic locking mechanism" to lock the sleeve when coupled, thus preventing accidental detachment.
- ●Plug and socket connection is a simple one-touch operation.
- ●Bi-directional fluid flow from socket or plug when coupled.
- ●Can be used to air, water, and inert gases.

Automatic locking

Hi Cupla Ace can be connected when locking sleeves in locked position. While in locked position the coupler cannot be accidentally disconnected.



Specifications

Body material	Engineering plastics (PBT, POM)			
Size	HA-20SH	1/4" hose		
	HA-30SH	3/8" hose		
	HA-20SM	Rc1/4 for female thread		
	HA-30SM	Rc3/8 for female thread		
	HA-50SNG	ø5 mm x ø8 mm urethane hose		
	HA-65SNG	ø6.5 mm x ø10 mm urethane hose		
	HA-85SNG	ø8.5 mm x ø12.5 mm urethane hose		
	HA-T	Inlet:20P-PLA, Outlet: HA-65S x 2		
Working pressure MPa {kgf/cm²}	1.5 {15}, 1.0 {10} for Model HA-T			
Pressure resistance MPa {kgf/cm²}	2.0 {20}, 1.5 {15} for Model HA-T			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5˚C ~ +60˚C	Standard material

*Plastic Plug : Working pressure 1.0 MPa. {10kgf/cm²}
Pressure resistance 1.5 MPa {15kgf/cm²}

NBR=Nitrile butadiene rubber

Tighting Torque Range* N•m {kgf•cm}

Product code	HA-20/30SM	HA-50/65SNG	HA-85SNG
Torque	2.5 ~ 3.0 {26 ~ 29}	1.6 ~ 2.0 {16 ~ 20}	2.2 ~ 2.8 {22 ~ 29}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.

Interchangeability

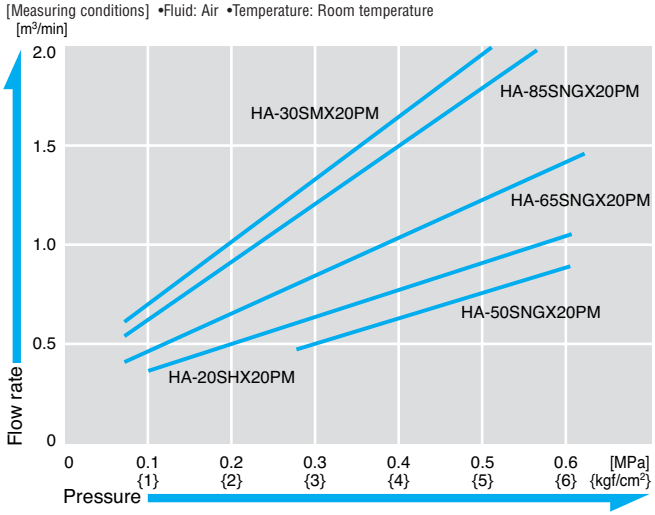
Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

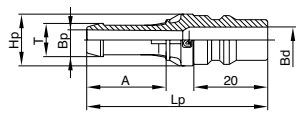
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



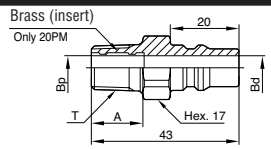
Product Codes and Dimensions Tables

Plastic Plug P



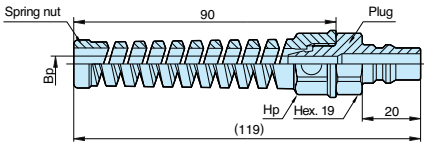
•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	øHp	A	øT	øBp	øBd
20PH-PLA	For 1/4" hose	3	49	14	21.5	9	5.5	7
30PH-PLA	For 3/8" hose	4	52	16	23.5	11.5	7	7



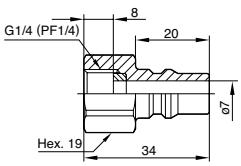
•For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)			
			A	T	øBp	øBd
20PM-PLA	Rc1/4 (PT1/4)	8	15	R1/4 (PT1/4)	7	7.4
30PM-PLA	Rc3/8 (PT3/8)	6	15	R3/8 (PT3/8)	10	7.4



•For urethane hose connection (PNG)

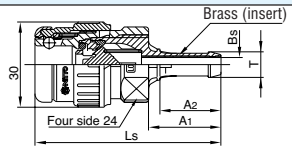
Product code	Application	Mass (g)	Dimensions (mm)	
			Hp	øBp
50PNG-PLA	For ø5 x ø8 hose	9	Hex.19	4
65PNG-PLA	For ø6.5 x ø10 hose	12	Hex.19	5.3
85PNG-PLA	For ø8.5 x ø12.5 hose	16	Hex.22	7



•For male thread connection <parallel threads> (PFF)

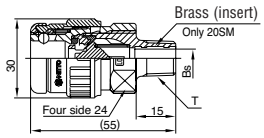
Product code	Application	Mass (g)
20PFF-PLA	G1/4 (PF1/4)	6

S Hi Cupla Ace Socket



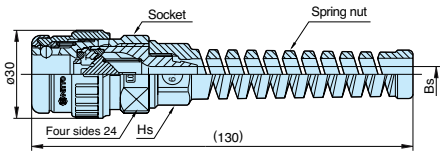
•For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	A1	A2	øT	øBs
HA-20SH	For 1/4" hose	26	(65.5)	25.5	21.5	9	5
HA-30SH	For 3/8" hose	28	(68)	28	23.5	11.5	7



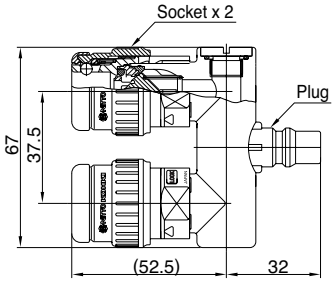
•For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)	
			øT	øBs
HA-20SM	Rc1/4 (PT1/4)	27	R1/4 (PT1/4)	7
HA-30SM	Rc3/8 (PT3/8)	26	R3/8 (PT3/8)	8



•For urethane hose connection (SNG)

Product code	Application	Mass (g)	Dimensions (mm)	
			Hs	øBs
HA-50SNG	For ø5 x ø8 hose	31	Hex.19	4
HA-65SNG	For ø6.5 x ø10 hose	32	Hex.19	5.3
HA-85SNG	For ø8.5 x ø12.5 hose	35	Hex.22	7



•Hi Cupla Ace T type (for 2 branches)

Product code	Inlet / Outlet	Mass (g)
HA-T	20P-PLA/HA-65S x 2	73

• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

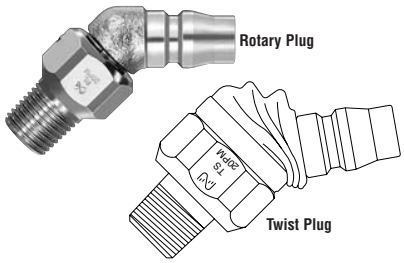
Rotary Plug

For pneumatic tools and devices

●Working pressure ●Valveless ●Applicable fluids

1.5 MPa — Air — Inert gases

•Comparison by Appearance



▲ Pneumatic tool

Newly developed rotary function allows 360˚ rotation! Great improvement for working pneumatic tools!

- ●Rotary plug for hose connection to pneumatic tools and pneumatic devices.
- ●Fits to the tool at 45˚ angle and eliminates annoying transfer of hose load.
- ●In pursuit of workability, we achieved a compact design by simplifying the body structure. Now lighter and smaller than previous models.
- ●New design is dust-proofed for greater durability.
- ●For tackers, nailers, impact wrenches and other pneumatic tools.

Specifications

Body material	Steel (nickel-plated)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	1.5 {15}/1.0 {10} (only RL-02PM•PFF type)			
Pressure resistance MPa {kgf/cm²}	2.0 {20}/1.5 {15} (only RL-02PM•PFF type)			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

NBR : Nitrile butadiene rubber

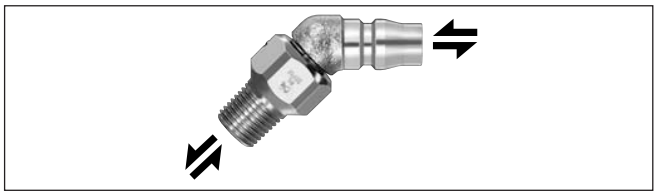
Max. Tightning Torque* N•m {kgf•cm}

Size	1/4"	3/8"
Torque	15 {153}	25 {255}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



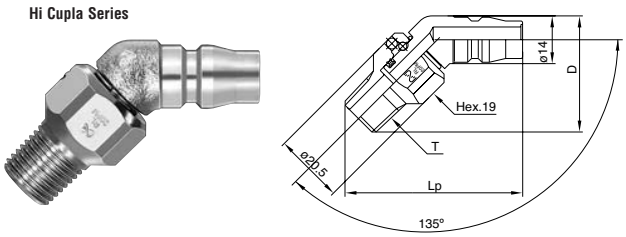
Interchangeability

- ●Interchangeable with Hi Cupla 20, 30 and 40 models and all Hi Cupla Series products. (RL-20PM, RL-30PM, RL-20PFF)
- ●Connects with Super Cupla Series. (RL-02PM, RL-02PFF)

Product Codes and Dimensions Tables

Plug P

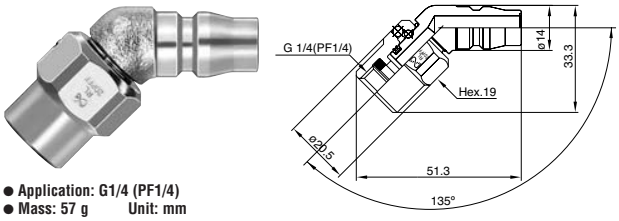
Hi Cupla Series



•For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)		
			Lp	D	T
RL-20PM	Rc1/4 (PT1/4)	52	52.1	34.1	R1/4 (PT1/4)
RL-30PM	Rc3/8 (PT3/8)	73	50.8	32.8	R3/8 (PT3/8)

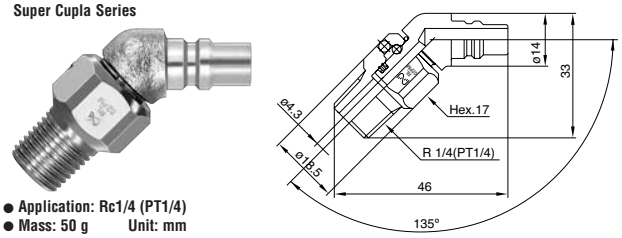
Hi Cupla Series



● Application: G1/4 (PF1/4)
● Mass: 57 g Unit: mm

•For male thread connection (Product code: RL-20PFF)

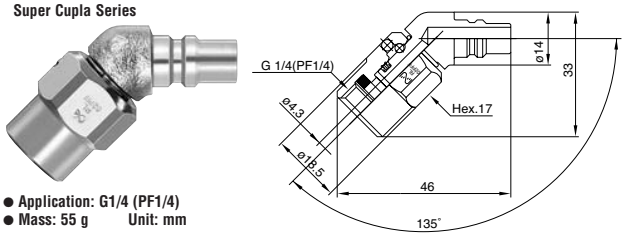
Super Cupla Series



● Application: Rc1/4 (PT1/4)
● Mass: 50 g Unit: mm

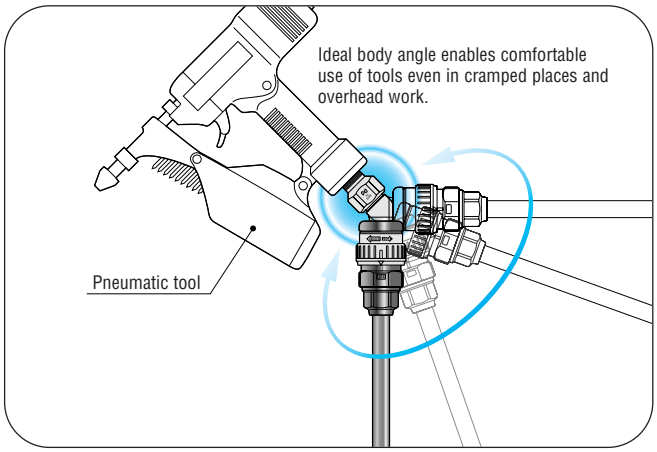
•For female thread connection (Product code: RL-02PM)

Super Cupla Series



● Application: G1/4 (PF1/4)
● Mass: 55 g Unit: mm

•For male thread connection (Product code: RL-02PFF)



● Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Air

Twist Plug

For pneumatic tools and devices

●Working pressure ●Valveless ●Applicable fluids

▲Pneumatic tools

Eliminates hose twisting, kinking, bending! Greatly improves working efficiency!

- **A plug with a movable neck for hose connections to pneumatic tools and devices.**
  Perfect angular control (70˚ flexing range) provides comfort, even when working in cramped space or overhead.
- **The flexing part is reinforced with lubricating plastic to give smooth flexing action and excellent durability.**
- **Since there is one part that flexes, connection to the socket is smooth and simple.**
- **Dust cap prevents entry of dirt and swarf.**

Specifications

Body material	Steel (nickel-plated)			
Size	1/8", 1/4", 3/8"			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

NBR : Nitrile butadiene rubber

Tightning Torque Range* N•m {kgf•cm}

Size	R1/8 (PT1/8)	R1/4 (PT1/4)	R3/8 (PT3/8)
Torque	8 ~ 10 {82 ~ 102}	12 ~ 15 {122 ~ 153}	22 ~ 25 {224 ~ 255}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.

Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

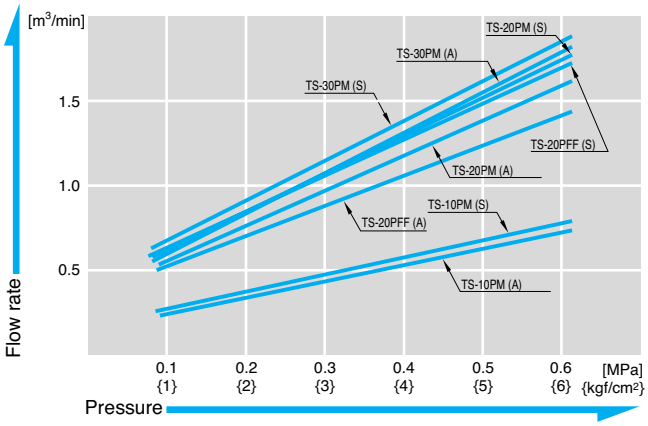
Product code	TS-10PM	TS-20PM	TS-30PM	TS-20PFF
Min. cross-sectional area	12.5	38.5	38.5	38.5

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

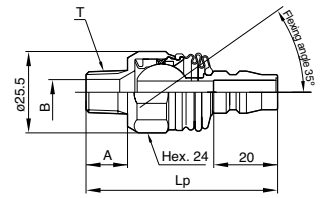
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



* (A) is a state of angle.
(S) is a state of straight.

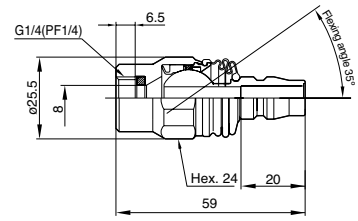
Product Codes and Dimensions Tables

Plug P



•For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	A	øB	T
TS-10PM	Rc1/8 (PT1/8)	59	57.5	10	4	R1/8 (PT1/8)
TS-20PM	Rc1/4 (PT1/4)	59	60	13	8	R1/4 (PT1/4)
TS-30PM	Rc3/8 (PT3/8)	65	60	13	10	R3/8 (PT3/8)



- Application: G1/4 (PF1/4)
- Mass: 77 g, Unit: mm

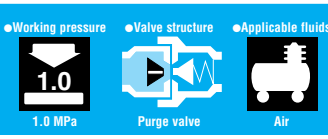
•For male thread connection (Product code: TS-20PFF)

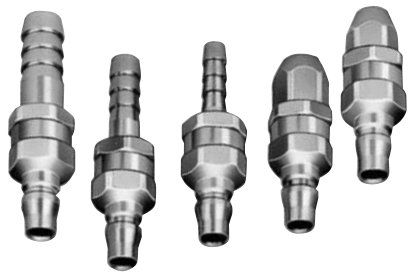
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

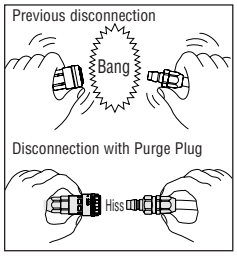
For Air

Purge Plug

For air lines with purge mechanism







Eliminates unpleasant noise and hose reaction when Cupla is disconnected

- **When the Cupla is disconnected, the pressure left in the hose is released gradually, eliminating unpleasant noise and hose reaction.**
- **Unique designed release system enables the release of remaining pressure quietly and quickly.**
- **A special, simple purge valve is used to minimize function deterioration.**
- **Can be used with confidence even at a high working pressure or with a long hose.**

Note: This product is not a check valve.

Specifications

Body material	Steel (chrome-plated)			
Size	For 1/4" hose, 3/8" hose, 1/2" hose			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-5°C ~ +60°C	Standard material

NBR : Nitrile butadiene rubber

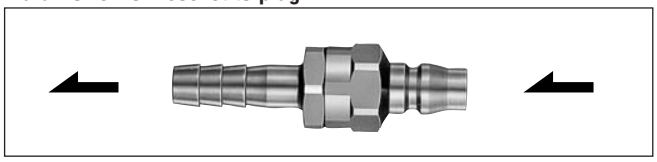
Tighting Torque Range* N•m {kgf•cm}

Torque	9 ~ 11 {92 ~ 112}

* Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

Can be connected to Hi Cupla Models 20, 30 and 40.
Interchangeable with all Hi Cupla Series products.

Min. Cross-Sectional Area (mm²)

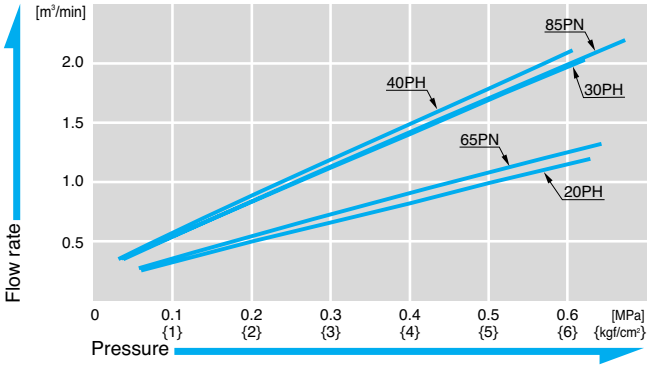
Product code	PV-20PH	PV-30PH	PV-40PH	PV-65PN	PV-85PN
Area	19.6	44.1	50.4	22.0	44.1

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

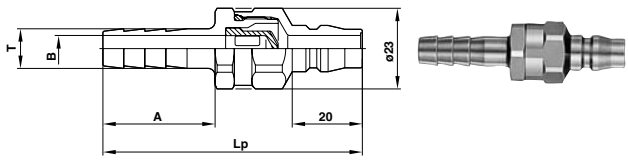
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



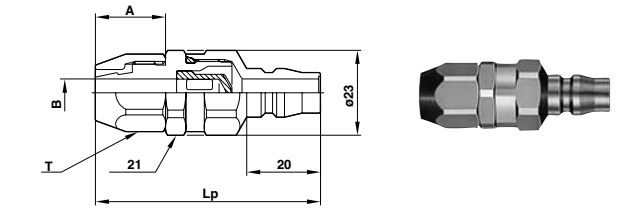
Product Codes and Dimensions Tables

Plug P



•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	A	øB	øT
PV-20PH	For 1/4" hose	59	70	28	5	8.4
PV-30PH	For 3/8" hose	62	74	32	7.5	11.3
PV-40PH	For 1/2" hose	76	77	35	9	14.8



•For urethane hose connection (PN)

Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	A	øB	T
PV-65PN	For ø6.5 x ø10 hose	71	59	17	5.3	Hex.17
PV-85PN	For ø8.5 x ø12.5 hose	78	61	19	7.5	Hex.19

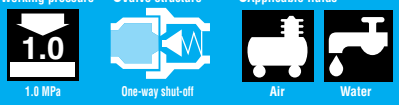
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

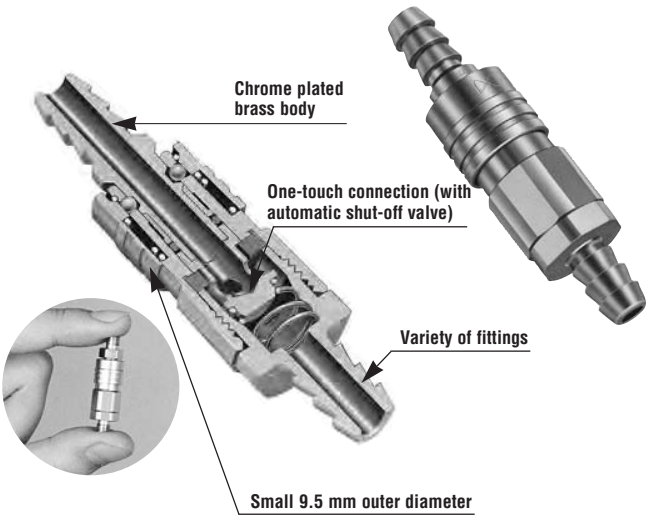
For Air

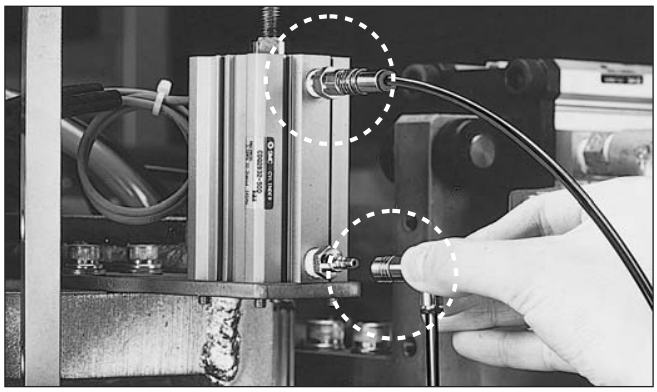
Micro Cupla & Micro Cupla with Tube Fitter

For piping for pneumatic control devices

●Working pressure ●Valve structure ●Applicable fluids







▲Micro Cupla with Tube fitter

Compact, light model with 9.5 mm outer diameter.
One-touch, push-in connection.
Tube fitter type for even smoother piping.

- Socket contains a valve and the outer diameter is a compact 9.5 mm.
- One-touch, push-in connection.
- Tube fitting is a one touch insertion. Removal is also one-touch. (with Tube Fitter)
- Space-saving design suitable for piping work where space is limited.
- Chrome plated brass body has excellent corrosion resistance.
- Micro Cupla and Micro Tube Fitter are interchangeable.
- Available in various connection types to satisfy a wide range of pneumatic applications.

Note: Fluid will flow out from the plug side when socket and plug are disconnected. Take care if the fluid is water.

Specifications

Body material	Brass (chrome-plated)			
Size	Micro Cupla: 1/8" (minimum internal diameter 2.5 mm)			
Tube size (with Tube Fitter)	Polyurethane: ø4 ± 0.1, ø6± 0.1 Nylon: ø4 (+0.05, -0.08), ø6 (+0.05, -0.08) Teflon: ø4 ± 0.05, ø6 ± 0.07			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Order product

NBR : Nitrile butadiene rubber

Note: Above specifications apply to Cuplas. Working pressure, pressure resistance and working temperature range vary depending on tube materials and temperature conditions. Micro Cupla with Tube Fitter has NBR packing material only.

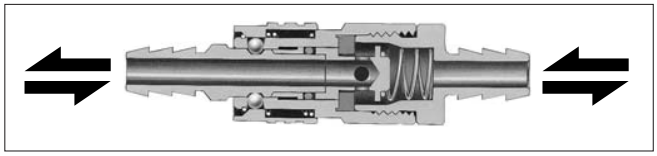
Max. Tightning Torque* N•m {kgf•cm}

Thread Type	M5 x 0.8	1/8"
Torque	1.3 {13}	7 {71}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Sockets and plugs can be connected irrespective of type of connection.

Min. Cross-Sectional Area (mm²)

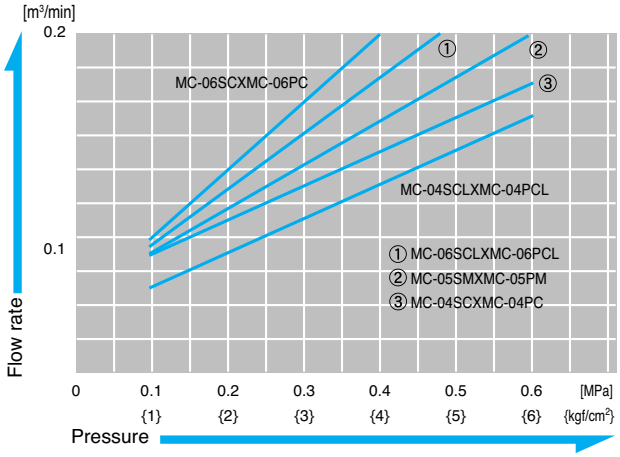
Product name	Micro Cupla			Micro Cupla with Tube Fitter
Product code	MC-04SP	MC-05SP	MC-10SP	MC-04/06
Area	4.9	4.9	4.9	4.9

Suitability for vacuum applications 53.0 kPa (400mmHg.) •: Suitable

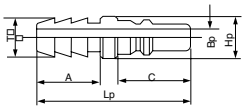
Socket only	Plug only	When connected
———	———	•

Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature
•Tube size: ø4 x ø2, ø6 x ø4 (with tube fitter)

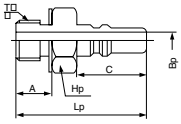


Plug P



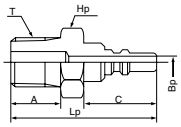
●For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	A	øHp	øT	øBp
MC-03PH	For 3 mm (ID) tube	1.4	19	9.2	8	5.5	3.5	1.2
MC-04PH	For 4 mm (ID) tube	1.5	19	9.2	8	5.5	4.8	2.5



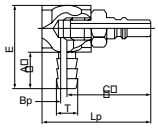
●For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	A	Hp	T	øBp
MC-05PM	M5 x 0.8	2	17	9.2	4.5	Hex.7	M5 x 0.8	2.5



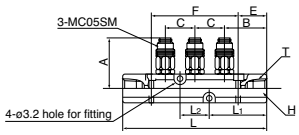
●For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	A	Hp	T	øBp
MC-10PM	Rc1/8 (PT1/8)	8.7	26	12.5	9	Hex.11	R1/8	2.5



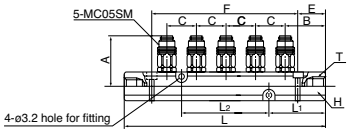
●For L-type hose connection (PHL)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	A	E	øT	øBp
MC-04PHL	For 4 mm (ID) tube	9.4	22.5	17.5	8	18	4.8	2.5



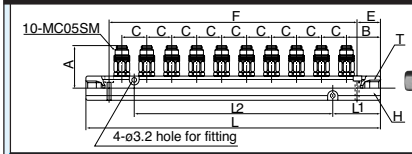
●Micro Line Cupla for three branch lines

Product code	Application	Mass (g)	Dimensions (mm)									
			L	L_1	L_2	A	B	C	E	F	T	H
MC-03	3 branches	65	78	31	16	28	23	16	15	48	2-Rc1/8	16 sq.



●Micro Line Cupla for five branch lines

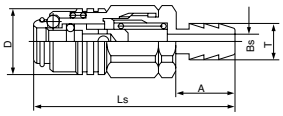
Product code	Application	Mass (g)	Dimensions (mm)									
			L	L_1	L_2	A	B	C	E	F	T	H
MC-05	5 branches	101	110	31	48	28	23	16	15	80	2-Rc1/8	16 sq.



●Micro Line Cupla for ten branch lines

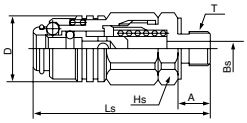
Product code	Application	Mass (g)	Dimensions (mm)									
			L	L_1	L_2	A	B	C	E	F	T	H
MC-10	10 branches	187	190	31	128	28	23	16	15	160	2-Rc1/8	16 sq.

S Socket



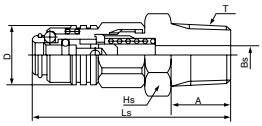
●For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	A	øT	øBs
MC-03SH	For 3 mm (ID) tube	7.9	27.5	9.5	8	3.5	1.2
MC-04SH	For 4 mm (ID) tube	8	27.5	9.5	8	4.8	2.5



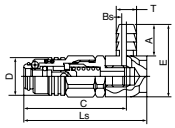
●For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	øD	A	T	Hs	øBs
MC-05SM	M5 x 0.8	9	24.5	9.5	4.5	M5 x 0.8	Hex.9	2.5



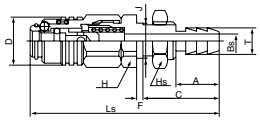
●For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	øD	A	T	Hs	øBs
MC-10SM	Rc1/8 (PT1/8)	13.5	30	9.5	9	R1/8	Hex.11	2.5



●For L-type hose connection (SHL)

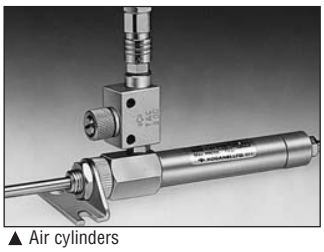
Product code	Application	Mass (g)	Dimensions (mm)						
			Ls	C	E	A	øD	øT	øBs
MC-04SHL	For 4 mm (ID) tube	15.2	30.8	25.8	18	8	9.5	4.8	2.5



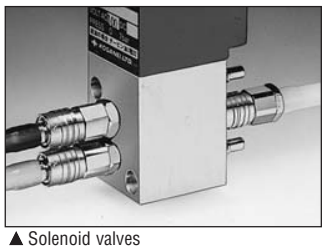
●For panel mounting (SHB)

Product code	Application	Mass (g)	Dimensions (mm)									
			Ls	C	A	øD	øT	øBs	Hs	F	øJ	H
MC-04SHB	For 4mm (ID) tude	11.6	36	15	8	9.5	4.8	2.5	Hex.11	1	7	Hex.9

Examples of Usages



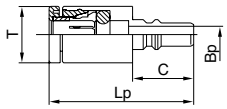
▲ Air cylinders



▲ Solenoid valves

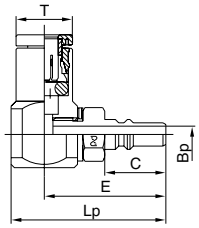
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Plug P



●Micro Cupla with tube fitter : Straight Type (PC)

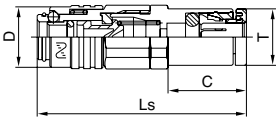
Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	C	øT	øBp
MC-04PC	For 4 mm (OD) tube	3	(21.8)	9.2	8.5	2.5
MC-06PC	For 6 mm (OD) tube	5	(24.2)	9.2	10.3	2.5



●Micro Cupla with tube fitter : L Type (PCL)

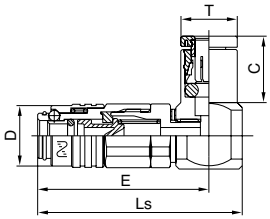
Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	E	øT	øBp
MC-04PCL	For 4 mm (OD) tube	10	(23.8)	9.2	(18.3)	8.5	2.5
MC-06PCL	For 6 mm (OD) tube	13.5	(24.3)	9.2	(18.8)	10.3	2.5

S Socket



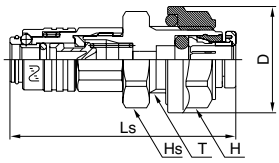
●Micro Cupla with tube fitter : Straight Type (SC)

Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	C	øT
MC-04SC	For 4 mm (OD) tube	9	(31.5)	9.6	(11.8)	8.5
MC-06SC	For 6 mm (OD) tube	11.5	(33.5)	12	(12.5)	10.3



●Micro Cupla with tube fitter : L Type (SCL)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	E	øD	C	øT
MC-04SCL	For 4 mm (OD) tube	16	(30.8)	(25.8)	9.6	(10)	8.5
MC-06SCL	For 6 mm (OD) tube	19	(31.8)	(26.3)	9.6	(12)	10.3



●Micro Cupla with tube fitter : Panel Mount Type (SCB)

Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	Hs	H	T
MC-04SCB	For 4 mm (OD) tube	15	(34)	16	Hex.13	Hex.13	M10 x 1
MC-06SCB	For 6 mm (OD) tube	18.5	(36.3)	18	Hex.15	Hex.15	M12 x 1

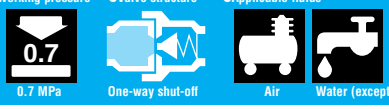
For Air

Small Cupla

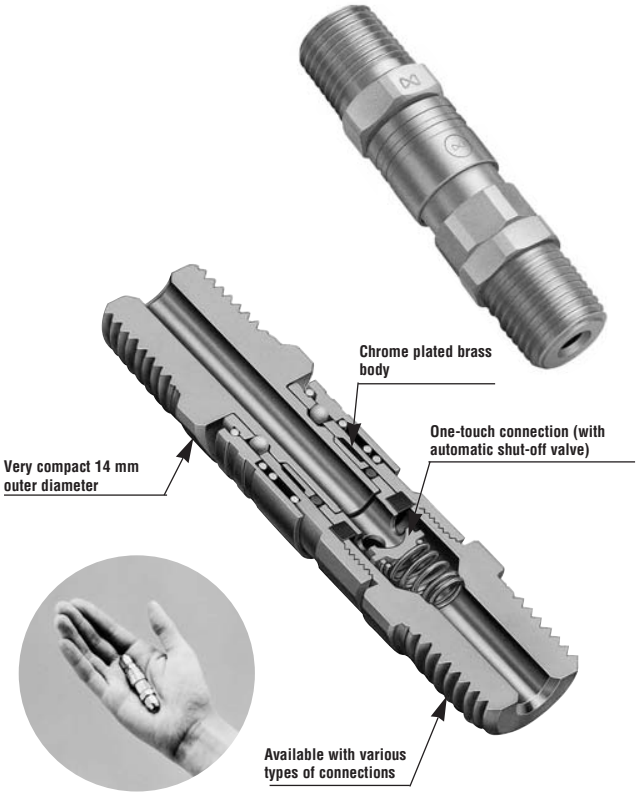
Small Cupla with Tube Fitter
Small Line Cupla

Lightweight and compact for use on air lines and scientific equipment

●Working pressure ●Valve structure ●Applicable fluids



0.7 MPa | One-way shut-off | Air | Water (except it with tube fitter)



Lightweight and compact
One-touch connection
The answer to moves towards modularization

- **Compact 14 mm outer diameter type with valve in socket. Suits applications calling for compact and modularized types.**
- **One-touch mechanism connects by simply pushing plug into socket. Handling has been especially improved.**
- **For corrosion resistance, chrome plated brass has been used for the body. Stable performance endures for a long time.**
- **A wide line-up of connection types (female and male threads, hose nipples, manifolds) enable it to cope reliably with a wide range of piping applications including use on pneumatic, scientific and medical equipment.**
- **Also available with one-touch connection/disconnection tube fitter.**

Note: Fluid will flow out from the plug side when socket and plug are disconnected. Take care if the fluid is water.

Specifications

Body material	Cupla: Brass (chrome-plated), Tube Fitter: Brass (nickel-plated)			
Size	1/8", 1/4"			
Applicable tube size (Small Cupla with Tube Fitter)	Polyurethane: ø6 ± 0.1, ø8 ± 0.15, Nylon: ø6 (+0.05, -0.08), ø8 (+0.05, -0.1), Teflon: ø6 ± 0.07, ø8 ± 0.07			
Working pressure MPa {kgf/cm²}	0.7 {7}			
Pressure resistance MPa {kgf/cm²}	1.1 {11}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-5ºC ~ +60ºC	Standard material

NBR : Nitrile butadiene rubber

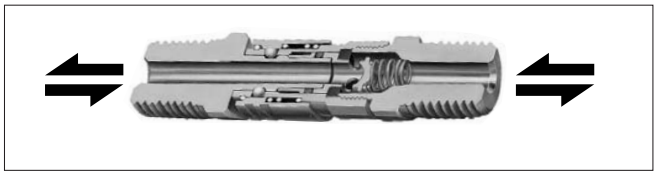
Max. Tightening Torque* N·m {kgf·cm}

Product code	1/8"	1/4"	Nut type
Torque	7 {71}	9 {92}	5 {51}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Sockets and plugs can be connected irrespective of type of connection.

Min. Cross-Sectional Area (mm²)

Product code	MS-10SP	MS-20SP	MS-40SPN	MS-45SPN	Small Cupla with Tube Fitter (6 type)	Small Cupla with Tube Fitter (8 type)
Area	12.5	12.5	4.9	7	12.5	12.5

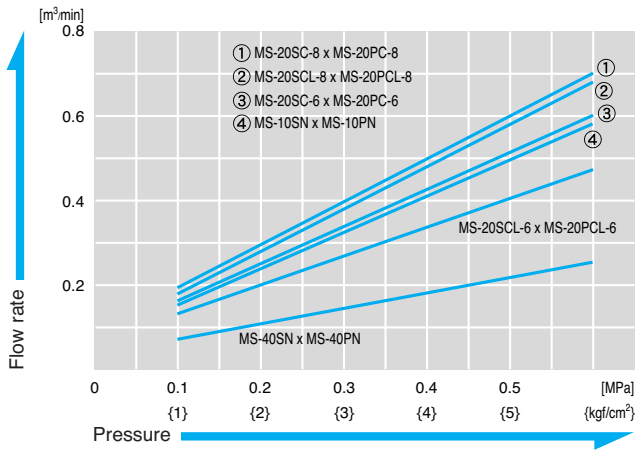
Suitability for Vacuum Applications 53.0 kPa {400 mmHg.}

•: Suitable

Socket only	Plug only	When connected
–	–	●

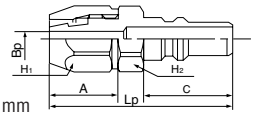
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature
•Tube size: ø6 x ø4, ø8 x ø6 (Small Cupla with Tube Fitter)



Product Codes and Dimensions Tables

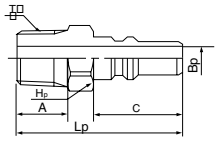
Plug P



unit: mm

•For hose connection (PN)

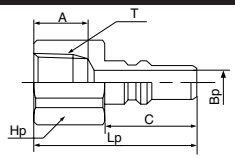
Product code	Application	Mass (g)	Lp	C	A	H1	H2	øBp
MS-40PN	Nylon hose ø4 x ø6	10.5	31	15.2	11.5	Hex.10	Hex.10	2.5
MS-45PN	Nylon hose ø4.5 x ø6 Urethane hose ø4 x ø6	11	31	15.2	11.5	Hex.10	Hex.10	3



unit: mm

•For female thread connection (PM)

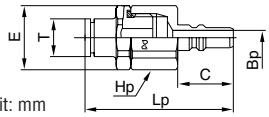
Product code	Application	Mass (g)	Lp	C	A	Hp	T	øBp
MS-10PM	Rc1/8 (PT1/8)	9	28.5	15.2	9	Hex.11	R1/8	4
MS-20PM	Rc1/4 (PT1/4)	19.5	32.5	15.2	13	Hex.14	R1/4	4



unit: mm

•For male thread connection (PF)

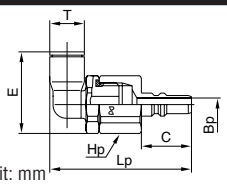
Product code	Application	Mass (g)	Lp	C	A	Hp	T	øBp
MS-10PF	R 1/8 (PT1/8)	11	27	15.2	9	Hex.13	Rc1/8	4



unit: mm

•Small Cupla with Tube Fitter : Straight type (PC)

Product code	Application	Mass (g)	Lp	C	E	Hp	øT	øBp
MS-20PC-6	For 6 mm (OD) tube	26.5	(40.5)	15.2	17.5	Hex.16	10.3	4
MS-20PC-8	For 8 mm (OD) tube	31	(47.2)	15.2	17.5	Hex.16	13.5	4

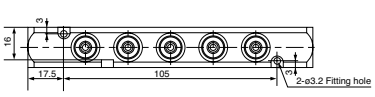


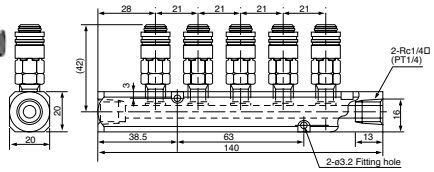
unit: mm

•Small Cupla with Tube Fitter : L type (PCL)

Product code	Application	Mass (g)	Lp	C	E	Hp	øT	øBp
MS-20PCL-6	For 6 mm (OD) tube	27.5	(43)	15.2	(24.8)	Hex.16	10.3	4
MS-20PCL-8	For 8 mm (OD) tube	32	(46.5)	15.2	(31.8)	Hex.16	13.5	4

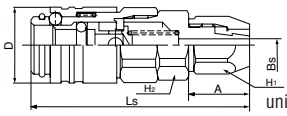
•Small Line Cupla for five branch lines (MS-5)





unit: mm
Mass: 238g

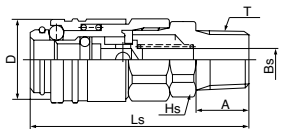
Socket S



unit: mm

•For hose connection (SN)

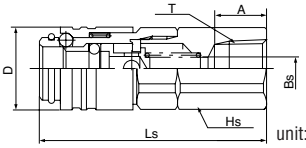
Product code	Application	Mass (g)	Ls	A	H1	H2	øD	øBs
MS-40SN	Nylon hose ø4 x ø6	26.5	40.8	11.5	Hex.10	Hex.12	14	2.5
MS-45SN	Nylon hose ø4.5 x ø6, Urethane hose ø4 x ø6	27.0	40.8	11.5	Hex.10	Hex.12	14	3



unit: mm

•For female thread connection (SM)

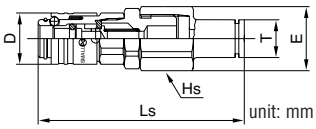
Product code	Application	Mass (g)	Ls	A	Hs	T	øD	øBs
MS-10SM	Rc1/8 (PT1/8)	24	36.8	9	Hex.12	R1/8	14	4
MS-20SM	Rc1/4 (PT1/4)	34	40.8	13	Hex.14	R1/4	14	4



unit: mm

•For male thread connection (SF)

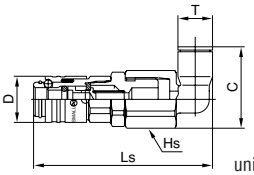
Product code	Application	Mass (g)	Ls	A	Hs	T	øD	øBs
MS-10SF	R1/8 (PT1/8)	29.5	38.8	9	Hex.13	Rc1/8	14	4



unit: mm

•Small Cupla with Tube Fitter : Straight type (SC)

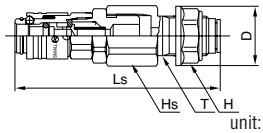
Product code	Application	Mass (g)	Ls	øD	E	Hs	øT
MS-20SC-6	For 6 mm (OD) tube	46	(56.3)	17.5	17.5	Hex.16	10.3
MS-20SC-8	For 8 mm (OD) tube	50.5	(60.8)	17.5	17.5	Hex.16	13.5



unit: mm

•Small Cupla with Tube Fitter : L type (SCL)

Product code	Application	Mass (g)	Ls	øD	C	Hs	øT
MS-20SCL-6	For 6 mm (OD) tube	47.5	(55)	17.5	(24.7)	Hex.16	10.3
MS-20SCL-8	For 8 mm (OD) tube	49.5	(58.5)	17.5	(31.4)	Hex.16	13.5



unit: mm

•Small Cupla with Tube Fitter : Panel Mount type (SCB)

Product code	Application	Mass (g)	Ls	øD	Hs	H	T
MS-20SCB-6	For 6 mm (OD) tube	57.5	(62.3)	18	Hex.17	Hex.15	M12 x 1
MS-20SCB-8	For 8 mm (OD) tube	58.5	(62.8)	21	Hex.17	Hex.18	M15 x 1

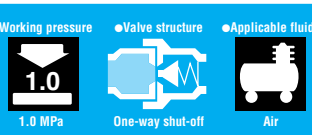
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

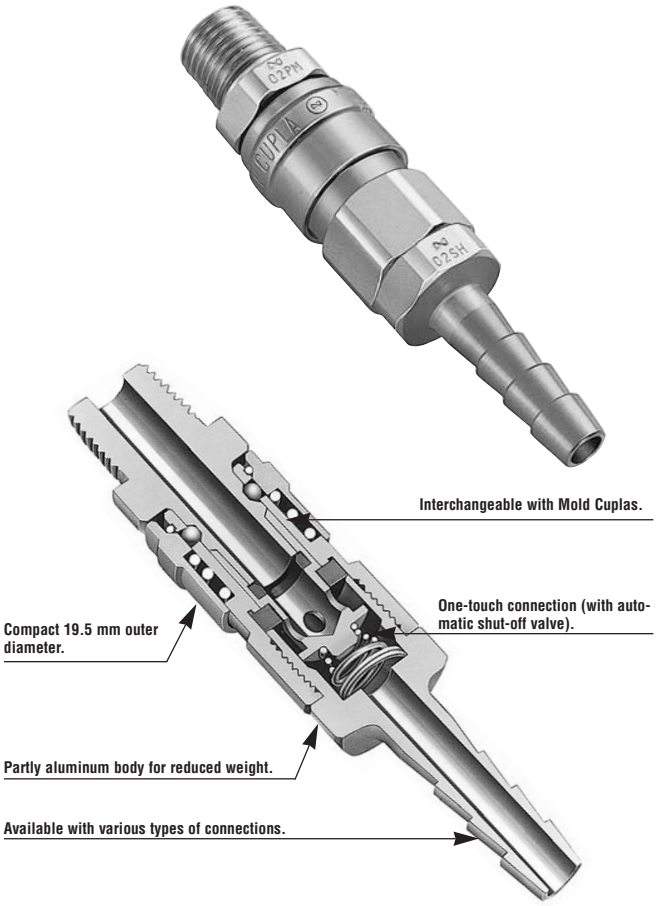
For Air

Super Cupla & Super Cupla with Tube Fitter

Light, compact for air piping connections

●Working pressure ●Valve structure ●Applicable fluids





Lightweight design makes this the best match for hand tools! One-touch connection for excellent handling.

- ●Lightweight design suits convenient connection to hand tools. Aluminum is used for some body parts to reduce weight.
- ●Just push for one-touch connection. We claim one-handed operation.
- ●Available in a wide variety of types of connections as standard products to suit a wide variety of pneumatic uses. Model 02S20P can be connected to Hi Cupla (Models 20, 30 and 40).
- ●Also available with one-touch connection/disconnection tube fitter.

Specifications

Body material	Cupla: Steel (chrome-plated), Aluminum Tube Fitter: Brass (nickel-plated)			
Size	1/8", 1/4"			
Applicable tube size (Small Cupla with Tube Fitter)	Polyurethane: ø6 ± 0.1, ø8 ± 0.15, Nylon: ø6 (+0.05, -0.08), ø8 (+0.05, -0.1), Teflon: ø6 ± 0.07, ø8 ± 0.07			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber(FKM)	X-100	-20°C ~ +180°C	Order product

NBR=Nitrile butadiene rubber

Note: The specifications shown above are Cupla specifications. Working pressure, pressure resistance and working temperature range will differ according to the type of tube material and temperature to be used. Only nitrile rubber is used in models with tube fitter.

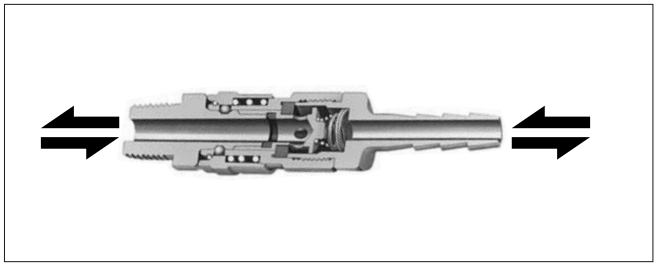
Max. Tightening Torque* N·m {kgf·cm}

Size	1/8"	1/4"
Torque	7 {71}	14 {143}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Sockets and plugs can be connected irrespective of type of connection.

*** Interchangeable with Mold Cuplas.**

*** Interchangeable with Hi Cupla 20, 30 and 40 types when 02S20P type is used.**

Min. Cross-Sectional Area (mm²)

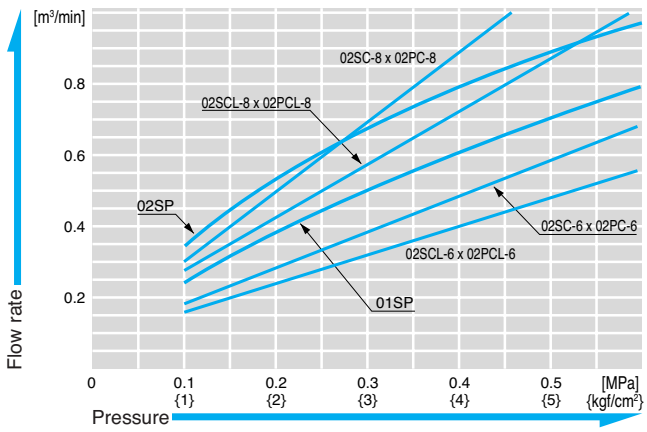
Product code	01SP	02SP	Super Cupla with Tube Fitter (6 type)	Super Cupla with Tube Fitter (8 type)
Area	19	19	12.5	19

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

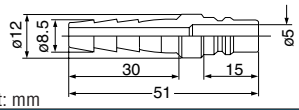
Pressure - Flow Rate Characteristics

[Measuring conditions] •Fluid: Air •Temperature: Room temperature
•Tube size: ø6 x ø4, ø8 x ø6 (Super Cupla with Tube Fitter)



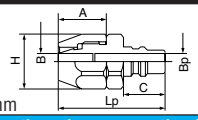
Product Codes and Dimensions Tables

Plug P



unit: mm

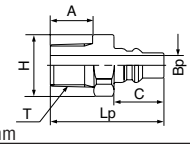
•For hose connection (02PH)/Application: For 1/4" hose/Mass: 16 g



unit: mm

•For urethane hose connection (PN)

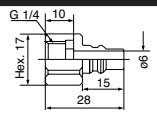
Product code	Application	Mass(g)	Lp	C	A	H	øBp	øB
01PN	For ø5 x ø8 hose	27.6	38.5	15	17	Hex.17	6	3.8
02PN	For ø6.5 x ø10 hose	27.6	38.5	15	17	Hex.17	6	5.3



unit: mm

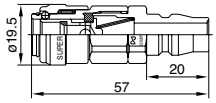
•For female thread connection (PM)

Product code	Application	Mass(g)	Lp	C	A	H	T	øBp
01PM	Rc1/8 (PT1/8)	12	31	15	10	Hex.12	R1/8	5
02PM	Rc1/4 (PT1/4)	22.7	34	15	13	Hex.17	R1/4	6



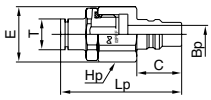
unit: mm

•For male thread connection <parallel threads> (02PFF)/Application: G1/4 (PF1/4)/Mass: 17.7 g



unit: mm

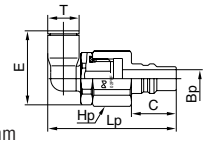
•For Hi Cupla/Super Cupla connection (02S20P)/Application: Hi Cupla (Socket)/Mass: 58 g



unit: mm

•Super Cupla with Tube Fitter : Straight type (PC)

Product code	Application	Mass(g)	Lp	C	E	Hp	øT	øBp
02PC-6	For 6 mm (OD) tube	28.5	(40.5)	15	18.5	Hex.17	10.3	6
02PC-8	For 8 mm (OD) tube	33	(47.5)	15	18.5	Hex.17	13.5	6

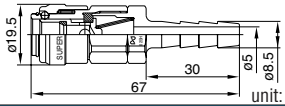


unit: mm

•Super Cupla with Tube Fitter : L type (PCL)

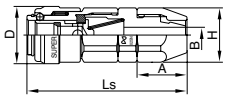
Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	E	Hp	øT	øBp
02PCL-6	For 6 mm (OD) tube	29.5	(43)	15	(25.3)	Hex.17	10.3	6
02PCL-8	For 8 mm (OD) tube	34.5	(46.5)	15	(32.3)	Hex.17	13.5	6

Socket S



unit: mm

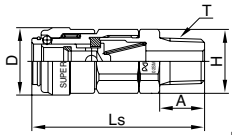
•For hose connection (02SH)/Application: For 1/4" hose/Mass: 56 g



unit: mm

•For urethane hose connection (SN)

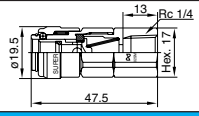
Product code	Application	Mass(g)	Ls	A	øD	H	øB
01SN	For ø5 x ø8 hose	35	54.5	17	19.5	Hex.17	3.8
02SN	For ø6.5 x ø10 hose	35	54.5	17	19.5	Hex.17	5.3



unit: mm

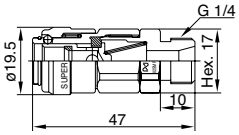
•For female thread connection (SM)

Product code	Application	Mass(g)	Ls	A	øD	H	T
-	-	-	-	-	-	-	-
02SM	Rc1/4 (PT1/4)	57	50	13	19.5	Hex.17	R1/4



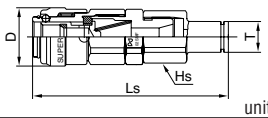
unit: mm

•For male thread connection (02SF)/Application: R1/4 (PT1/4)/Mass: 26 g



unit: mm

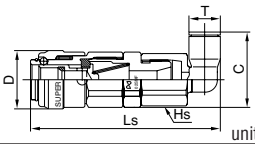
•For female thread connection <parallel threads> (02SMF)/Application: G1/4 (PF1/4)/Mass: 27 g



unit: mm

•Super Cupla with Tube Fitter Straight type (SC)

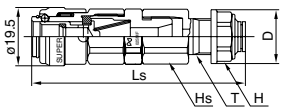
Product code	Application	Mass(g)	Ls	øD	Hs	øT
02SC-6	For 6 mm (OD) tube	46	(65.5)	19.5	Hex.16	10.3
02SC-8	For 8 mm (OD) tube	50.5	(70)	19.5	Hex.16	13.5



unit: mm

•Super Cupla with Tube Fitter : L type (SCL)

Product code	Application	Mass(g)	Ls	øD	Hs	C	øT
02SCL-6	For 6 mm (OD) tube	47.5	(63.5)	19.5	Hex.16	(25.7)	10.3
02SCL-8	For 8 mm (OD) tube	49.5	(67.7)	19.5	Hex.16	(32.8)	13.5



unit: mm

•Super Cupla with Tube Fitter : Panel Mount type (SCB)

Product code	Application	Mass(g)	Ls	øD	Hs	H	T
02SCB-6	For 6 mm (OD) tube	45.5	(71.5)	18	Hex.17	Hex.15	M12 x 1
02SCB-8	For 8 mm (OD) tube	46.5	(72)	21	Hex.17	Hex.18	M15 x 1

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Air

Plastic Cupla BC Type

Valveless type

For low pressure air piping

●Working pressure ●Valve structure ●Applicable fluids

▲Bubble bath

Compact plastic Cupla for use with low pressure.
Just push in the plug for one-touch connection.

- ●To connect, just push the plug into the socket.
- ●Plastic makes this ideal for environments prone to rusting.
- ●Compact and light weight for excellent handling.
- ●Valveless construction gives more stable flow.

Specifications

Body material	Plastic (plug and socket)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	0.07 {0.7}			
Pressure resistance MPa {kgf/cm²}	0.1 {1.0}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	NBR	SG	0°C ~ +50°C	Standard material

NBR=Nitrile butadiene rubber

Interchangeability

Sockets and plugs can be connected irrespective of type of connection.

Min. Cross-Sectional Area (mm²)

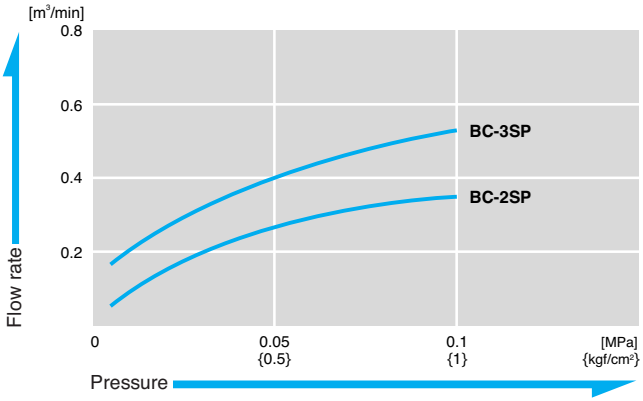
Product code	BC-2SP	BC-3SP
Min. cross-sectional area	12.5	28.3

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

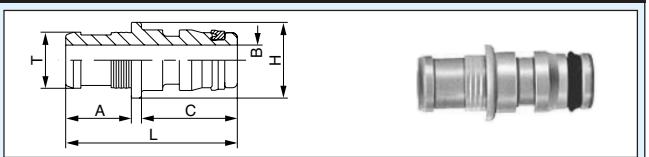
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Product Codes and Dimensions Tables

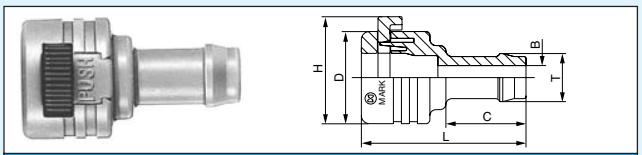
Plug P



•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)					
			L	C	A	øB	øT	øH
BC-2PH	For 1/4" hose	1.8	41	19	17	4	8.5	14
BC-3PH	For 3/8" hose	2	34	19	13	6	10.9	15

S Socket



•For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)					
			L	C	øB	øT	øD	H
BC-2SH	For 1/4" hose	5.6	38	17	4	8.5	23	26.5
BC-3SH	For 3/8" hose	6	41	20	6	12	23	26.5

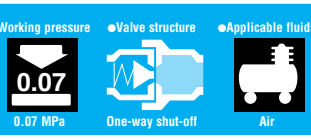
For Air

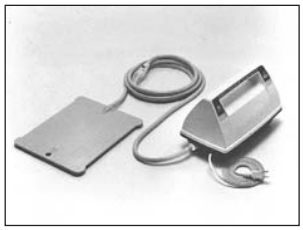
Plastic Cupla BCC Type

With flow control

For low pressure air piping

●Working pressure ●Valve structure ●Applicable fluids





▲ Bubble bath

Plastic Cupla with adjustable flow rate for use with low pressure. Just push in the plug for one-touch connection.

- ●To connect, just push the plug into the socket.
- ●Automatic shut-off valve in plug.
- ●Socket has handy flow rate control mechanism.
- ●Plastic makes this ideal for environments prone to rusting.
- ●Compact and light weight for excellent handling.

Specifications

Body material	Plastic (plug and socket)			
Size	3/8"			
Working pressure MPa {kgf-/cm²}	0.07 {0.7}			
Pressure resistance MPa {kgf/cm²}	0.1 {1.0}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	0°C ~ +50°C	Standard material

NBR : Nitrile butadiene rubber

Interchangeability

Not interchangeable with other Cuplas.

Min. Cross-Sectional Area (mm²)

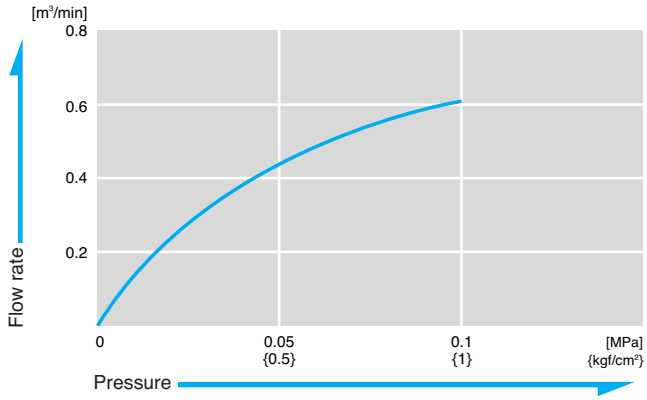
Product code	BCV-3PH	BCC-3SH
Min. cross-sectional area	14	14

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

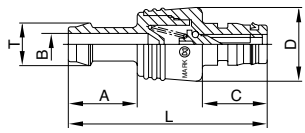
[Measuring conditions] •Fluid: Air •Temperature: Room temperature •Flow rate adjustment: Fully open



• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Product Codes and Dimensions Tables

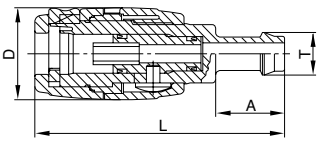
Plug P



•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)					
			L	C	A	øD	øT	øB
BCV-3PH	For 3/8" hose	10	58	19	20	21	12	6

Socket S



•For hose connection (SH)

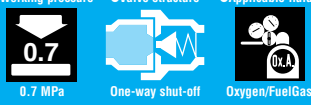
Product code	Application	Mass (g)	Dimensions (mm)			
			L	øD	A	øT
BCC-3SH	For 3/8" hose	25	73	26	20	12

For Oxygen/Fuel Gas

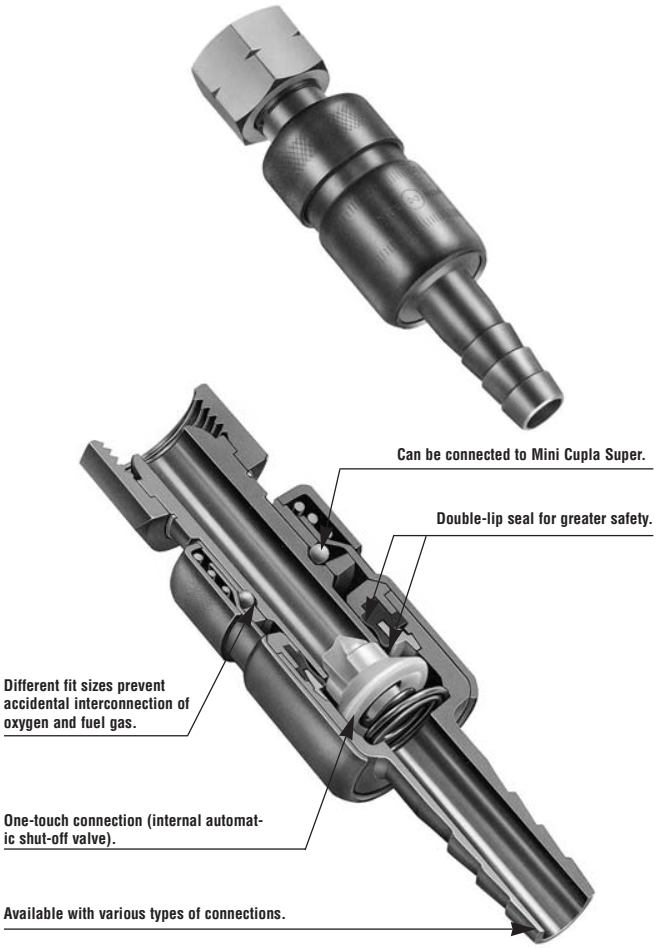
Mini Cupla

General purpose model for use on equipment for welding and cutting and allied processes

●Working pressure ●Valve structure ●Applicable fluids



0.7 MPa One-way shut-off Oxygen/FuelGas



Specific type for oxyacetylene equipment. Many variations with high flow rates!

- ●From cylinder to torch, all piping connections associated with oxyacetylene equipment can be done quickly by one-touch operation.
- ●Double-lip seal prevents outflow when connected. Oxygen and fuel gas fittings are in different sizes to prevent accidental interconnection.
- ●Pressure loss is minimized to enable high flow rate.
- ●All types of connections have been standardized to suit a wide range of oxyacetylene equipment applications. Interchangeable with Mini Cupla Super.
- ●Line Cupla Mini also available for branch piping.

Specifications

Body material	Brass			
Size	1/4", 5/16", 3/8"			
Working pressure MPa {kgf/cm²}	0.7 {7}			
Pressure resistance MPa {kgf/cm²}	1.0 {10}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material

NBR : Nitrile butadiene rubber

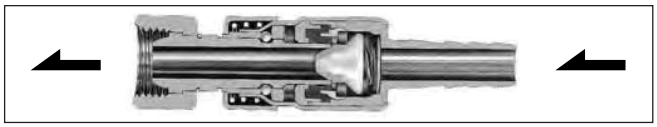
Max. Tightening Torque* N·m {kgf·cm}

Product code	22PF, 25PF, 33PF	22PFB, 33PFB	22SF, 33SF	22SM	33SM
Torque	12 {122}	12 {122}	12 {122}	9 {92}	11 {112}

*Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

To prevent accidental interconnection, no oxygen types (1/4" and 5/16") can be connected to fuel gas types (5/16" and 3/8"). However, irrespective of the type of connection, oxygen plugs and sockets are interchangeable and fuel gas plugs and sockets are interchangeable.

*** Also interchangeable with Mini Cupla Super.**

Min. Cross-Sectional Area (mm²)

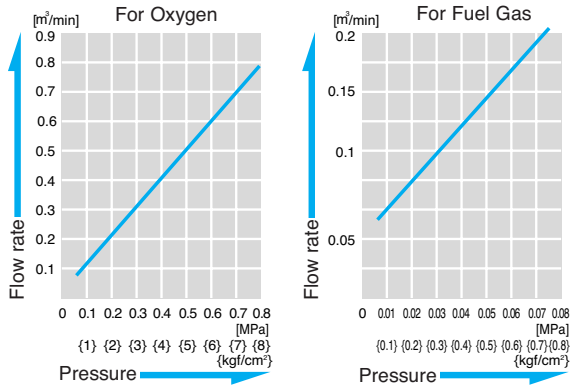
Product code	22SP, 25SP	33SP, 35SP
Min. cross-sectional area	20	44

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

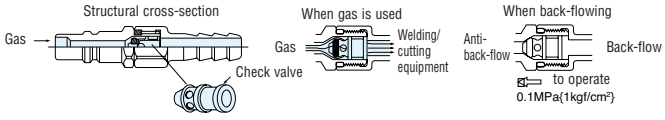
[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Structure and principle of backflow prevention

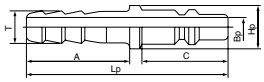
Plugs fitted with anti-backflow valves (22PHB, 25PHB, 22PFB, 33PHB, 35PHB, 33PFB)

Mini Cupla anti-backflow plugs are designed specifically for gas welding/cutting with an internal structure that prevents the occurrence of gas mixing. Any back-flow of gas during welding/cutting is stopped to prevent back-flow of gas into the cylinder or line. They are used for both fuel gas and oxygen.



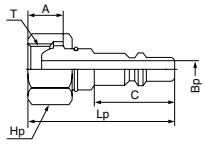
Product Codes and Dimensions Tables

Plug P



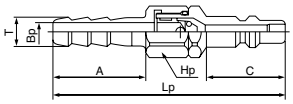
•For hose connection (PH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	øHp	øT	øBp
For Oxygen	22PH	For 1/4" hose	16	55	23.5	28	11	7.8	5
	25PH	For 5/16" hose	19					9	
For Fuel Gas	33PH	For 3/8" hose	22	57	25.5	28	14	10.5	7.5
	35PH	For 5/16" hose	20					9	6



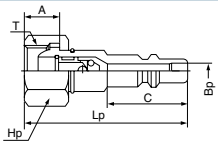
•For torch connection (PF)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	øHp	T	øBp
For Oxygen	22PF	For oxygen torch	31	43	23.5	11	Hex.19	M16 x 1.5	5
	25PF		26	43.5		10	Hex.17	W12.5	
For Fuel Gas	33PF	For gas torch	36	44.5	25.5	11	Hex.19	M16 x 1.5 left	7.5



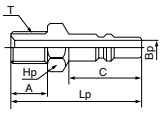
•With check valve for hose (PHB)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	Hp	øT	øBp
For Oxygen	22PHB	For 1/4" hose	31	69.6	23.5	28	Hex.14	7.8	5
	25PHB	For 5/16" hose	34					9	
For Fuel Gas	33PHB	For 3/8" hose	41	70.6	25.5	28	Hex.14	10.5	7
	35PHB	For 5/16" hose	39					9	5



•With check valve for torch (PFB)

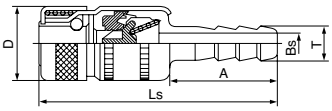
Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	Hp	T	øBp
For Oxygen	22PFB	For oxygen torch	36	48.5	23.5	11	Hex.19	M16 x 1.5	5
For Fuel Gas	33PFB	For gas torch	41	48.5	25.5	10.5	Hex.19	M16 x 1.5 left	7.5



•For female thread connection (PMT)

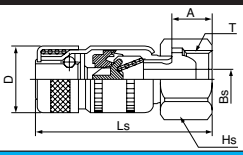
Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	Hp	T	øBp
For Oxygen	21PMT	Rc1/8 (PT1/8)	22	43.5	24	11	Hex.14	R 1/8 (PT1/8)	5
	22PMT	Rc1/4 (PT1/4)	27	45	24	14	Hex.14	R 1/4 (PT1/4)	5

S Socket



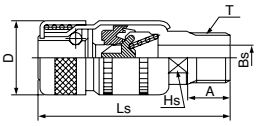
•For hose connection (SH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)				
				Ls	øD	A	øT	øBs
For Oxygen	22SH	For 1/4" hose	52	64	19.8	29	7.8	5
	25SH	For 5/16" hose	55				9	
For Fuel Gas	33SH	For 3/8" hose	69	65	22.6	29	10.5	7.5
	35SH	For 5/16" hose	67				9	6



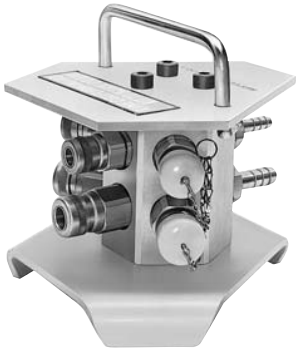
•For cylinder connection (SF)

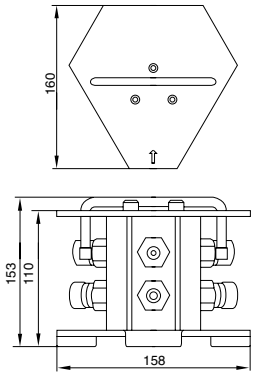
Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Ls	øD	A	T	øBs	Hs
For Oxygen	22SF	For oxygen gauge	80	52	19.8	11	M16 x 1.5	5	Hex.19
For Fuel Gas	33SF	For gas gauge	96	54	22.6	11	M16 x 1.5 left	5	Hex.19



•For centralized piping (SM)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Ls	øD	A	Hs	T	øBs
For Oxygen	22SM	Rc1/4 (PT1/4)	51	52	19.8	11	Face 12 x ø14	R 1/4 (PT1/4)	7.5
For Fuel Gas	33SM	Rc3/8 (PT3/8)	77	54	22.6	11	Face 14 x ø17	R 3/8 (PT3/8)	10





unit: mm

•Mass: 4,300 g

•This product is supplied with dust caps as standard equipment.

•Line Cupla Mini LM-32 (for three branch piping)

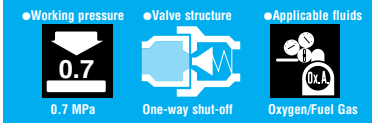
Line Cupla Mini Settings	For Oxygen	For Fuel Gas	Qty
Supply lines	For oxygen hose: 1/4"	For fuel gas hose: 3/8"	1 each
Gas outlets	22SM	33SM	3 each
Accessories (plug with check valve)	22PHB	33PHB	3 each

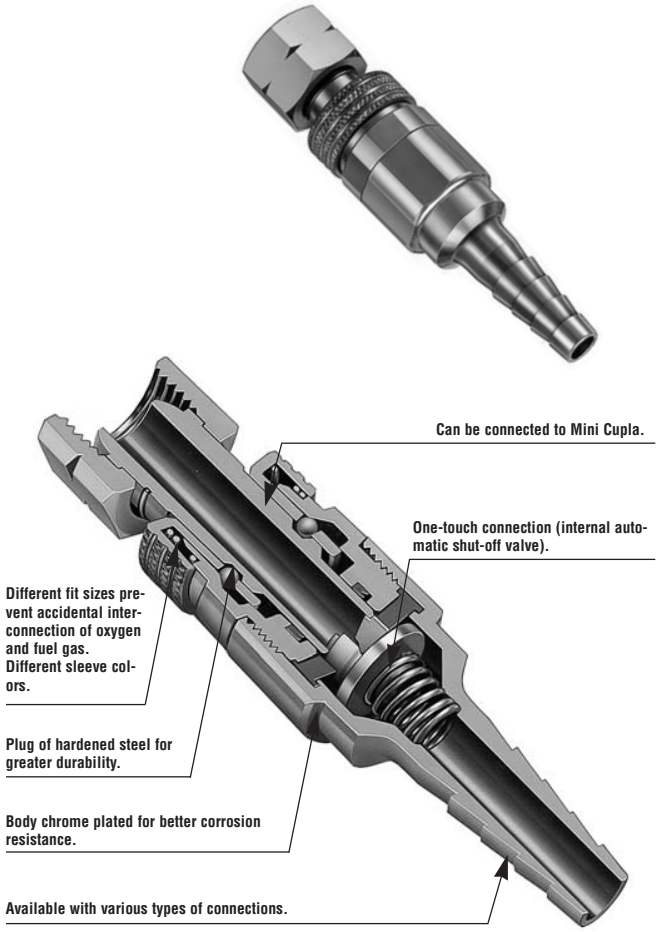
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Oxygen/Fuel Gas

Mini Cupla Super

One touch type reinforced model use oxyacetylene equipment piping





Specific type for oxyacetylene equipment. Chrome plated for excellent durability and corrosion resistance!

- ●From cylinder to torch, all piping connections associated with oxyacetylene equipment are one-touch operations.
- ●Body is chrome plated for better corrosion resistance. Plug is hardened for better durability.
- ●Oxygen and fuel gas fittings are different sizes and sleeves are given different colors, chrome plating for oxygen and copper plating for fuel gas, to prevent accidental interconnection.
- ●Small diameter type with a wide range of uses.
- ●All types of connections have been standardized to suit a wide range of oxyacetylene equipment applications. Interchangeable with Mini Cupla.

Specifications

Body material	Socket: Brass (chrome-plated), Plug: Steel (chrome-plated)			
Size	1/4", 5/16", 3/8"			
Working pressure MPa {kgf/cm²}	0.7 {7}			
Pressure resistance MPa {kgf/cm²}	1.0 {10}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material

NBR : Nitrile butadiene rubber

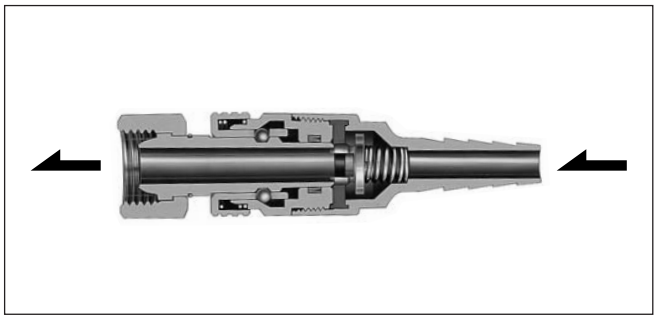
Max.Tightening Torque* N·m {kgf·cm}

Product code	S22PF, S22SF, S33PF, S33SF	S22SM	S33SM
Torque	12{122}	9 {92}	11 {112}

*Recommended value

Fluid Flow Direction

Fluid flows from socket to plug.



Interchangeability

To prevent accidental interconnection, no oxygen types (1/4" and 5/16") can be connected to fuel gas types (5/16" and 3/8"). However, irrespective of the type of connection, oxygen plugs and sockets are interchangeable and fuel gas plugs and sockets are interchangeable.
*** Also interchangeable with Mini Cupla.**

Min. Cross-Sectional Area (mm²)

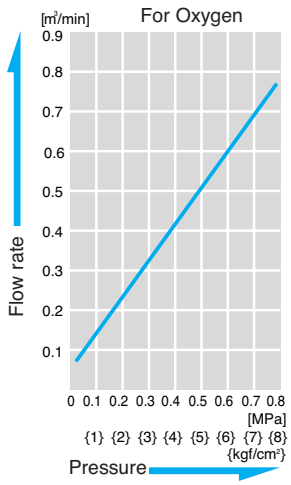
Product code	S22SP type	S33SP type
Min. cross-sectional area	16	28

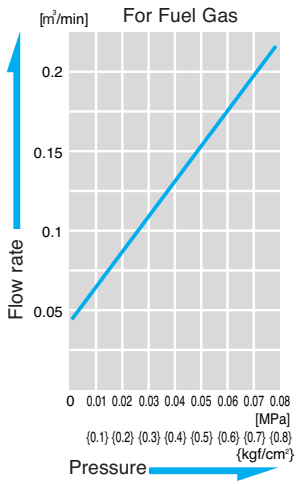
Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Pressure - Flow Rate Characteristics

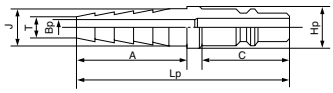
[Measuring conditions] •Fluid: Air •Temperature: Room temperature





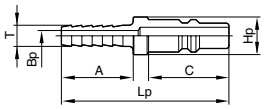
Product Codes and Dimensions Tables

Plug P



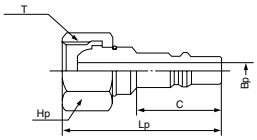
•For hose connection (PH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)						
				Lp	C	A	øHp	øT	øJ	øBp
For Oxygen	S22PH	For 1/4", 5/16" hose	17	58	23.5	30	11	6.7	9.5	4.5
For Fuel Gas	S33PH	For 5/16", 3/8" hose	22	59.5	25.5	30	14	7.5	11	6
For Fuel Gas	S32PH*	For 1/4", 5/16" hose	20	59.5	25.5	30	14	6.2	9	4.5



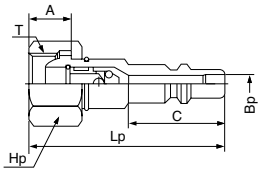
•For small diameter hose connection (PH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	øHp	øBp	øT
For Oxygen	S225PH	For ø5 (ID) hose	12	49	23.5	21	11	3.2	6
For Fuel Gas	S335PH	For ø5 (ID) hose	15	50.5	25.5	21	14	3.2	6



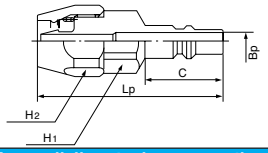
•For torch connection (PF)

Usage	Product code	Application	Mass (g)	Dimensions (mm)				
				Lp	C	Hp	T	øBp
For Oxygen	S22PF	For oxygen torch	35	43	23.5	Hex.19	M16 x 1.5	5
For Fuel Gas	S33PF	For gas torch	32	44.5	25.5	Hex.19	M16 x 1.5 left	7.5



•With check valve for torch (PFB)

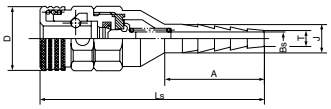
Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Lp	C	A	Hp	T	øBp
For Oxygen	S23PFB-2*	For oxygen torch	48	51	23.5	13	Hex.21	BS3/8	4.5
For Fuel Gas	S33PFB-2*	For gas torch	52	50.5	25.5	21	Hex.21	BS3/8 left	4.5



•For small diameter hose connection (PN)

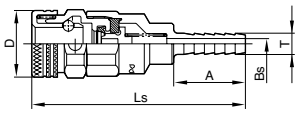
Usage	Product code	Application	Mass (g)	Dimensions (mm)				
				Lp	C	H_1	H_2	øBp
For Oxygen	S22PN	For ø5 x ø11 hose	54	53.5	23.5	Hex.17	Hex.19	5
For Fuel Gas	S33PN	For ø5 x ø11 hose	57	54.5	25.5	Hex.17	Hex.19	7.5

Socket S



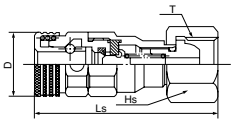
•For hose connection (SH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)					
				Ls	øD	A	øT	øJ	øBs
For Oxygen	S22SH	For 1/4", 5/16" hose	50	64.5	19.5	30	6.7	9.5	4.5
For Fuel Gas	S33SH	For 5/16", 3/8" hose	73	68.5	22	30	7.5	11	6
For Fuel Gas	S32SH*	For 1/4", 5/16" hose	74	72.5	22	30	6.2	9	4.5



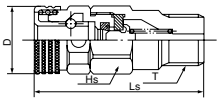
•For small diameter hose connection (SH)

Usage	Product code	Application	Mass (g)	Dimensions (mm)				
				Ls	øD	A	øBs	øT
For Oxygen	S225SH	For ø5 (ID) hose	54	62.5	20	21	3.2	6
For Fuel Gas	S335SH	For ø5 (ID) hose	65	63	20	21	3.2	6



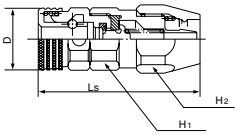
•For cylinder connection (SF)

Usage	Product code	Application	Mass (g)	Dimensions (mm)			
				Ls	øD	T	Hs
For Oxygen	S22SF	For oxygen gauge	74	52.5	19.5	M16 x 1.5	Hex.19
For Fuel Gas	S33SF	For gas gauge	97	58	22	M16 x 1.5 left	Hex.19
For Oxygen	S23SF*	For oxygen gauge	82	54.5	19.5	BS 3/8	Hex.21
For Fuel Gas	S33SF*	For gas gauge	88	59.5	22	BS 3/8 left	Hex.21



•For centralized piping (SM)

Usage	Product code	Application	Mass (g)	Dimensions (mm)			
				Ls	øD	Hs	T
For Oxygen	S22SM	Rc1/4 (PT1/4)	58	48.5	19.5	Hex.18	R1/4
For Fuel Gas	S33SM	Rc3/8 (PT3/8)	85	52.5	22	Hex.21	R3/8

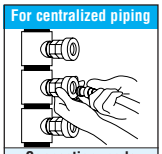
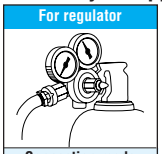
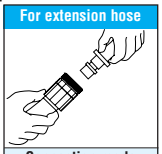
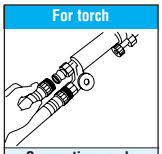


•For small diameter hose connection (SN)

Usage	Product code	Application	Mass (g)	Dimensions (mm)			
				Ls	øD	H_1	H_2
For Oxygen	S22SN	For ø5 x ø11 hose	74	52	19.5	Hex.17	Hex.19
For Fuel Gas	S33SN	For ø5 x ø11 hose	91	57.5	22	Hex.21	Hex.19

*Made-to-order item.

●Use in accordance with your application

For centralized piping	For regulator	For extension hose	For torch
			
Connection mode	Connection mode	Connection mode	Connection mode
SM X PH	SF X PH	SH X PH	SH X PF

Example of Usage

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

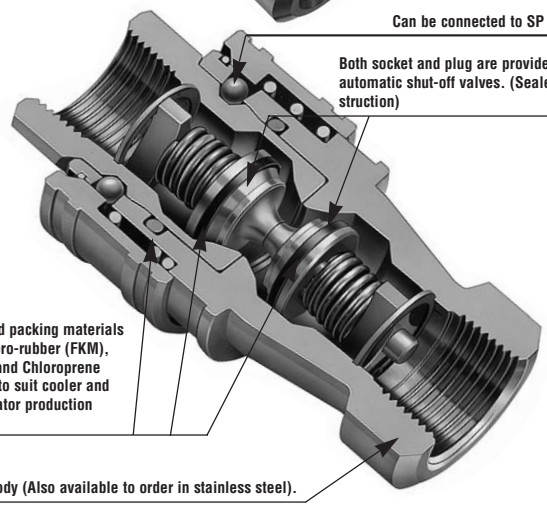
For inert gas, vacuum

SP-V Cupla

For vacuum

●Working pressure ●Valve structure ●Applicable fluids

5.0 MPa | Two-way shut-off | Inert gas, vacuum | Gas | Air | Water



Can be connected to SP Cupla.

Both socket and plug are provided with automatic shut-off valves. (Sealed construction)

Standard packing materials are Fluoro-rubber (FKM), H-NBR and Chloroprene rubber, to suit cooler and refrigerator production lines.

Brass body (Also available to order in stainless steel).

Automatic shut-off valves in socket and plug for vacuum applications. It can withstand a vacuum of 1.3×10^{-1} Pa even when disconnected.

- Uses automatic shut-off valves with ultra-tight sealed construction in socket and plug. Ideal for vacuum applications.
- Having automatic shut-off valves in both socket and plug simplifies the handling of the fluid. Suitable for a wide range of vacuum applications down to 1.3×10^{-1} Pa (1×10^{-3} mmHg) even when disconnected.
- Four types of packing materials are available to suit cooler and refrigerator production lines.
- Can be connected to SP Cupla, Charge Cupla CS and Charge Cupla CN models.

Specifications

Body material	Brass (standard material)		Stainless steel (standard material)	Stainless steel (order product)
Size	1/4", 3/8"	1/2", 3/4"	1/4", 3/8"	1/2", 3/4"
Working pressure MPa {kgf/cm²}	5.0 {51}	3.0 {31}	7.5 {76}	4.5 {46}
Pressure resistance MPa {kgf/cm²}	7.5 {76}	4.5 {46}	10.0 {102}	6.5 {66}
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	Chloroprene rubber	X-306	-20°C ~ +80°C	Standard material
		C308	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Standard material
	H-NBR	H708	-20°C ~ +120°C	Standard material

H-NBR : Hydrogen-added nitrile butadiene rubber

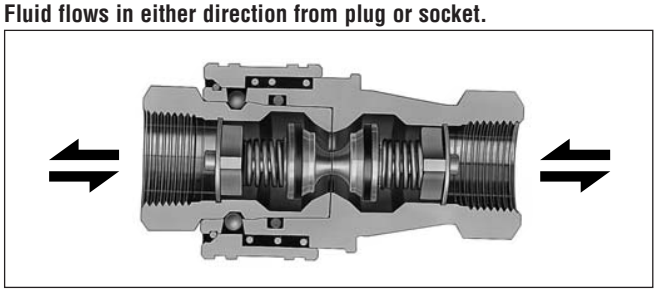
Max. Tightening Torque* N·m {kgf·cm}

Size		1/4"	3/8"	1/2"	3/4"
Torque	Brass	9 {92}	12{122}	30 {306}	50 {510}
	Stainless steel	14 {143}	22 {224}	60 {612}	90 {918}

*Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.
Interchangeable with SP Cuplas but take heed of flow rates.

Min. Cross-Sectional Area (mm²)

Product code	2SP-V	3SP-V	4SP-V	6SP-V
Min. cross-sectional area	17	44	62	143

Suitability for Vacuum Applications 1.3×10^{-1}Pa {1×10^{-3}mmHg}

•: Suitable

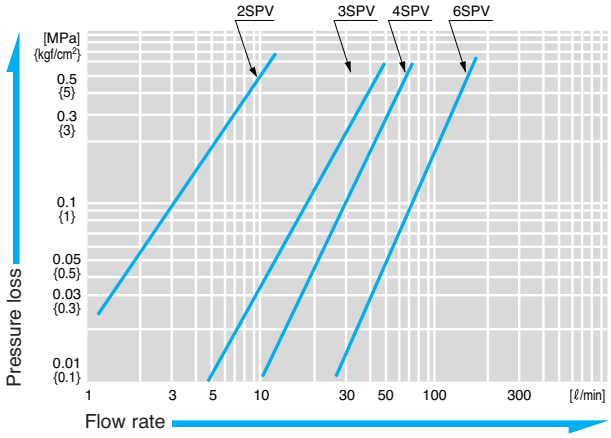
Socket only	Plug only	When connected
•	•	•

Admixture of Air on Connection (mℓ)

Product code	2SP-V	3SP-V	4SP-V	6SP-V
Volume of air	1.02	2.4	3.2	10.5

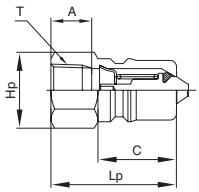
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46×10^{-6} m²/s •Specific gravity: 0.8661×10^3 kg/m³



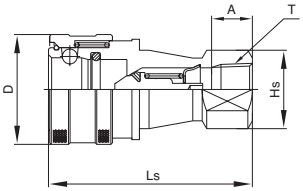
Product Codes and Dimensions Tables

Plug P



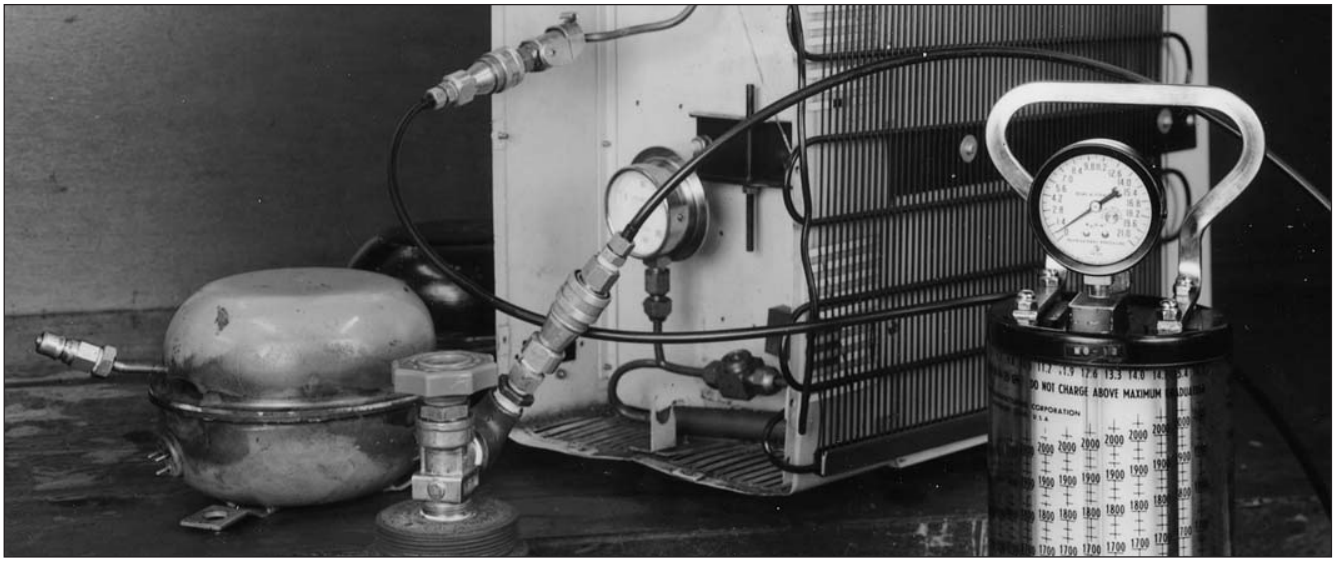
Product code	Application	Mass (g)		Dimensions (mm)				
		Brass	Stainless	Lp	Hp	C	A	T
2P-V	R1/4 (PT1/4)	38	35	36	Hex.17	22	13	Rc1/4
3P-V	R3/8 (PT3/8)	65	60	40	Hex.21	25	13	Rc3/8
4P-V	R1/2 (PT1/2)	134	124	44	Hex.29	28	15	Rc1/2
6P-V	R3/4 (PT3/4)	231	213	52	Hex.35	36	17	Rc3/4

S Socket



Product code	Application	Mass (g)		Dimensions (mm)				
		Brass	Stainless	Ls	ØD	Hs	A	T
2S-V	R1/4 (PT1/4)	145	134	58	28	Face 19 x ø22	13	Rc1/4
3S-V	R3/8 (PT3/8)	227	209	65	35	Face 21 x ø25	13	Rc3/8
4S-V	R1/2 (PT1/2)	466	431	72	45	Face 29 x ø35	15	Rc1/2
6S-V	R3/4 (PT3/4)	773	714	88	55	Face 35 x ø41	17	Rc3/4

Example of Usage



▲ Vacuum extraction

Packing materials for alternative fluorocarbons (HFC134a)

Freon R11 and R12 gas coolants for car air conditioners and refrigerators have been replaced by an alternative fluorocarbon. After spending many years on the research and development of packing materials that are resistant to fluorocarbons and freezer oils, we turned without delay to the development and commercializing of packing materials that are resistant to alternative fluorocarbons (HFC134a, HFC407C, HFC410A and HFC404A).

	Packing material	
	H-NBR (Hydrogen-added nitrile butadiene rubber)	Chloroprene rubber
Nitto symbol	H708	C308 (X-306)
Advantages	Resistant to Freon HFC134a substitutes (HFC134a, HFC407C, HFC410A, HFC404A) and PAG type and ester type oils. Heat resistant to 120°C	Excellent resistance to conventional Freons (R12 and R22) and Freon HFC134a substitutes.
Applications	Refrigerator production lines, Air conditioner production lines	Air conditioner production lines

About GN Types :

In made-to-order products, GN Types that have lost their compatibility with standard products SP-V can also correspond.

Example :

3S-V standard ◄ OK ► 3P-V standard ◄ NG ► 3S-V-GN

3S-V-GN ◄ OK ► 3P-V-GN ◄ NG ► 3S-V standard

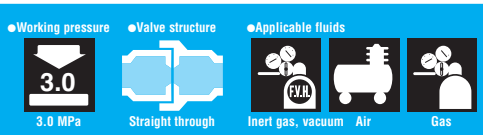
Application example :
This is effective for avoiding Cupla confusion leading to filling with the wrong coolant medium in air conditioner manufacturing processes when R-22 and R-410A air conditioners are manufactured in the same line .

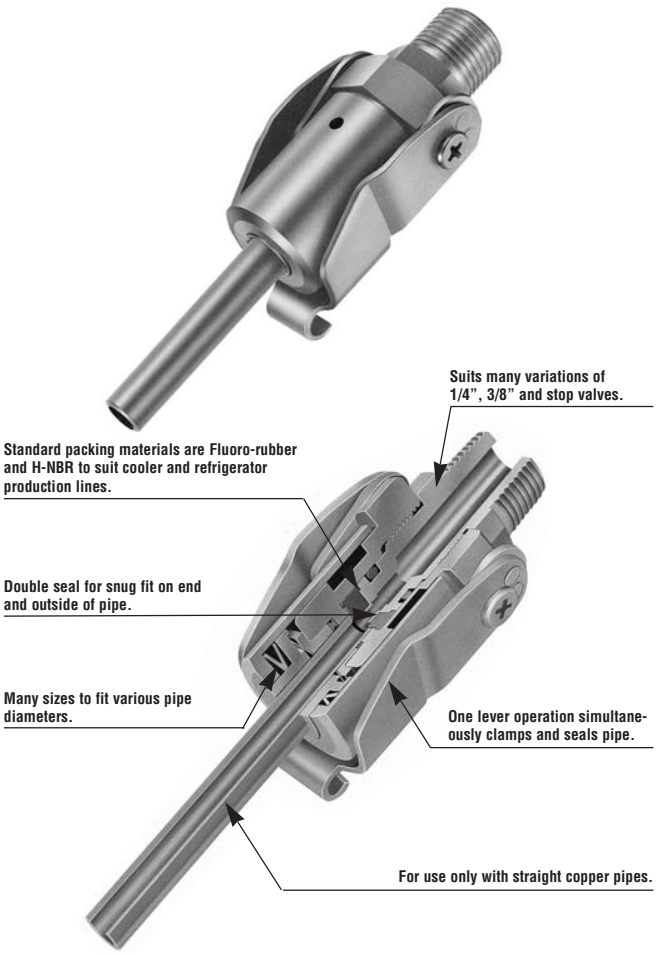
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For inert gas, vacuum

PCV Pipe Cupla

For connection to copper pipe





Clamps directly on straight copper pipe! Double seal construction withstands a vacuum of 1.3 x 10^{-1} Pa

- **Clamps directly on straight copper pipe, no need for welding or flaring.**
- **Withstands vacuum of 1.3 x 10^{-1} Pa (when connected) to enable use in pressure testing, evacuation and coolant medium refilling.**
- **Three standard types of packing materials to enable use with fluids for cooler and refrigerator production lines. Many sizes to suit various pipe diameters.**
- **One lever operation simultaneously clamps and seals pipe. Double seal construction for snug fit on end and outside surface of pipe ensures excellent sealing and vacuum resistance.**

Specifications

Product code	PCV-400	PCV-470	PCV-500	PCV-600	PCV-630	PCV-800	PCV-950	PCV-1000	PCV-1270	PCV-1590
Copper pipe size	ø4.0	ø4.76 (3/16")	ø5.0	ø6.0	ø6.35 (1/4")	ø8.0 (5/16")	ø9.52 (3/8")	ø10.0	ø12.7 (1/2")	ø15.88 (5/8")
Body material	Brass									
Working pressure MPa {kgf/cm²}	3.0 {31}								2.0 {20}	
Pressure resistance MPa {kgf/cm²}	4.5 {46}								3.2 {33}	

Packing material, Working temperature range	Packing material	Nitto symbol	Working temp.	Remarks
	Chloroprene rubbers	X-306	-20˚C ~ +80˚C	Standard material
		C308	-20˚C ~ +80˚C	Standard material
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material
	H-NBR	H708	-20˚C ~ +80˚C	Standard material

H-NBR : Hydrogen-added nitrile butadiene rubber

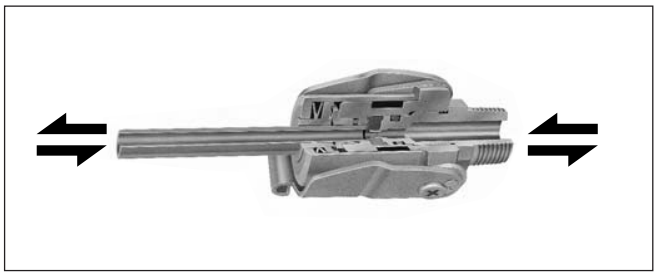
Max. Tightening Torque* N·m {kgf·cm}

Size	1/4"	3/8"
Torque	12 {122}	20 {204}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Provided the pipe size is the same, a pipe with a different fitting shape can be connected.
If the insertion part of the coupling is the same size, a pipe with a different size can be connected

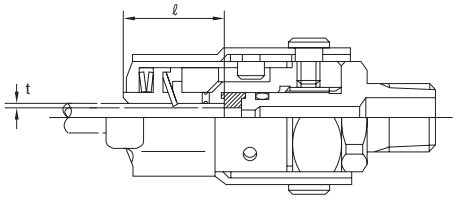
Min. Cross-Sectional Area (mm²)

Product code	PCV-400	PCV-470	PCV-500	PCV-600	PCV-630	PCV-800	PCV-950	PCV-1000	PCV-1270	PCV-1590
Area	6.12	6.12	6.12	12.56	12.56	23.75	38.48	38.48	73.80	78.53

Suitability for Vacuum Applications 1.3 x 10^{-1}Pa {1 x 10^{-3}mmHg} ●: Suitable

Only when a pipe is connected
●

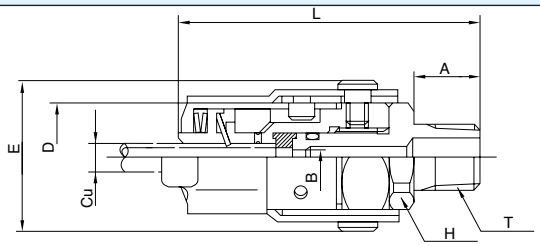
Length and Essential Wall Thickness of Pipe (mm)



Items marked * are made-to-order products.

Product code	Length of pipe (ℓ)	Essential wall thickness of pipe (t)
PCV-400*	19	0.8 or more
PCV-470		
PCV-500*		
PCV-600		
PCV-630		
PCV-800	20.5	
PCV-950		
PCV-1000*	30	1.0 or more
PCV-1270		
PCV-1590		

Product Codes and Dimensions Tables

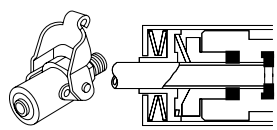
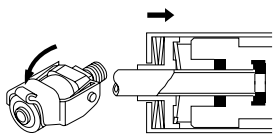


Product code	Pipe O.D. (Cu)	Product code	Size (T)	Mass (g)	Dimensions (mm)					
					L	A	H	øB	øD	E
PCV-400*	ø4.0	PCV-400-2	R1/4 (PT1/4)	155	60	12	Hex.17	2.8	22.2	32.4
		PCV-400-3	R3/8 (PT3/8)	155	61	13	Hex.19			
PCV-470	ø4.76 (3/16")	PCV-470-2	R1/4 (PT1/4)	155	61	12	Hex.17	2.8	22.2	32.4
		PCV-470-3	R3/8 (PT3/8)	160	62	13	Hex.19			
		PCV-470-0	Stop valve	160	49	-	Hex.14	-		
PCV-500*	ø5.0	PCV-500-2	R1/4 (PT1/4)	155	60	12	Hex.17	2.8	22.2	32.4
		PCV-500-3	R3/8 (PT3/8)	155	61	13	Hex.19			
PCV-600	ø6.0	PCV-600-2	R1/4 (PT1/4)	150	60	12	Hex.17	4.0	22.2	32.4
		PCV-600-3	R3/8 (PT3/8)	155	61	13	Hex.19			
		PCV-600-0	Stop valve	155	49	-	Hex.14	-		
PCV-630	ø6.35 (1/4")	PCV-630-2	R1/4 (PT1/4)	145	61	12	Hex.17	4.0	22.2	32.4
		PCV-630-3	R3/8 (PT3/8)	150	62	13	Hex.19			
		PCV-630-0	Stop valve	150	49	-	Hex.14	-		
PCV-800	ø8.0 (5/16")	PCV-800-2	R1/4 (PT1/4)	175	62.5	12	Hex.17	5.5	24.8	35.4
		PCV-800-3	R3/8 (PT3/8)	180	63.5	13	Hex.19			
		PCV-800-0	Stop valve	185	50.5	-	Hex.17	-		
PCV-950	ø9.52 (3/8")	PCV-950-2	R1/4 (PT1/4)	175	62.5	12	Hex.17	7.0	24.8	35.4
		PCV-950-3	R3/8 (PT3/8)	180	63.5	13	Hex.19			
		PCV-950-0	Stop valve	180	50.5	-	Hex.17	-		
PCV-1000*	ø10.0	PCV-1000-2	R1/4 (PT1/4)	155	62.5	12	Hex.17	7.0	24.8	35.4
		PCV-1000-3	R3/8 (PT3/8)	155	63.5	13	Hex.19			
PCV-1270	ø12.7 (1/2")	PCV-1270-3	R3/8 (PT3/8)	465	80.7	13	Hex.24	9.7	34.8	45.0
		PCV-1270-0	Stop valve	475	67.7	-		-		
PCV-1590	ø15.88 (5/8")	PCV-1590-3	R3/8 (PT3/8)	435	80.7	13	Hex.24	10.0	34.8	45.0
		PCV-1590-0	Stop valve	445	67.7	-		-		

•For mass with plug add (brass) 2P-V: 38 g, 3P-V: 65 g; (stainless steel) 2P-V: 35 g, 3P-V: 60 g.

Items marked * are made-to-order products.

Clamping Structure

Before clamping	After clamping
	

When the lever is folded forward, the sleeve moves in the direction of the arrow, at the same time pressing the clamp to grip the copper pipe firmly and provide a tight seal.

Example of Usage

▲ Compressor pressure test

• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For gases and liquids

SP Cupla

For medium pressure and general purpose

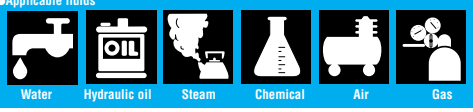
●Working pressure

5.0 MPa

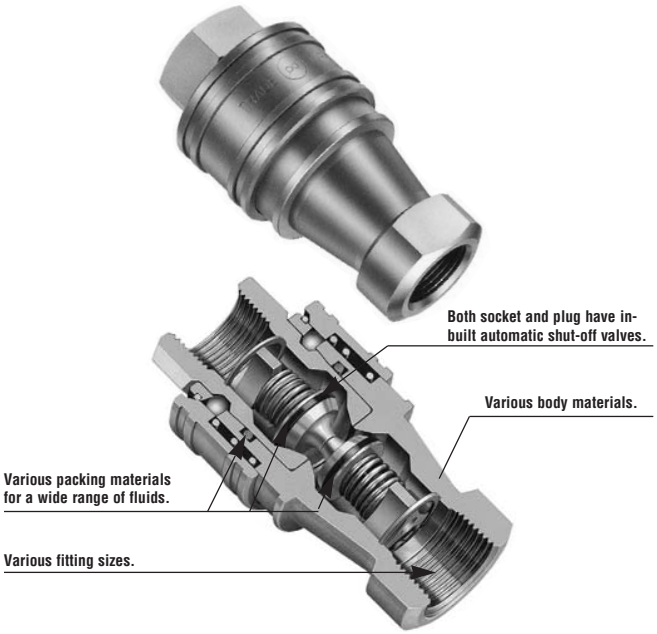
●Valve structure

Two-way shut-off

●Applicable fluids



Water Hydraulic oil Steam Chemical Air Gas



Socket and plug both have automatic shut-off valves for medium pressure applications! Available with various body materials, sizes and packing materials.

- **Both socket and plug are provided with automatic shut-off valves so that the fluid contained in the lines will not flow out on disconnection.**
- **Various semi-standard packing materials are available to suit a variety of fluids.**
- **Various semi-standard body materials and sizes are available to suit a wide range of medium pressure applications.**

Note: See pages 99 to 102 for the relationship between fluids and packing materials.

Specifications

Body material	Brass				Stainless steel*, Steel (zinc-plated)			
Size	1/8", 1/4", 3/8"	1/2", 3/4", 1"	1 1/4", 1 1/2"	2"	1/8", 1/4", 3/8"	1/2", 3/4", 1"	1 1/4", 1 1/2"	2"
Working pressure MPa {kgf/cm²}	5.0 {51}	3.0 {31}	2.0 {20}	1.5 {15}	7.5 {76}	4.5 {46}	3.0 {31}	2.0 {20}
Pressure resistance MPa {kgf/cm²}	7.5 {76}	4.5 {46}	3.0 {31}	2.3 {24}	10 {102}	6.5 {66}	4.5 {46}	3.0 {31}

Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Standard material
	FFKM	P	0°C ~ +50°C	Semi-standard items
	EPDM	E.P.T	-40°C ~ +150°C	Semi-standard items

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene rubber
FFKM :Perfluoroelastomer
*Standard stainless steel is SUS303 but SUS304 and SUS316 are also semi-standard items

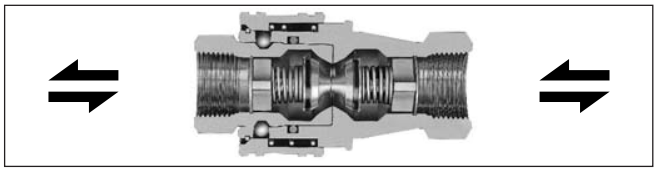
Max. Tightening Torque* N·m {kgf·cm}

Size		1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	Steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}
	Brass	5 {51}	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}	150 {1530}	150 {1530}	260 {2652}
	Stainless steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.
***Interchangeable with SP-V Cuplas but take heed of flow rates.**

Min. Cross-Sectional Area (mm²)

Product code	1SP type	2SP type	3SP type	4SP type	6SP type	8SP type	10SP type	12SP type	16SP type
Area	13	22	51	59	116	170	358	552	801

Suitability for Vacuum Applications 1.3 x 10⁻¹ Pa {1 x 10⁻³ mmHg} •: Suitable

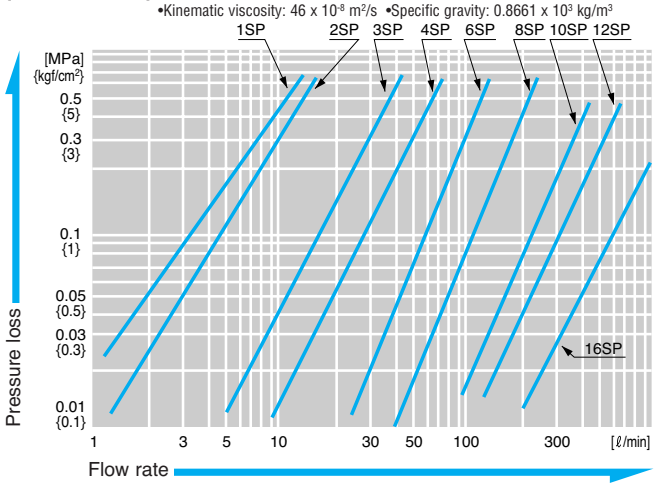
Socket only	Plug only	When connected
-	-	•

Admixture of Air on Connection (mℓ)

Product code	1SP type	2SP type	3SP type	4SP type	6SP type	8SP type	10SP type	12SP type	16SP type
Volume of air	0.52	1.02	2.4	3.2	10.5	17	27.2	29.8	60

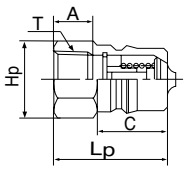
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10^{-8} m²/s •Specific gravity: 0.8661 x 10^3 kg/m³



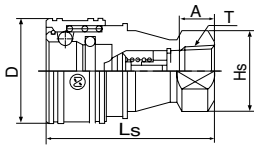
Product Codes and Dimensions Tables

Plug P



Product code	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless	Lp	C	A	Hp	T
1P	R1/8	19*3	21	19	29	19	11	Hex.14	Rc1/8
2P	R1/4	35	38	35	36	22	13	Hex.17	Rc1/4
3P	R3/8	60	65	60	40	25	13	Hex.21	Rc3/8
4P	R1/2	123	134	124	44	28	15	Hex.29	Rc1/2
6P	R3/4	212	231	213	52	36	17	Hex.35	Rc3/4
8P	R1	350	381	352	62	40	20	Hex.41	Rc1
10P	R1 1/4	568	605	595	70	45	24	Hex.54*1	Rc1 1/4
12P	R1 1/2	821	870	840	75	49	24	Hex.63*2	Rc1 1/2
16P	R2	1,410	1,538	1,459	80	52	27	Face 77 x ø84	Rc2

S Socket

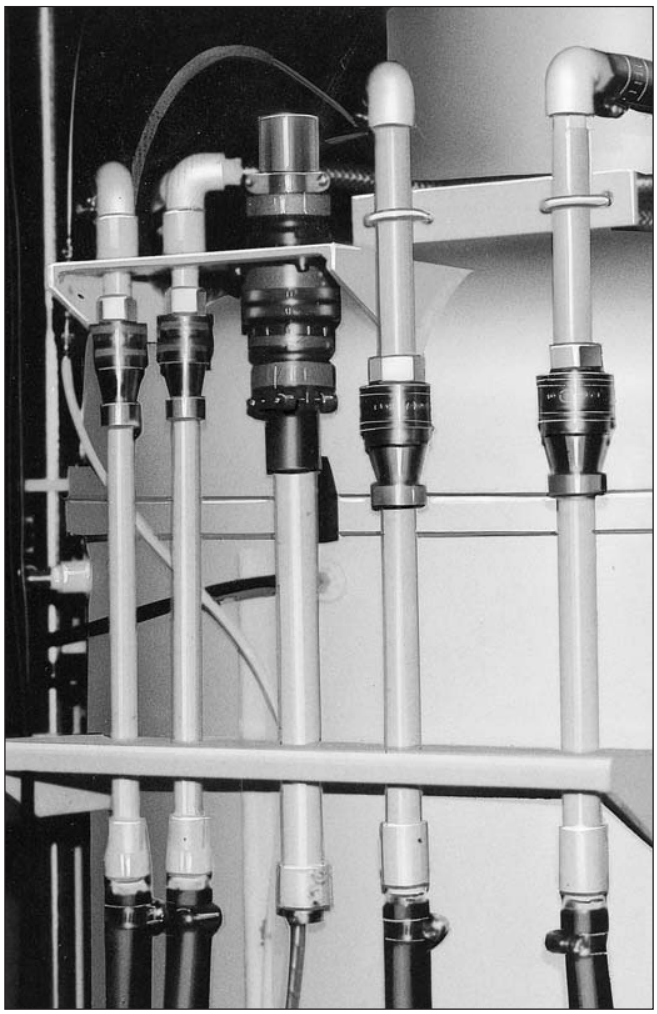


Product code	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless	Ls	øD	A	Hs	T
1S	R1/8	85*3	93	86	48	24	11	Face 14 x ø18	Rc1/8
2S	R1/4	133	145	134	58	28	13	Face 19 x ø22	Rc1/4
3S	R3/8	208	227	209	65	35	13	Face 21 x ø25	Rc3/8
4S	R1/2	428	466	431	72	45	15	Face 29 x ø35	Rc1/2
6S	R3/4	710	773	714	88	55	17	Face 35 x ø41	Rc3/4
8S	R1	1,000	1,089	1,006	102	65	20	Face 41 x ø48	Rc1
10S	R1 1/4	1,565	1,678	1,585	115	77	24	Face 54 x ø59	Rc1 1/4
12S	R1 1/2	2,331	2,499	2,354	124	88	24	Face 63 x ø69	Rc1 1/2
16S	R2	3,602	3,852	3,645	132	108	27	Face 77 x ø86	Rc2

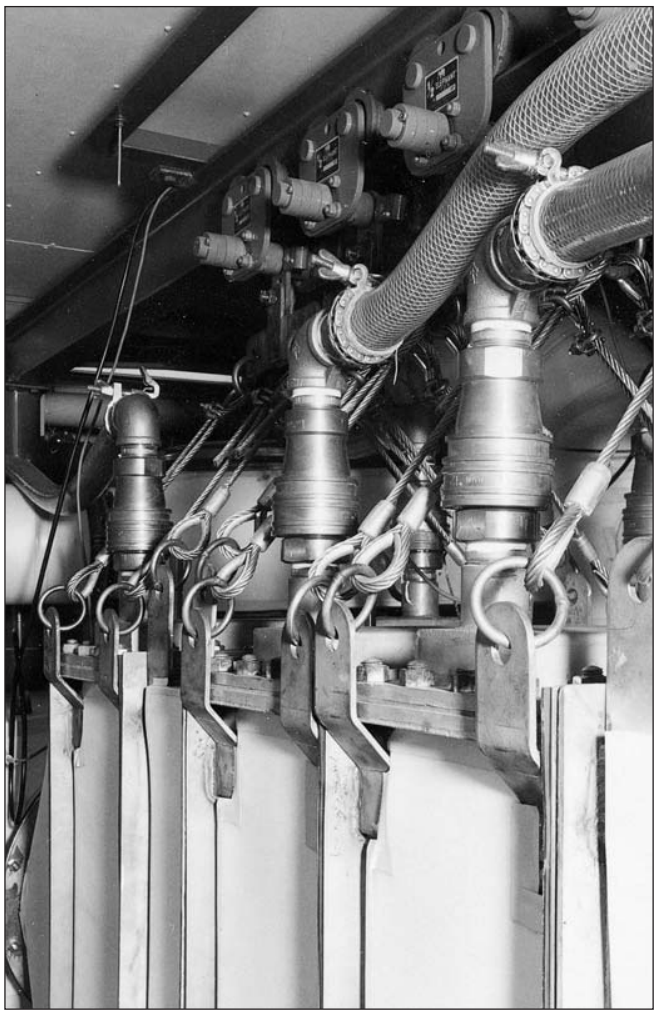
*1 Stainless steel: 2Hex.54 x ø59 *2 Stainless steel: 2Hex.63 x ø67 *3 1S (steel) and 1P (steel) are made-to-order items.
Semi-standard stainless steels (SUS304, 316) have a different appearance from the above illustrations

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Example of Usage



▲Ion nitriding equipment coolant piping



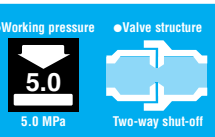
▲Brewing equipment

For gases and liquids

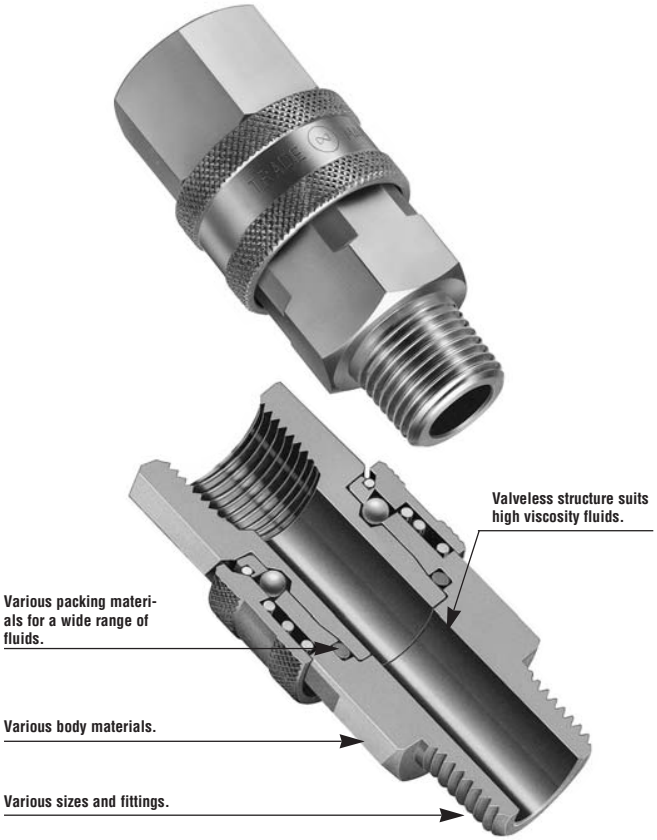
TSP Cupla

For medium pressure and general purpose

●Working pressure ●Valve structure



●Applicable fluids



Valveless structure suits viscous fluids!
Various body materials, sizes and fitting types

- Valveless construction greatly reduces pressure loss and enable high flow rates.
- Suitable for viscous fluids (such as grease).
- Available in various standard body materials, sizes and fitting types to cope with a wide variety of applications and conditions.

Note: See pages 99 to 102 for the relationship between fluids and packing materials.

Specifications

Body material	Brass				Stainless steel, Steel (zinc-plated)			
Size	1/8", 1/4", 3/8" 1/2"	3/4", 1"	1 1/4", 1 1/2"	2"	1/8", 1/4", 3/8" 1/2"	3/4", 1"	1 1/4", 1 1/2"	2"
Working pressure MPa {kgf/cm²}	5.0 {51}	3.0 {31}	2.0 {20}	1.5 {15}	7.5 {76}	4.5 {46}	3.0 {31}	2.0 {20}
Pressure resistance MPa {kgf/cm²}	7.5 {76}	4.5 {46}	3.0 {31}	2.3 {24}	10 {102}	6.5 {66}	4.5 {46}	3.0 {31}

Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Standard material
	FFKM	P	0°C ~ +50°C	Semi-standard items
	EPDM	E.P.T	-40°C ~ +150°C	Semi-standard items

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene rubber
FFKM : Perfluoroelastomer
*Standard stainless steel is SUS303 but SUS304 and SUS316 are also semi-standard items

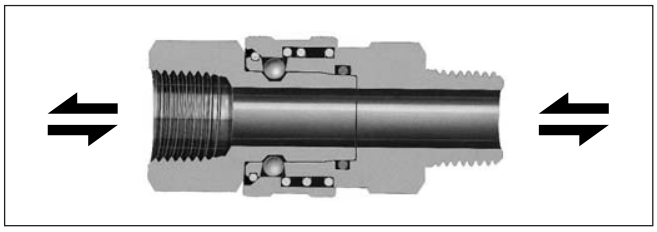
Max. Tightening Torque* N·m {kgf·cm}

Size		1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	Steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}
	Brass	5 {51}	9 {92}	12 {122}	30 {306}	50 {510}	65 {663}	150 {1530}	150 {1530}	260 {2652}
	Stainless steel	9 {92}	14 {143}	22 {224}	60 {612}	90 {918}	120 {1224}	260 {2652}	280 {2856}	500 {5100}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Provided they are the same size, sockets and plugs can be interconnected irrespective of the type of fitting.

Min. Cross-Sectional Area (mm²)

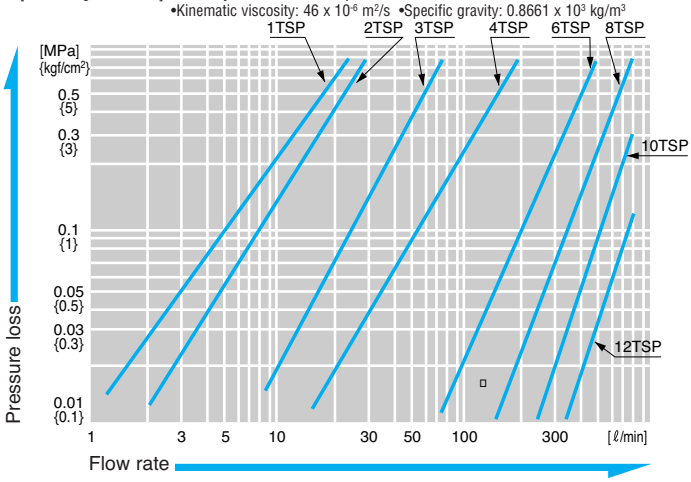
Product code / Fitting types	1TSP (1/8")	2TSP (1/4")	3TSP (3/8")	4TSP (1/2")	6TSP (3/4")	8TSP (1")	10TSP (1 1/4")	12TSP (1 1/2")	16TSP (2")
H type (Hose nipple)	7 (ø3)	19.6 (ø5)	38 (ø7)	78.5 (ø10)	176 (ø15)	283 (ø19)	530 (ø26)	804 (ø32)	1256 (ø40)
M/F type (male / female thread)	15.9 (ø4.5)	33 (ø6.5)	78.5 (ø10)	132 (ø13)	226 (ø17)	452 (ø24)	804 (ø32)	1134 (ø38)	1885 (ø49)

Suitability for Vacuum Applications 1.3 x 10⁻¹ Pa {1 x 10⁻³ mmHg} •: Suitable

Socket only	Plug only	When connected
-	-	•

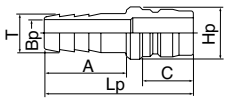
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661 x 10^{3} kg/m³



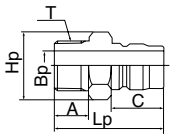
Product Codes and Dimensions Tables

Plug P



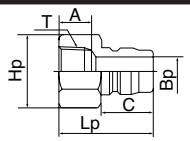
•For hose connection (TPH)

Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Lp	øHp	A	C	øT	øBp
1TPH	For 1/8" hose	12*4	13	15	41	12	20	15.5	6.5	3
2TPH	For 1/4" hose	21	23	21	53	14	29	18	8	5
3TPH	For 3/8" hose	38	41	38	60	18	32	21	11	7
4TPH	For 1/2" hose	71	77	71	70	22	39	24	15	10
6TPH	For 3/4" hose	134	146	135	84	28	48	28	21	15
8TPH	For 1" hose	327	356	329	105	40	57	36	27	19
10TPH	For 1 1/4" hose	495	530	500	121	48	70	39	34.5	26
12TPH	For 1 1/2" hose	665	715	660	132	55	75	45	41	32
16TPH	For 2" hose	1,330	1,430	1,345	142	70	80	51	54	40



•For female thread connection (TPM)

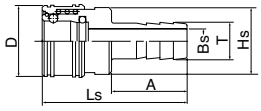
Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Lp	Hp	A	C	T	øBp
1TPM	Rc1/8	16*4	17	17	32	Hex.12	9	15.5	R1/8	4.5
2TPM	Rc1/4	30	33	30	38	Hex.17	13	18	R1/4	6.5
3TPM	Rc3/8	41	45	42	43	Hex.19	13	21	R3/8	10
4TPM	Rc1/2	81	88	81	52	Hex.22	17	24	R1/2	13
6TPM	Rc3/4	164	179	165	59	Hex.32	19	28	R3/4	17
8TPM	Rc1	273	297	274	73	Hex.41	22	36	R1	25
10TPM	Rc1 1/4	520	560	530	83	Hex.50	23	39	R1 1/4	32
12TPM	Rc1 1/2	655	705	665	93	Hex.54*1	26	45	R1 1/2	38
16TPM	Rc2	1,240	1,345	1,250	102	Face 75 x ø80	27	51	R2	50



•For male thread connection (TPF)

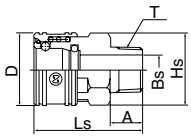
Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Lp	Hp	A	C	T	øBp
1TPF	R1/8	14*4	15	14	26	Hex.14	9	15.5	Rc1/8	4.5
2TPF	R1/4	28	31	29	34	Hex.17	13	18	Rc1/4	6.5
3TPF	R3/8	43	47	43	38	Hex.21	13	21	Rc3/8	10
4TPF	R1/2	103	113	104	45	Hex.29	17	24	Rc1/2	13
6TPF	R3/4	166	181	167	51	Hex.35	19	28	Rc3/4	17
8TPF	R1	321	350	323	60	Hex.41	22	36	Rc1	26
10TPF	R1 1/4	567	615	573	64	Hex.54*2	25	39	Rc1 1/4	32
12TPF	R1 1/2	703	763	630	75	Hex.58*3	25	45	Rc1 1/2	38
16TPF	R2	1,226	1,374	1,190	83	Face 77 x ø82	29	51	Rc2	50

S Socket



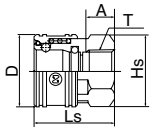
•For hose connection (TSH)

Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Ls	øD	øHs	A	øT	øBs
1TSH	For 1/8" hose	24*4	26	24	40	17.5	16	20	6.5	3
2TSH	For 1/4" hose	63	69	64	55	24	22	29	8	5
3TSH	For 3/8" hose	95	104	96	62	28	25	32	11	7
4TSH	For 1/2" hose	176	192	177	74	35	32	39	15	10
6TSH	For 3/4" hose	348	379	350	90	45	40	48	21	15
8TSH	For 1" hose	586	685	633	102	58	52	57	27	19
10TSH	For 1 1/4" hose	1,330	1 385	1,335	117	69	64	70	34.5	26
12TSH	For 1 1/2" hose	1,755	1,860	1,780	128	75	70	75	41	32
16TSH	For 2 hose	2,820	3,040	2,825	141	98	90	80	54	40



•For female thread connection (TSM)

Product code	Application	Mass (g)			Dimensions (mm)					
		Steel	Brass	Stainless	Ls	øD	Hs	A	T	øBs
1TSM	Rc1/8	25*4	27	26	30	17.5	Hex.14	9	R1/8	4.5
2TSM	Rc1/4	66	72	67	42	24	Hex.19	13	R1/4	6.5
3TSM	Rc3/8	99	108	100	46	28	Hex.23	13	R3/8	10
4TSM	Rc1/2	178	194	179	56	35	Hex.29	17	R1/2	13
6TSM	Rc3/4	343	374	346	65	45	Hex.38	19	R3/4	18
8TSM	Rc1	629	685	633	76	58	Hex.50	22	R1	24
10TSM	Rc1 1/4	950	1,025	955	86	69	Face 54 x ø62	25	R1 1/4	32
12TSM	Rc1 1/2	1,160	1,245	1,180	95	75	Face 58 x ø66	25	R1 1/2	38
16TSM	Rc2	1,990	2,110	2,000	108	98	Face 77 x ø82	29	R2	49

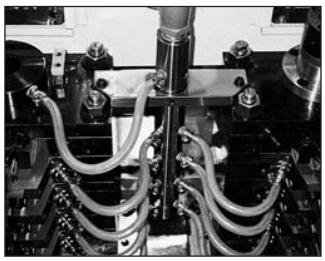


•For male thread connection (TSF)

Product code	Application	Mass (g)			Dimensions (mm)				
		Steel	Brass	Stainless	Ls	øD	Hs	A	T
1TSF	R1/8	25*4	27	25	27	17.5	Hex.14	9	Rc1/8
2TSF	R1/4	57	62	57	32	24	Hex.19	13	Rc1/4
3TSF	R3/8	83	90	83	35	28	Hex.23	13	Rc3/8
4TSF	R1/2	153	167	154	42	35	Hex.29	17	Rc1/2
6TSF	R3/4	288	314	289	48	45	Hex.38	19	Rc3/4
8TSF	R1	557	607	561	59	58	Hex.50	22	Rc1
10TSF	R1 1/4	821	888	815	64	69	Face 54 x ø62	23	Rc1 1/4
12TSF	R1 1/2	1,003	1,064	980	71	75	Face 58 x ø68.5	25	Rc1 1/2
16TSF	R2	1,726	1,865	1,675	80	98	Face 77 x ø82	27	Rc2

*1 Stainless steel: Face 54 x ø59 *2 Stainless steel: Face 54 x ø59 *3 Stainless steel: Face 58 x ø65 *4 1TSP (steel) types are made-to-order items.
Semi-standard stainless steels (SUS304, 316) have a different appearance from the above illustrations.

Example of Usage



▲ Machine tool cutting oil piping

▲ Car wash machines

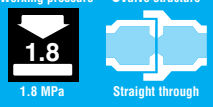
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Gases and Liquids

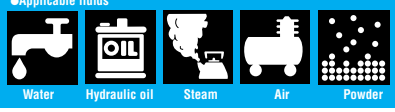
Lever Lock Cupla
Metal Type

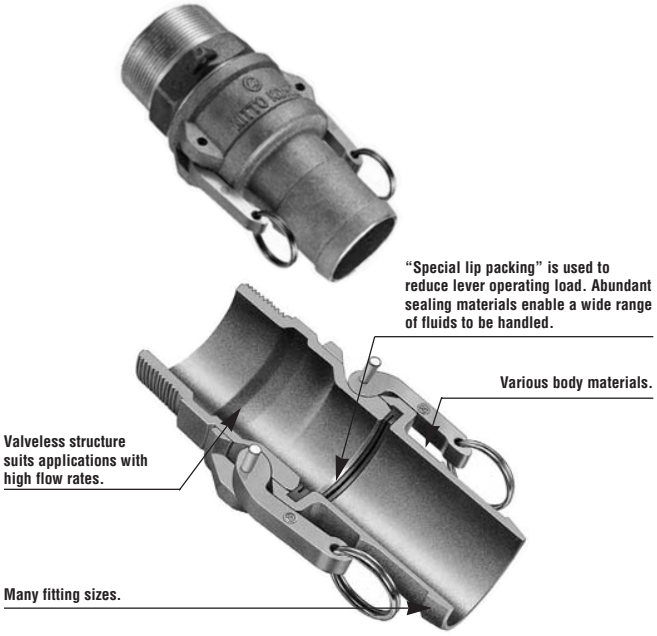
For large diameter, low pressure connections

●Working pressure ●Valve structure



●Applicable fluids





Transport liquids, gases, powders with a light lever operation! Rich array of body materials, sizes and fitting shapes.

- ●This Cupla enables a wide range of uses for transporting liquids, gases and powders.
- ●End seal structure means no internal bumps and hollows, ensuring smooth fluid transportation.
- ●Uses "special lip packing" (except 3/4", 1" and silicone rubber packing) for simple connection/disconnection with a light lever action. Excellent tensile strength when connected.
- ●Dimensions when connected comply with US military specification MIL-C-27487.
- ●All types of body materials, sizes and fitting shapes have been standardized to enable compatibility with wide-ranging applications.
- ●Safety further improved by stopper function. (Made-to-order product)

Specifications

Body material	Aluminum alloy (AL), Copper alloy (BR)				Stainless steel (SUS)		
Size	3/4" ~2"	2 1/2"	3"	4"	3/4" ~ 2"	2 1/2", 3"	4"
Working pressure MPa {kgf/cm²}	1.8 {18}	1.1 {11}	0.9 {9}	0.7 {7}	1.8 {18}	1.6 {16}	1.1 {11}
Pressure resistance MPa {kgf/cm²}	2.7 {27}	1.7 {17}	1.4 {14}	1.1 {11}	2.7 {27}	2.4 {24}	1.7 {17}

	Packing material	Nitto symbol	Working temp
Standard packing material, Working temp range	NBR	SG	-20ºC ~ +80ºC
Option packing material, Working temp range	Silicone rubber	SI	-40ºC ~ +150ºC
	Fluoro-rubber (FKM)	X-100	-20ºC ~ +180ºC
	EPDM	E.P.T	-40ºC ~ +150ºC
	Teflon *	TEF	+10ºC ~ +50ºC
	FEP-covered silicone rubber	Order product	

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene rubber
*Maximum working pressure: 0.2 MPa {2kgf/cm²}, Pressure resistance: 0.3 MPa {3 kgf/cm²}

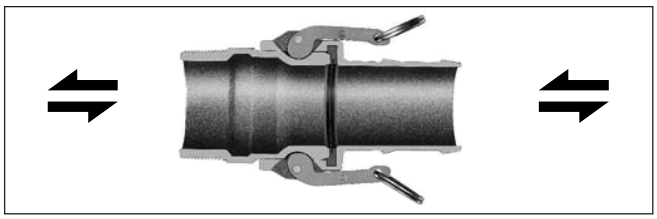
Max. Tightening Torque* N·m {kgf·cm}

Size		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Torque	Aluminum alloy/ Copper alloy	50 {510}	70 {714}	120 {1224}	140 {1428}	260 {2652}	350 {3570}	410 {4182}	470 {4794}
	Stainless steel	90 {918}	120 {1224}	220 {2244}	260 {2652}	350 {3570}	480 {4896}	520 {5304}	590 {6018}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Provided they are the same size, sockets and plugs can be interconnected irrespective of the type of fitting. Connection dimensions are compliant with MIL-C-27487.

Suitability for Vacuum Applications 53.0 kPa {400 mmHg} •: Suitable

Socket only	Plug only	When connected
-	-	•

Product Codes and Mass Tables

Type	Product code	Size (inch)	Mass (g) AL	BR	SUS
LE	LE-6TPH	3/4"	65	200	180
	LE-8TPH	1"	100	310	280
	LE-10TPH	1 1/4"	140	440	400
	LE-12TPH	1 1/2"	190	560	660
	LE-16TPH	2"	290	850	1,000
	LE-20TPH	2 1/2"	390	1,240	1,430
	LE-24TPH	3"	600	1,800	2,140
	LE-32TPH	4"	1,120	3,500	3,950
LA	LA-6TPF	3/4"	45	130	130
	LA-8TPF	1"	65	220	220
	LA-10TPF	1 1/4"	110	390	390
	LA-12TPF	1 1/2"	130	420	420
	LA-16TPF	2"	170	560	540
	LA-20TPF	2 1/2"	320	1,030	1,000
	LA-24TPF	3"	320	1,050	980
	LA-32TPF	4"	650	2,030	2,000

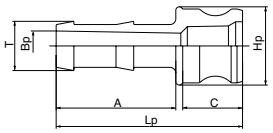
Type	Product code	Size (inch)	Mass (g) AL	BR	SUS
LF	LF-6TPM	3/4"	70	220	200
	LF-8TPM	1"	90	280	260
	LF-10TPM	1 1/4"	140	460	550
	LF-12TPM	1 1/2"	150	500	640
	LF-16TPM	2"	220	750	870
	LF-20TPM	2 1/2"	370	1,120	1,320
	LF-24TPM	3"	460	1,580	1,870
	LF-32TPM	4"	980	3,060	3,460
PD (cap for plug)	L-6PD	3/4"	120	270	250
	L-8PD	1"	160	340	310
	L-10PD	1 1/4"	290	610	560
	L-12PD	1 1/2"	300	620	570
	L-16PD	2"	350	620	570
	L-20PD	2 1/2"	440	980	970
	L-24PD	3"	730	1,670	1,530
	L-32PD	4"	1,050	2,700	2,460

Type	Product code	Size (inch)	Mass (g) AL	BR	SUS
LC	LC-6TSH	3/4"	140	320	300
	LC-8TSH	1"	190	420	400
	LC-10TSH	1 1/4"	320	700	670
	LC-12TSH	1 1/2"	350	760	730
	LC-16TSH	2"	430	1,010	990
	LC-20TSH	2 1/2"	560	1,240	1,400
	LC-24TSH	3"	1,080	2,360	2,370
	LC-32TSH	4"	1,370	3,700	3,400
LD	LD-6TSF	3/4"	130	310	300
	LD-8TSF	1"	190	430	400
	LD-10TSF	1 1/4"	330	730	680
	LD-12TSF	1 1/2"	360	770	760
	LD-16TSF	2"	420	990	940
	LD-20TSF	2 1/2"	550	1,300	1,310
	LD-24TSF	3"	860	2,120	1,950
	LD-32TSF	4"	1,340	3,590	3,400

Type	Product code	Size (inch)	Mass (g) AL	BR	SUS
LB	LB-6TSM	3/4"	110	–	–
	LB-8TSM	1"	170	–	–
	LB-10TSM	1 1/4"	310	–	–
	LB-12TSM	1 1/2"	340	–	–
	LB-16TSM	2"	400	–	–
	LB-20TSM	2 1/2"	530	–	–
	LB-24TSM	3"	830	–	–
	LB-32TSM	4"	1,290	–	–
SD (cap for socket)	L-6SD	3/4"	50	160	150
	L-8SD	1"	60	190	170
	L-10SD	1 1/4"	70	210	270
	L-12SD	1 1/2"	100	290	360
	L-16PD	2"	150	460	540
	L-20SD	2 1/2"	210	630	760
	L-24SD	3"	290	860	970
	L-32SD	4"	960	1,780	2,000

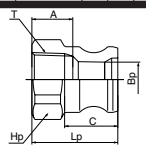
Product Codes and Dimensions Tables

Plug P



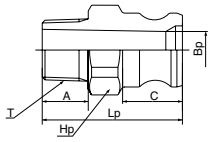
•For hose connection (LE)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	øHp	øT	øBp			Lp	A	C	øHp	øT	øBp
LE-6TPH	3/4"	87	52	26	34	21	13	LE-16TPH	2"	122	71	48	69	53	44
LE-8TPH	1"	101	58	34	40	27	20	LE-20TPH	2 1/2"	146	80	50	81	67	57
LE-10TPH	1 1/4"	102	58	40	48	34	26	LE-24TPH	3"	170	102	63	100	79	65
LE-12TPH	1 1/2"	107	61	42	58	41	32	LE-32TPH	4"	182	109	68	133	105	86



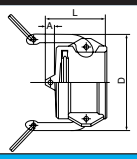
•For male thread connection (LA)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	Hp	øBp	T			Lp	A	C	Hp	øBp	T
LA-6TPF	3/4"	42	20	26	Hex.36	17	Rc3/4	LA-16TPF	2"	64	28	48	Oct.70	44	Rc2
LA-8TPF	1"	52	24	34	Hex.41	22	Rc1	LA-20TPF	2 1/2"	85	32	50	Oct.85	55	Rc2 1/2
LA-10TPF	1 1/4"	59	28	40	Hex.50	27	Rc1 1/4	LA-24TPF	3"	72	36	51	Oct.100	71	Rc3
LA-12TPF	1 1/2"	58	24	42	Hex.60	35	Rc1 1/2	LA-32TPF	4"	82	45	53	Oct.130	97	Rc4



•For female thread connection (LF)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	Hp	øBp	T			Lp	A	C	Hp	øBp	T
LF-6TPM	3/4"	61	20	26	Hex.36	18	R3/4	LF-16TPM	2"	90	27	48	Oct.65	44	R2
LF-8TPM	1"	73	24	34	Hex.41	22	R1	LF-20TPM	2 1/2"	101	32	50	Oct.80	56	R2 1/2
LF-10TPM	1 1/4"	81	26	40	Hex.50	28	R1 1/4	LF-24TPM	3"	106	36	51	Oct.95	71	R3
LF-12TPM	1 1/2"	81	24	42	Oct. 55	35	R1 1/2	LF-32TPM	4"	124	45	53	Oct.130	97	R4

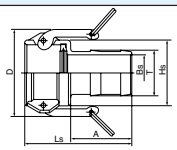


•Cap for plug (PD)

Product code	Size (inch)	Dimensions (mm)			Product code	Size (inch)	Dimensions (mm)		
		L	A	D			L	A	D
L-6PD	3/4"	43	8	61	L-16PD	2"	65	10	100
L-8PD	1"	51	8	61	L-20PD	2 1/2"	69	10	112
L-10PD	1 1/4"	57	9	82	L-24PD	3"	72	10	139
L-12PD	1 1/2"	58	10	90	L-32PD	4"	76	10	167

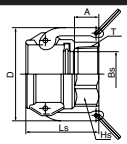
*Dimensions of products shown above may differ according to body material.

Socket S



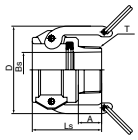
•For hose connection (LC)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Ls	A	D	øHs	øT	øBs			Ls	A	D	øHs	øT	øBs
LC-6TSH	3/4"	85	52	61	42	21	12	LC-16TSH	2"	123	71	100	76	53	41
LC-8TSH	1"	99	58	61	47	27	17.5	LC-20TSH	2 1/2"	137	80	112	90	67	56
LC-10TSH	1 1/4"	104	58	82	59	34	23	LC-24TSH	3"	161	102	139	108	79	65
LC-12TSH	1 1/2"	108	61	90	65	41	30	LC-32TSH	4"	172	109	167	139	105	86



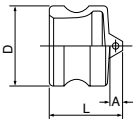
•For male thread connection (LD)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Ls	A	D	øHs	øBs	T			Ls	A	D	øHs	øBs	T
LD-6TSF	3/4"	53	20	61	Hex.36	21	Rc3/4	LD-16TSF	2"	80	27	100	Oct.70	49	Rc2
LD-8TSF	1"	65	24	61	Hex.41	26	Rc1	LD-20TSF	2 1/2"	89	32	112	Oct.85	59	Rc2 1/2
LD-10TSF	1 1/4"	73	26	82	Hex.50	34	Rc1 1/4	LD-24TSF	3"	95	36	139	Oct.100	73	Rc3
LD-12TSF	1 1/2"	71	24	90	Oct.60	39	Rc1 1/2	LD-32TSF	4"	107	45	167	Oct.130	94	Rc4



•For female thread connection (LB): Only aluminum alloy (copper alloy and stainless steel are order product)

Product code	Size (inch)	Dimensions (mm)					Product code	Size (inch)	Dimensions (mm)				
		Ls	A	D	øBs	T			Ls	A	D	øBs	T
LB-6TSM	3/4"	53	20	61	17	R3/4	LB-16TSM	2"	80	27	100	46	R2
LB-8TSM	1"	65	24	61	24	R1	LB-20TSM	2 1/2"	89	32	112	58	R2 1/2
LB-10TSM	1 1/4"	72	26	82	30	R1 1/4	LB-24TSM	3"	95	36	139	71	R3
LB-12TSM	1 1/2"	72	24	90	36	R1 1/2	LB-32TSM	4"	108	45	167	92	R4

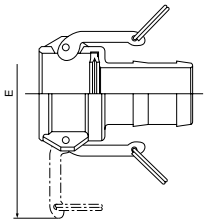


•Cap for socket (SD)

Product code	Size (inch)	Dimensions (mm)			Product code	Size (inch)	Dimensions (mm)		
		L	A	øD			L	A	øD
L-6SD	3/4"	36	8	32	L-16SD	2"	57	10	63
L-8SD	1"	42	8	37	L-20SD	2 1/2"	60	10	76
L-10SD	1 1/4"	50	9	46	L-24SD	3"	62	10	92
L-12SD	1 1/2"	50	8	53	L-32SD	4"	63	8	120

*Dimensions of products shown above may differ according to body material.

Dimensions with lever fully opened



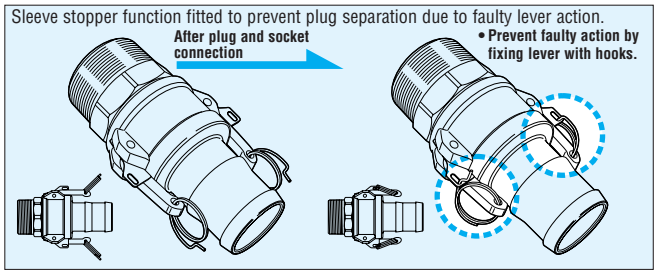
•This illustration is LC Type.

Size (inch)	Dimension (mm)
3/4"	122
1"	132
1 1/4"	183
1 1/2"	191

Size (inch)	Dimension (mm)
2"	201
2 1/2"	213
3"	250
4"	278

Stopper Function (Made-to-order product)

Sleeve stopper function fitted to prevent plug separation due to faulty lever action.



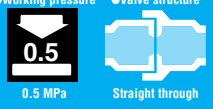
● Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For Gases and Liquids

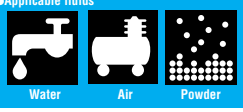
Lever Lock Cupla
Plastic Type

For large diameter, low pressure connections

●Working pressure ●Valve structure



●Applicable fluids



Lightweight polypropylene and glass (PP-G) resin with excellent corrosion resistance.

- Answers requirements for the transportation of various fluids such as liquids, gases or powders by connecting (locking) or disconnecting fluid lines with a light lever operation.
- End seal structure means unevenness on inside surface, ensuring smooth flow of fluid through the Cupla.
- Special lip packing (except 3/4" and 1"*) reduces lever operating load and increases tension on connection.
- Standardized size and type of fitting to suit your application.
- You can select from several packing materials (standard: Nitrile rubber) to suit the properties of your fluid.
- Connection dimensions are compatible with MIL-C-27487.

Specifications

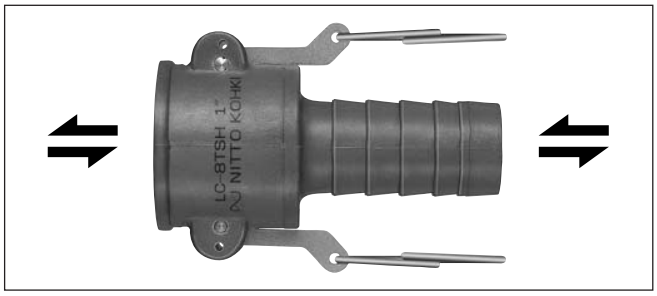
Body material	Polypropylene (PP)		
Size	3/4", 1",1 1/2"	2", 3"	
Working pressure MPa {kgf/cm²}*	0.5 {5}	0.2 {2}	
Pressure resistance MPa {kgf/cm²}*	0.7 {7}	0.35 {3.5}	
Standard packing material, Working temp	Packing material	Nitto symbol	Working temp
	NBR	SG	+5ºC ~ +50ºC
Option packing material, Working temp range	Silicone rubber	SI	+5ºC ~ +50ºC
	Fluoro-rubber (FKM)	X-100	+5ºC ~ +50ºC
	EPDM	E.P.T	+5ºC ~ +50ºC

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene rubber

*Pressure at 20ºC. Pressure reduces as temperature rises.

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Same size can be commected irrespective of the types of fitting of socket and plug.
Connection dimensions are compliant with MIL-C-27487.

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Product Codes and Mass Tables

Plug P

Type	Product code	Size (inch)	Mass (g) Plastic
LE	LE-6TPH	3/4"	17
	LE-8TPH	1"	32
	LE-12TPH	1 1/2"	77
	LE-16TPH	2"	125
	LE-24TPH	3"	252
LA	LA-6TPF	3/4"	28
	LA-8TPF	1"	42
	LA-12TPF	1 1/2"	75
	LA-16TPF	2"	112
	LA-24TPF	3"	181

Type	Product code	Size (inch)	Mass (g) Plastic
LF	LF-6TPM	3/4"	24
	LF-8TPM	1"	41
	LF-12TPM	1 1/2"	82
	LF-16TPM	2"	121
	LF-24TPM	3"	262
PD (cap for plug)	L-6PD	3/4"	68
	L-8PD	1"	73
	L-12PD	1 1/2"	203
	L-16PD	2"	225
	L-24PD	3"	388

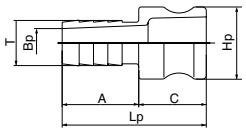
Socket S

Type	Product code	Size (inch)	Mass (g) Plastic
LC	LC-6TSH	3/4"	74
	LC-8TSH	1"	87
	LC-12TSH	1 1/2"	232
	LC-16TSH	2"	265
	LC-24TSH	3"	517
LD	LD-6TSF	3/4"	79
	LD-8TSF	1"	99
	LD-12TSF	1 1/2"	224
	LD-16TSF	2"	258
	LD-24TSF	3"	435

Type	Product code	Size (inch)	Mass (g) Plastic
LB	LB-6TSM	3/4"	73
	LB-8TSM	1"	86
	LB-12TSM	1 1/2"	211
	LB-16TSM	2"	239
	LB-24TSM	3"	430
SD (cap for socket)	L-6SD	3/4"	19
	L-8SD	1"	27
	L-12SD	1 1/2"	52
	L-16SD	2"	88
	L-24SD	3"	141

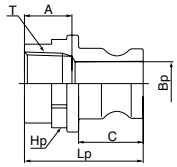
Product Codes and Dimensions Tables

Plug P



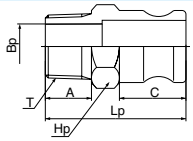
•For hose connection (LE)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	øHp	øBp	øT			Lp	A	C	øHp	øBp	øT
LE-6TPH	3/4”	65	35	30	32	13	20	LE-16TPH	2”	124	72	52	63	44	52
LE-8TPH	1”	91	57	34	37	21	27	LE-24TPH	3”	152	102	50	91	66	77
LE-12TPH	1 1/2”	99	60	39	53	30	40								



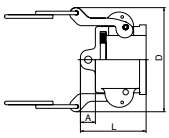
•For male thread connection (LA)

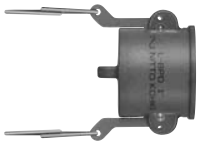
Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	Hp	øBp	T			Lp	A	C	Hp	øBp	T
LA-6TPF	3/4”	50	20	26	Hex.35	19	Rc3/4	LA-16TPF	2”	78	29	50	Sp.79	42	Rc2
LA-8TPF	1”	63	25	34	Hex.41	23	Rc1	LA-24TPF	3”	74	23	50	Sp.106	72	Rc3
LA-12TPF	1 1/2”	68	27	43	Sp.65	37	Rc1 1/2								



•For female thread connection (LF)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Lp	A	C	Hp	øBp	T			Lp	A	C	Hp	øBp	T
LF-6TPM	3/4”	63	20	29	Hex.32	19	R3/4	LF-16TPM	2”	90	30	47	Sp.79	48	R2
LF-8TPM	1”	70	22	34	Hex.39	23	R1	LF-24TPM	3”	98	28	50	Sp.106	71	R3
LF-12TPM	1 1/2”	79	24	42	Sp.65	37	R1 1/2								

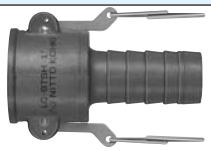


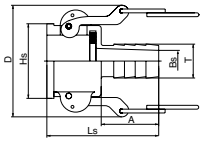


•Cap for plug (PD)

Product code	Size (inch)	Dimensions (mm)			Product code	Size (inch)	Dimensions (mm)		
		L	A	D			L	A	D
L-6PD	3/4”	43	9	65	L-16PD	2”	69	13	107
L-8PD	1”	50	10	71	L-24PD	3”	79	17	136
L-12PD	1 1/2”	61	12	101					

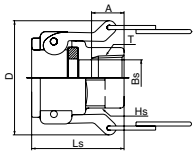
S Socket





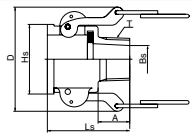
•For hose connection (LC)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Ls	A	D	øHs	øBs	øT			Ls	A	D	øHs	øBs	øT
LC-6TSH	3/4”	86	51	67	46	14	22	LC-16TSH	2”	126	73	106	80	44	52
LC-8TSH	1”	96	56	73	49	20	27	LC-24TSH	3”	160	101	135	108	66	77
LC-12TSH	1 1/2”	110	60	100	71	30	41								



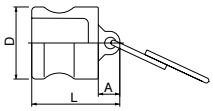
•For male thread connection (LD)

Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Ls	A	D	Hs	øBs	T			Ls	A	D	Hs	øBs	T
LD-6TSF	3/4”	53	19	67	Hex.35	20	Rc3/4	LD-16TSF	2”	79	25	111	Sp.79	49	Rc2
LD-8TSF	1”	66	24	76	Hex.41	27	Rc1	LD-24TSF	3”	83	23	142	Sp.106	73	Rc3
LD-12TSF	1 1/2”	70	27	99	Sp.65	42	Rc1 1/2								



•For female thread connection (LB)

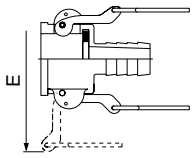
Product code	Size (inch)	Dimensions (mm)						Product code	Size (inch)	Dimensions (mm)					
		Ls	A	D	øHs	øBs	T			Ls	A	D	øHs	øBs	T
LB-6TSM	3/4”	54	20	65	44	19	R3/4	LB-16TSM	2”	82	27	107	80	48	R2
LB-8TSM	1”	62	22	70	49	22	R1	LB-24TSM	3”	89	29	137	110	73	R3
LB-12TSM	1 1/2”	70	24	99	71	39	R1 1/2								



•Cap for socket (SD)

Product code	Size (inch)	Dimensions (mm)			Product code	Size (inch)	Dimensions (mm)		
		L	A	øD			L	A	øD
L-6SD	3/4”	40	10	32	L-16SD	2”	65	12	63
L-8SD	1”	43	9	37	L-24SD	3”	65	14	91
L-12SD	1 1/2”	50	13	53					

Dimensions with lever fully opened



Size (inch)	Dimension E (mm)
3/4”	115
1”	113
1 1/2”	184
2”	192
3”	239

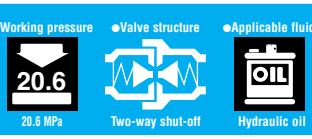
- **Before use, please be sure to read “Requests Regarding Use” at the end of this book and “Notices and Points to be Observed” attached to the product.**

For Hydraulics

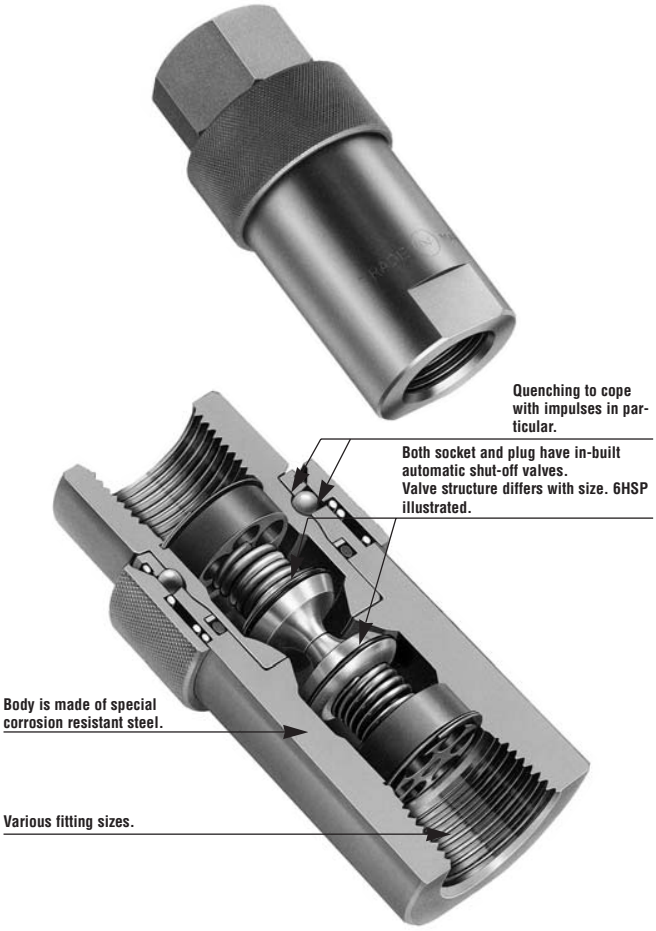
HSP Cupla

For hydraulic pressures up to 20.6 MPa {210 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids



20.6 MPa — Two-way shut-off — Hydraulic oil



Chrome-molybdenum steel body resists vibration and impact! Low pressure loss suits hydraulic equipment.

- ●Quenched chrome-molybdenum steel body! Powerful anti-impact resistance, especially to impulses.
- ●Structure suppresses pressure loss, particularly suitable for hydraulic applications needing big fluid flow rate.
- ●Automatic shut-off valves in both socket and plug prevent fluid outflow on disconnection. Simple to handle.
- ●HSP-C Cuplas (with working pressures up to 27.5 MPa) are available for diecasting machine applications with severe pressure variation

Specifications

Body material	Special steel (Chrome-molybdenum steel), zinc-plated		
Size	1/4", 3/8", 1/2", 3/4", 1"	1 1/4", 1 1/2"	2"
Working pressure MPa {kgf/cm²}	20.6 {210}	18.0 {183}	14.0 {142}
Pressure resistance MPa {kgf/cm²}	31.0 {316}	26.5 {270}	20.6 {210}

Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Semi Standard

NBR : Nitrile butadiene rubber

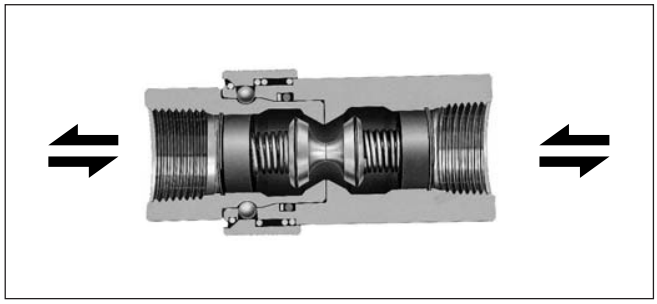
Max. Tightening Torque* N·m {kgf·cm}

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}	290 {2958}	350 {3570}	500 {5100}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

(4HSP and 6HSP) and (10HSP and 12HSP) are interchangeable. Other combinations of different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

Product code	2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP
Area	17	30	77	77	145	203	595	595	1084

Suitability for Vacuum Applications 1.3 x 10⁻¹ Pa {1 x 10⁻³ mmHg}

•: Suitable

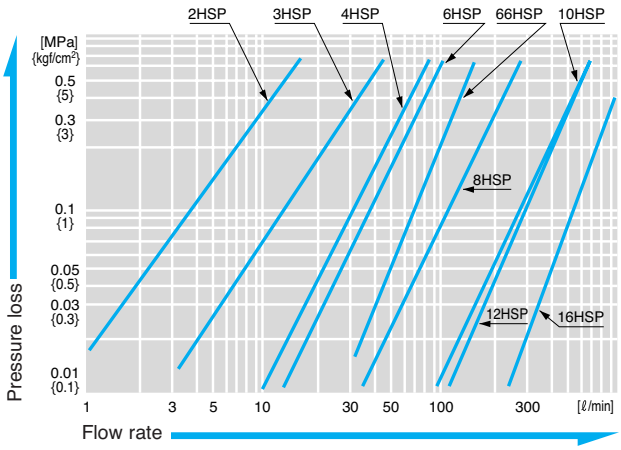
Socket only	Plug only	When connected
–	–	•

Admixture of Air on Connection (mℓ)

Product code	2HSP	3HSP	4HSP	6HSP	66HSP	8HSP	10HSP	12HSP	16HSP
Volume of air	0.64	1.84	3.47	3.47	8.20	12.40	44.00	44.00	156.00

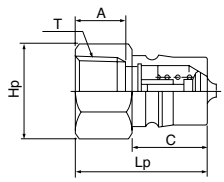
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661x10^{3} kg/m³



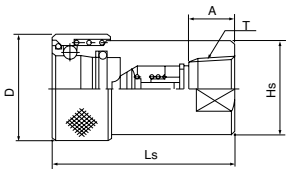
Product Codes and Dimensions Tables

Plug P



Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	Hp	A	T
2HP	R1/4	44	32	17.5	Hex.19 x ø20.5	12	Rc1/4
3HP	R3/8	72	38	22.5	Hex.23 x ø25	13	Rc3/8
4HP	R1/2	138	44	27.5	Hex.29 x ø32.5	16	Rc1/2
6HP	R3/4	145	50	27.5	Hex.32 x ø35	18	Rc3/4
66HP	R3/4	232	51	28	Face 35 x ø40	18	Rc3/4
8HP	R1	332	61	36	Face 41 x ø47	23	Rc1
10HP	R1 1/4	894	80	58	Face 58 x ø64	24	Rc1 1/4
12HP	R1 1/2	956	80	58	Face 58 x ø64	24	Rc1 1/2
16HP	R2	1,513	115	83	Face 90 x ø100	32	Rc2

Socket S



Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	Hs	A	T
2HS	R1/4	136	49	27.5	Face 19 x ø23.9	12	Rc1/4
3HS	R3/8	220	60	33	Face 23 x ø28.6	13	Rc3/8
4HS	R1/2	482	72	43	Face 35 x ø38.5	16	Rc1/2
6HS	R3/4	452	72	43	Face 35 x ø38.5	18	Rc3/4
66HS	R3/4	569	78.5	47	Face 35 x ø41.3	18	Rc3/4
8HS	R1	1,020	93	58	Face 46 x ø52.2	23	Rc1
10HS	R1 1/4	2,344	138	87	Face 58 x ø64	24	Rc1 1/4
12HS	R1 1/2	1,597	138	87	Face 58 x ø64	24	Rc1 1/2
16HS	R2	3,699	198	123	Face 80 x ø90	32	Rc2

Semi-standard optional items (sleeve stopper mechanisms)

Prevent accidental disconnection by locking sleeve after Cupla is connected.

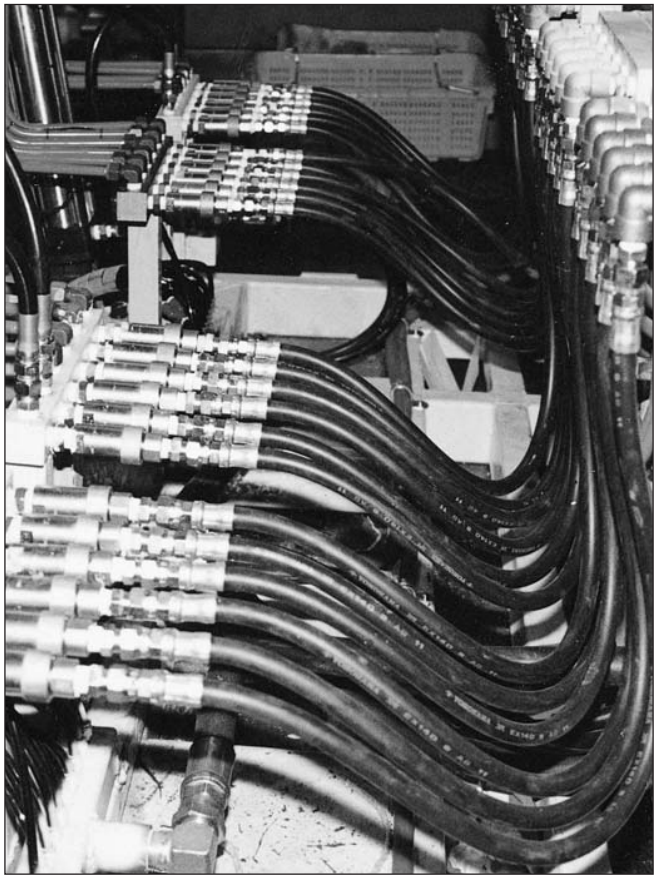
Cupla with single lock

See explanations of functions on page 98.

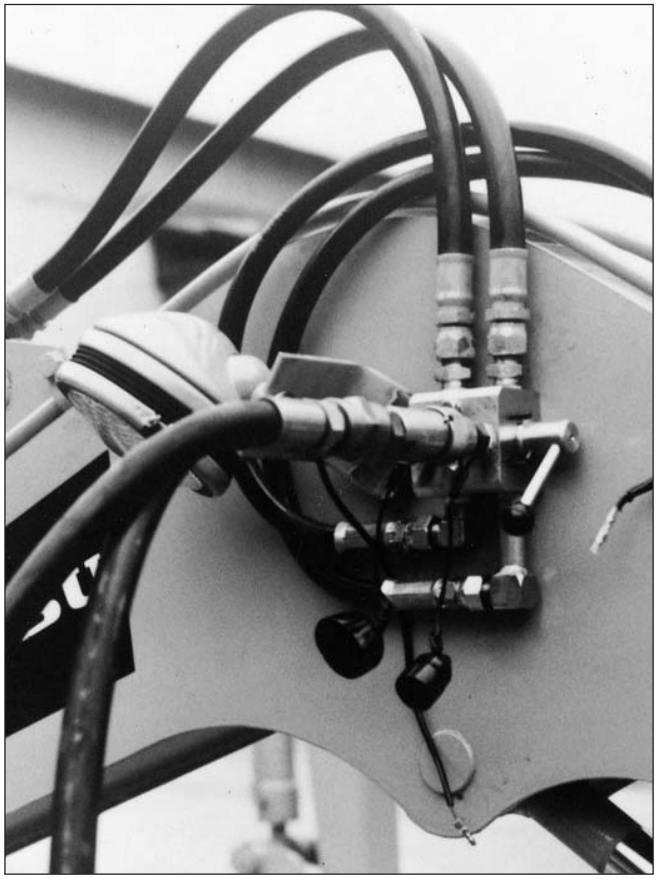
Cupla with safety lock

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Example of Usage



▲Hydraulic unit



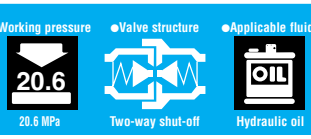
▲Civil engineering machinery

For Hydraulics

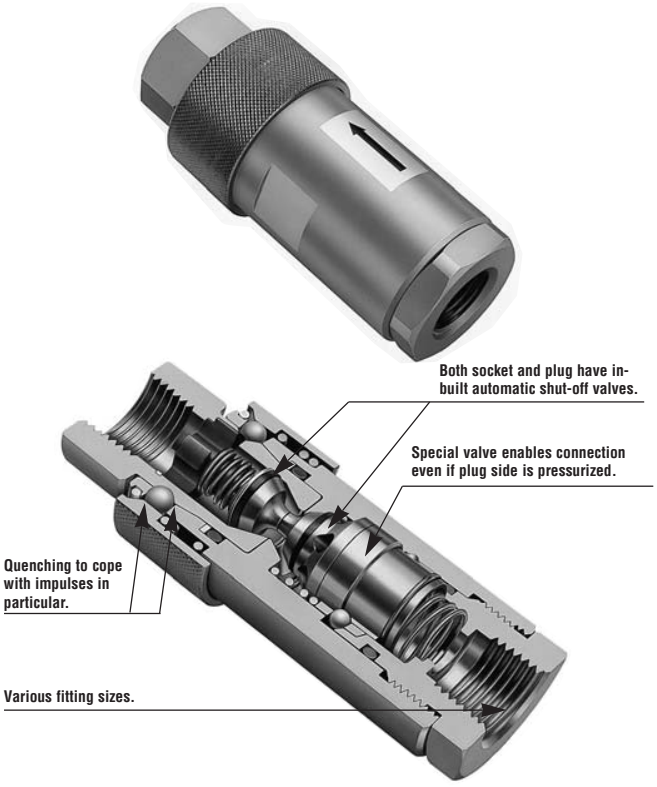
Super HSP Cupla

Connects hydraulic piping with residual plug pressure up to 20.6 MPa {210 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids



20.6 MPa — Two-way shut-off — Hydraulic oil



Can be connected even with residual pressure in plug. This Cupla shows its power in jobs with frequent connection of pressurized hydraulic lines.

- Super HSP Cupla can be connected lightly and easily, even when connecting a hydraulic line with residual pressure on the plug side.
- Plugs from previous HSP Cuplas can be used. However, please use plugs from "Lot No. 11 or later".
- For impact resistance, especially impulses, special quenched steel is used for the body. This ensures stable performance over a long period.
- Structure reduces pressure loss, particularly suitable for hydraulic applications where fluid flow is essential. Both socket and plug have in-built automatic shut-off valves to prevent fluid outflow on disconnection.

Specifications

Body material	Special steel (zinc-plated)			
Size	1/4", 3/8", 1/2", 3/4", 1"			
Working pressure MPa {kgf/cm²}	20.6 {210}			
Pressure resistance MPa {kgf/cm²}	31.0 {316}			
Allowable residual plug pressure	7.0 MPa {70 kgf/cm²}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material

NBR : Nitrile butadiene rubber

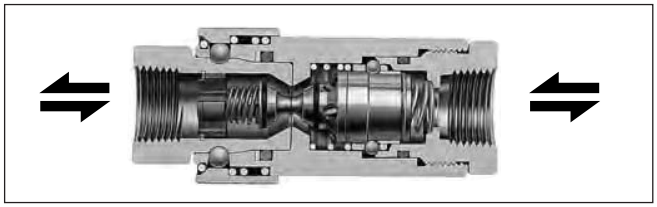
Max. Tightening Torque* N·m {kgf·cm}

Size	2HS-RP	3HS-RP	4HS-RP	6HS-RP	8HS-RP
Torque	28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Note: With the socket valve locked, pass fluid for at least 30 seconds at a pressure at least 1 MPa more than the residual pressure on the plug side.

Interchangeability

Plugs from previous HSP Cuplas can be used. However, please use plugs from "Lot No. 11 or later".

Min. Cross-Sectional Area (mm²)

When connected to a HSP Cupla

Product code	2HS-RPx2HP	3HS-RPx3HP	4HS-RPx4HP	6HS-RPx6HP	8HS-RPx8HP
Area	17	30	77	77	203

Suitability for Vacuum Applications 1.3 Pa {1 x 10⁻² mmHg}

●: Suitable

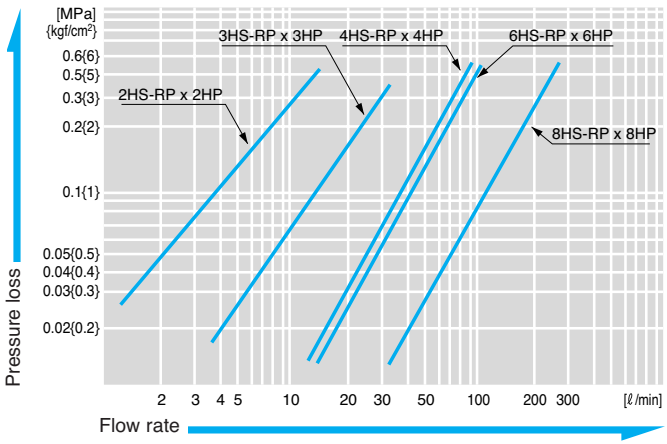
Socket only	Plug only	When connected
–	–	●

Admixture of Air on Connection (mℓ)

Produce code	2HS-RP	3HS-RP	4HS-RP	6HS-RP	8HS-RP
Volume of air	0.64	1.84	3.47	3.47	12.4

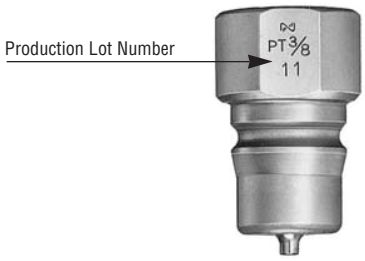
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661x10^3 kg/m³



Product Codes and Dimensions Tables

Plug P

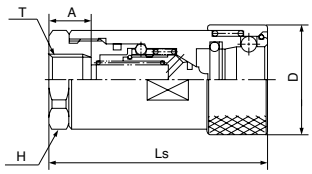


Plugs from previous HSP Cuplas can be used. However, please use plugs from "Production Lot No. 11 or later".

Production Lot Number indication

The two-digit production lot number is stamped on a spanner flat. The first digit is the final number of the year and the second digit indicates the month. October, November and December are X, Y and Z. Example: 11 = 1991, January.

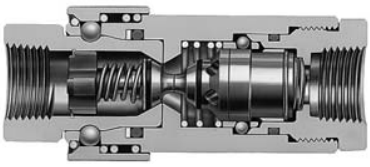
S Socket



Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	H	A	T
2HS-RP	R1/4	160	57.5	27.5	Hex.21	13	Rc1/4
3HS-RP	R3/8	275	72.0	33	Hex.27	13	Rc3/8
4HS-RP	R1/2	570	88.5	43	Hex.35	16	Rc1/2
6HS-RP	R3/4	550	90.5	43	Hex.35	18	Rc3/4
8HS-RP	R1	1,230	114	58	Hex.46	20	Rc1

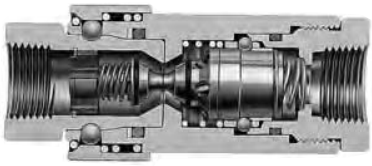
How to use Super HSP Cupla

(1) Connected with residual pressure on the plug side



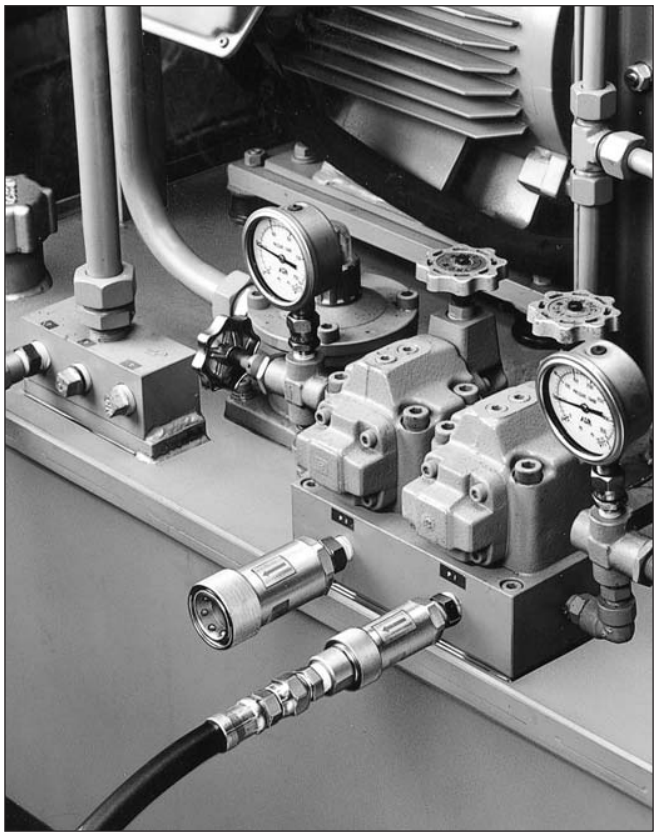
When the socket is connected to the plug under residual pressure, the socket valve opens but the valve on the plug side does not open because of the residual internal pressure. However, in this state, the connection of socket and plug is complete.

(2) Valve open and locked with pressure (residual pressure plus 1.0 MPa {10 kgf/cm²} or more) from the socket side.

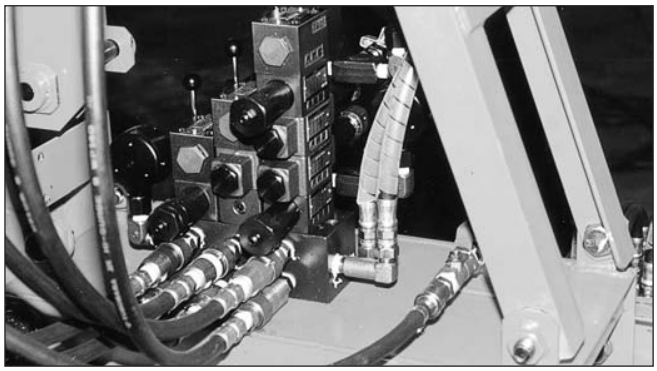


In condition (1), when pressure (residual pressure plus 1.0 MPa) and fluid flows for 30 seconds or more, the plug valve opens under that pressure and fluid flows. At this time the ball marked completely locks the socket valve. With the valve in the locked condition, the fluid can flow from either the socket side or the plug side.

Example of Usage



▲ Hydraulic unit



▲ Hydraulic unit

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

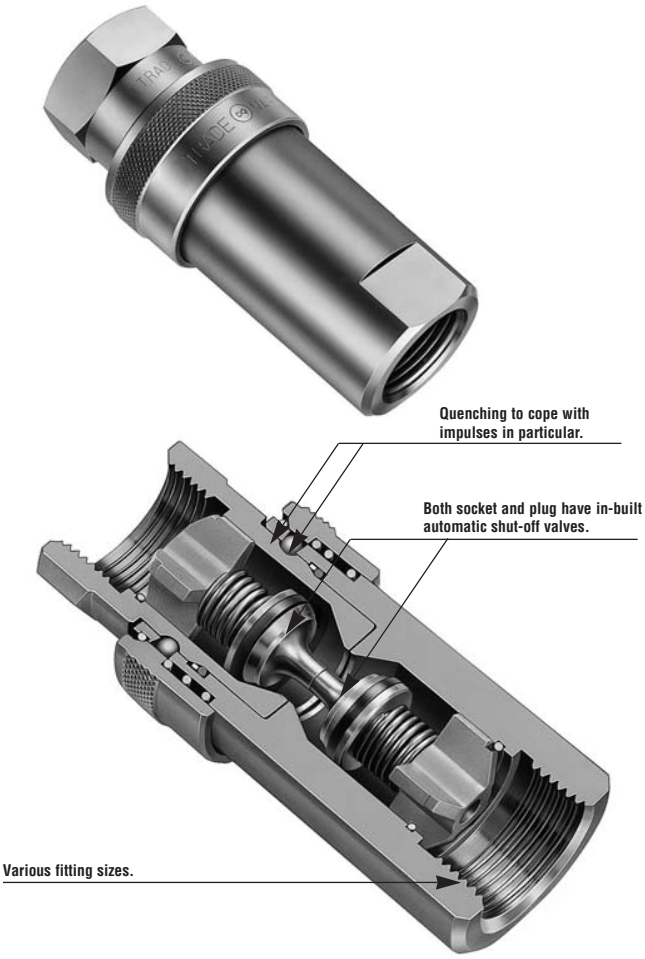
For Hydraulics

210 Cupla

For hydraulic pressures up to 20.6 MPa {210 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids

20.6 MPa | Two-way shut-off | Oil | Gas



Popular hydraulic Cuplas for general purpose with a working pressure of 20.6 MPa.
Low pressure loss, suitable for hydraulic equipment.

- **General purpose hydraulic Cuplas with a working pressure of 20.6 MPa {210 kgf/cm²}.**
- **Structure reduces pressre loss extremely, especially suited to hydraulic applications when big flow rate is needed.**
- **Both socket and plug have built-in automatic shut-off valves that prevent fluid outflow on disconnection. Simple to handle.**

Specifications

Body material	Carbon steel (zinc-plated)			
Size	1/4", 3/8", 1/2", 3/4", 1			
Working pressure MPa {kgf/cm²}	20.6 {210}			
Pressure resistance MPa {kgf/cm²}	31.0 {316}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20ºC ~ +80ºC	Standard material
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material

NBR : Nitrile butadiene rubber

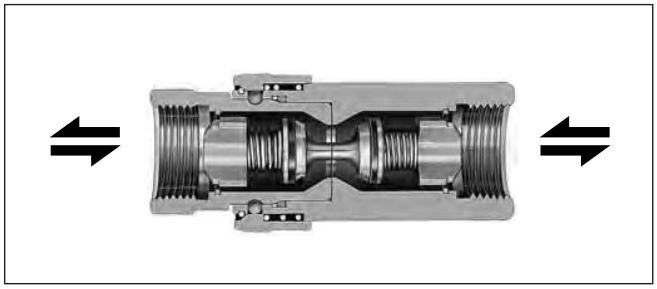
Max. Tightening Torque* N·m {kgf·cm}

Size	1/4"	3/8"	1/2"	3/4"	1"
Torque	28 {286}	45 {459}	90 {918}	100 {1020}	180 {1836}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

Product code	210-2SP	210-3SP	210-4SP	210-6SP	210-8SP
Area	24.5	42.8	77.4	146.5	235.6

Suitability for Vacuum Applications 1.3 Pa {1 x 10⁻²mmHg}

●: Suitable

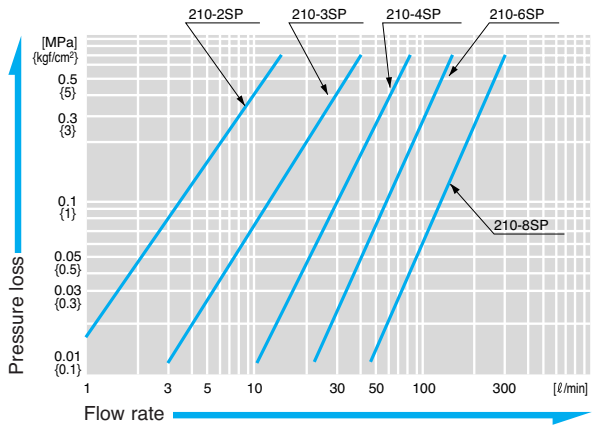
Socket only	Plug only	When connected
–	–	●

Admixture of Air on Connection (mℓ)

Product code	210-2SP	210-3SP	210-4SP	210-6SP	210-8SP
Volume of air	0.85	1.02	2.63	8.83	16.04

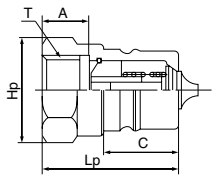
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30˚C±5˚C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661x10^3 kg/m³



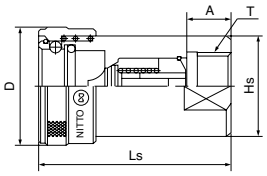
Product Codes and Dimensions Tables

Plug P



Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	Hp	A	T
210-2P	R1/4	39	33	18	Hex.19	13	Rc1/4
210-3P	R3/8	57	36	18.5	Hex.23	14	Rc3/8
210-4P	R1/2	90	42.5	24	Hex.27	15.5	Rc1/2
210-6P	R3/4	195	51	28	Hex.35	18	Rc3/4
210-8P	R1	293	61	35	Hex.41	19.5	Rc1

S Socket



Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	Hs	A	T
210-2S	R1/4	158	50.5	30	Face 22 x ø25	13	Rc1/4
210-3S	R3/8	193	54	33	Face 23 x ø27.5	14	Rc3/8
210-4S	R1/2	330	65	39	Face 29 x ø34	15.5	Rc1/2
210-6S	R3/4	566	78.5	48	Face 35 x ø41.3	18	Rc3/4
210-8S	R1	861	95	55	Face 41 x ø47.8	19.5	Rc1

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Example of Usage

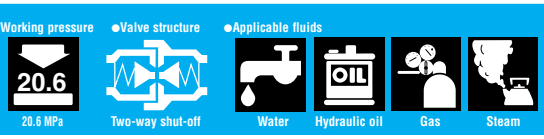
▲ Hydraulic control equipment

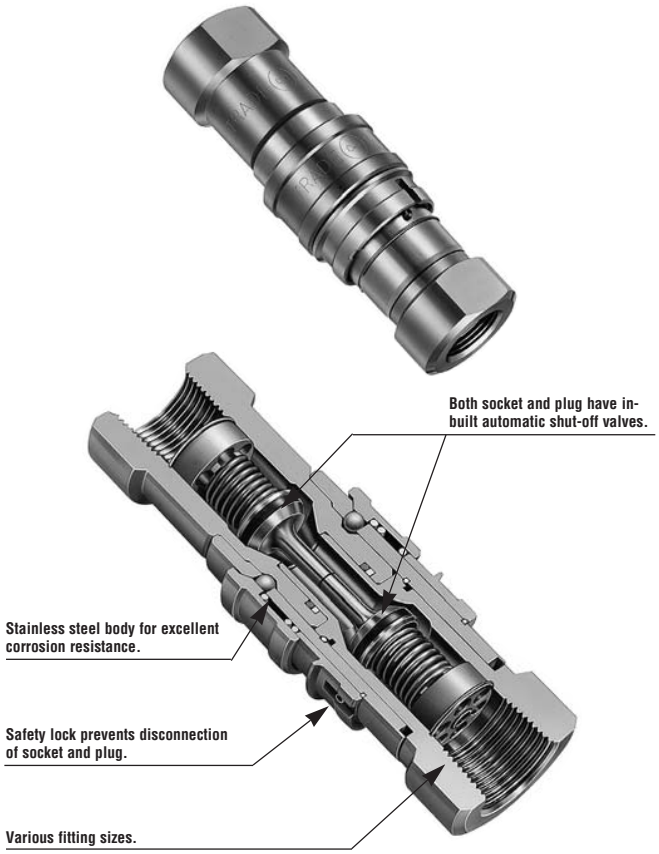
▲ Civil engineering machinery

For Hydraulics

S210 Cupla

Stainless steel Cupla for high pressure of 20.6 MPa {210 kgf/cm²}





Stainless steel for excellent corrosion resistance! Exclusive "inner seal mechanism" permits a working pressure of 20.6 MPa.

- **Stainless steel body for excellent corrosion resistance. Suitable for use in harsh environments such as ocean development.**
- **Although it is stainless steel, the unique "inner seal mechanism" enables a working pressure of 20.6 MPa, the same as steel.**
- **Safety lock ensures tight connection against vibration or impact (prevents accidental disconnection).**
- **Both socket and plug have built-in automatic shut-off valves that prevent fluid outflow on disconnection. Simple to handle.**

Specifications

Body material	Stainless steel (SUS 304)			
Size	1/4", 3/8", 1/2", 3/4", 1			
Working pressure MPa {kgf/cm²}	20.6 {210}			
Pressure resistance MPa {kgf/cm²}	31.0 {316}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material
	NBR	SG	-20˚C ~ +80˚C	Order product

NBR : Nitrile butadiene rubber

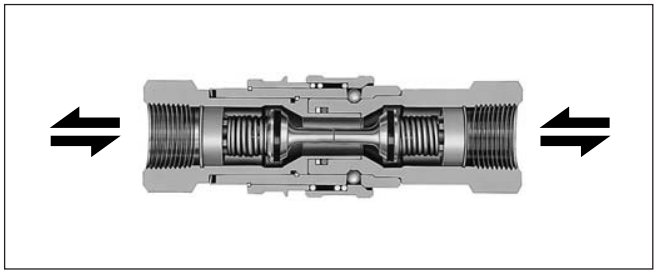
Max. Tightening Torque* N·m {kgf·cm}

Size	1/4"	3/8"	1/2"	3/4"	1"
Torque	28 {286}	35 {357}	70 {714}	100 {1020}	180 {1836}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

Product code	S210-2SP	S210-3SP	S210-4SP	S210-6SP	S210-8SP
Area	26	47	84	153	233

Suitability for Vacuum Applications 1.3 Pa {1 x 10⁻²mmHg}

•: Suitable

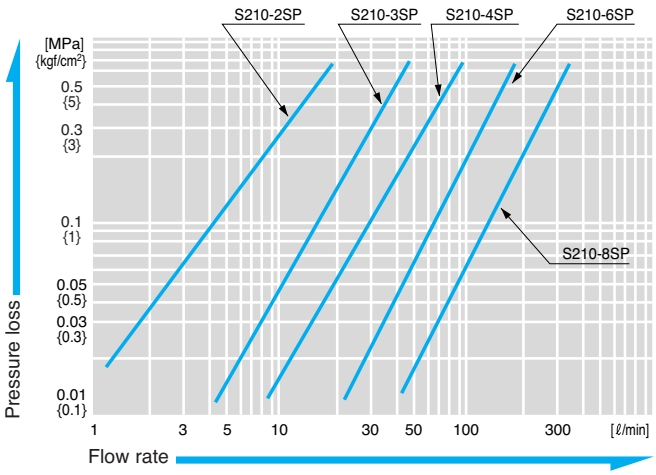
Socket only	Plug only	When connected
–	–	•

Admixture of Air on Connection (mℓ)

Product code	S210-2SP	S210-3SP	S210-4SP	S210-6SP	S210-8SP
Volume of air	0.8	1.6	3.2	6.3	14.3

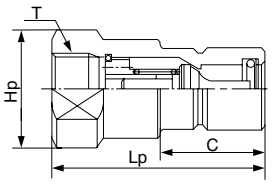
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30˚C±5˚C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661x10^3 kg/m³



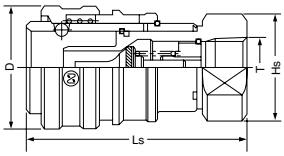
Product Codes and Dimensions Tables

Plug P



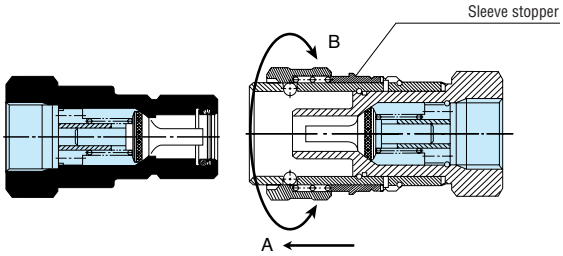
Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	C	Hp	T
S210-2P	R1/4	75	50.5	20	Face 19 x ø22	Rc1/4
S210-3P	R3/8	131	59	24	Face 24 x ø28	Rc3/8
S210-4P	R1/2	242	70.5	28	Face 30 x ø35	Rc1/2
S210-6P	R3/4	452	81.5	35.5	Face 38 x ø44	Rc3/4
S210-8P	R1	935	100	47.5	Face 50 x ø58	Rc1

S Socket



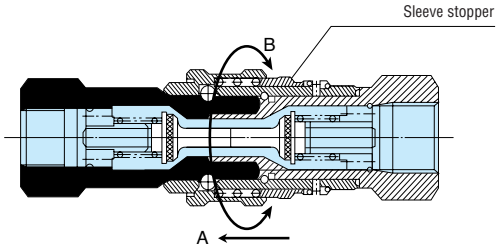
Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	Hs	T
S210-2S	R1/4	130	59	27	Face 19 x ø22	Rc1/4
S210-3S	R3/8	220	68.5	32	Face 24 x ø28	Rc3/8
S210-4S	R1/2	395	81	39.7	Face 30 x ø35	Rc1/2
S210-6S	R3/4	680	97.5	48	Face 38 x ø44	Rc3/4
S210-8S	R1	1,365	118	62	Face 50 x ø58	Rc1

Construction and Use of Safety Lock (mechanism to prevent disconnection)



■To Lock

Push the sleeve stopper towards A and turn 90° left or right towards B to fasten the sleeve stopper and lock the sleeve.



■To Unlock

Push the sleeve stopper towards A and turn 90° left or right towards B to free the sleeve stopper and unlock the sleeve. Socket and plug can now be easily disconnected.

Example of Usage

▲Ocean development

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Hydraulics

280 Cupla

For hydraulic pressures 27.5 ~ 31.5 MPa {281 ~ 321 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids

31.5 MPa 27.5 MPa Two-way shut-off Hydraulic oil

Popular Cupla copes with high pressurization of hydraulic equipment! Low pressure loss is ideal for hydraulic equipment.

- Standardized on international standard ISO 7241-1A.
- The high pressure resistances of these popular Cuplas are working pressures of 27.5 to 31.5 MPa {281 to 321 kgf/cm²}.
- Structure keeps pressure loss extremely low, particularly ideal for hydraulic applications requiring high flow rates.
- Both socket and plug have automatic shut-off valves built in to prevent fluid outflow when disconnected. This also makes handling simple.
- Special steel body material is used for excellent strength and quenching to withstand pressure shock.
- Many fitting sizes available.

Specifications

Body material	Special steel (zinc-plated : silver color)			
Size	1/4", 3/8"		1/2", 3/4", 1	
Working pressure MPa {kgf/cm²}	31.5 {321}		27.5 {281}	
Pressure resistance MPa {kgf/cm²}	47.3 {482}		41.3 {421}	
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	−5°C ~ +80°C	Standard material

NBR : Nitrile butadiene rubber

Max. Tightening Torque* N·m {kgf·cm}

Size	1/4"	3/8"	1/2"	3/4"	1"
Torque	28 {286}	40 {408}	80 {816}	100 {1020}	180 {1836}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.

Interchangeability

Different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

Product code	280-2SP	280-3SP	280-4SP	280-6SP	280-8SP
Area	11.4	42.8	79.1	146.5	235.6

Suitability for Vacuum Applications 1.3 Pa {1 x 10⁻²mmHg}

•: Suitable

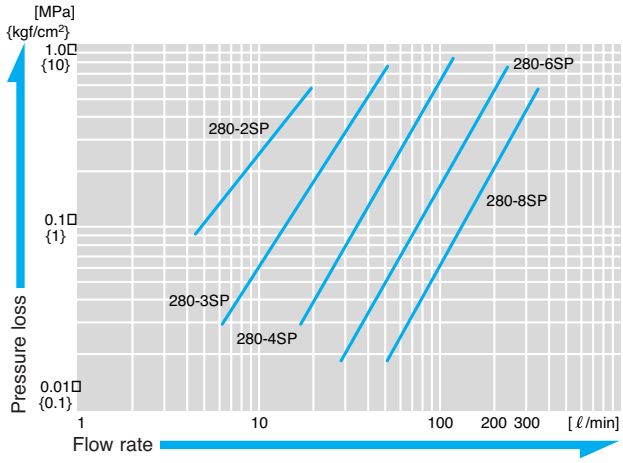
Socket only	Plug only	When connected
–	–	•

Admixture of Air on Connection (mℓ)

Product code	280-2SP	280-3SP	280-4SP	280-6SP	280-8SP
Volume of air	0.37	1.02	2.63	8.83	16.04

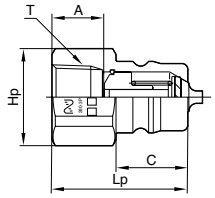
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity:32 x 10^{-6} m²/s •Specific gravity: 0.8661x10^{3} kg/m³



Product Codes and Dimensions Tables

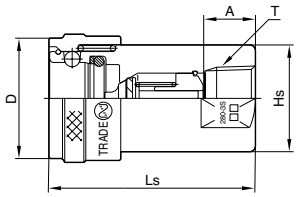
Plug P



Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	Hp	A	T
280-2P	R1/4 (PT1/4)	35	31.5	15	Hex.19	13	Rc1/4 (PT1/4)
280-3P	R3/8 (PT3/8)	59	35	18.5	Hex.23	13	Rc3/8 (PT3/8)
280-4P	R1/2 (PT1/2)	115	44	24.5	Hex.29	17	Rc1/2 (PT1/2)
280-6P	R3/4 (PT3/4)	178	52.5	28	Hex.32	19	Rc3/4 (PT3/4)
280-8P	R1 (PT1)	331	63.5	35	Face 41 x ø44	22	Rc1 (PT1)

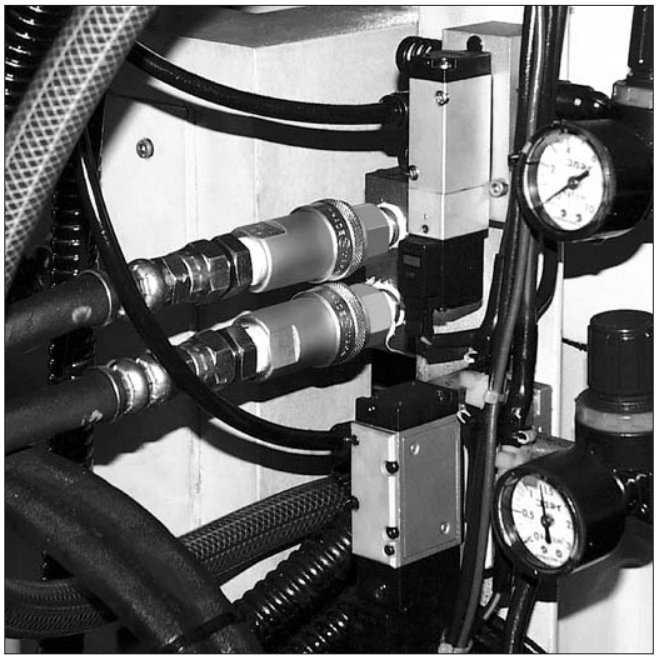
*Internal structure of 280-6S and 280-8S is partly different from the above illustration.

S Socket

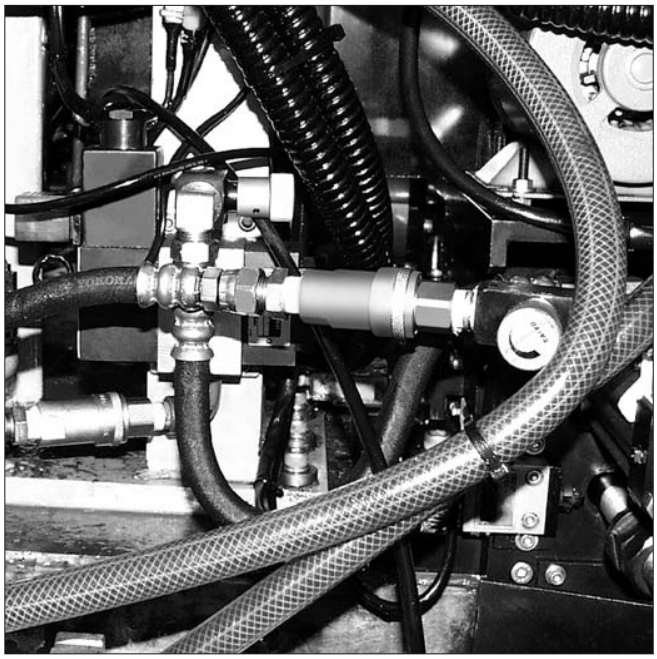


Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	D	Hs	A	T
280-2S	R1/4 (PT1/4)	110	46	27	Face 19 x ø21.7	13	Rc1/4 (PT1/4)
280-3S	R3/8 (PT3/8)	185	53	33	Face 23 x ø27.5	13	Rc3/8 (PT3/8)
280-4S	R1/2 (PT1/2)	335	66.5	39	Face 29 x ø34	17	Rc1/2 (PT1/2)
280-6S	R3/4 (PT3/4)	571	81	48	Face 35 x ø41.3	19	Rc3/4 (PT3/4)
280-8S	R1 (PT1)	871	98	55	Face 41 x ø47.8	22	Rc1 (PT1)

Example of Usage



▲ Hydraulic pressure control equipment



▲ Hydraulic pressure control equipment

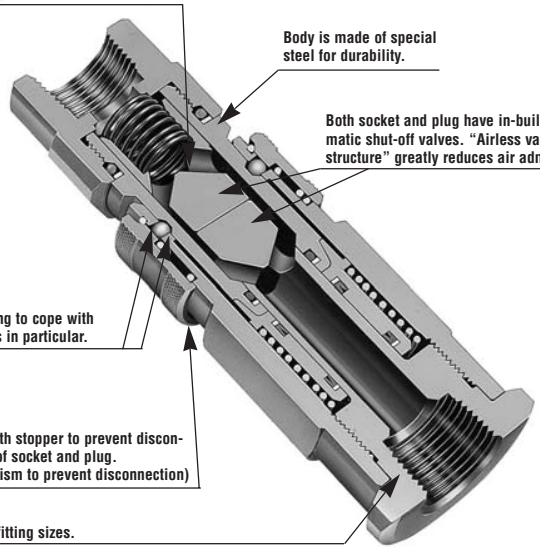
- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For Hydraulics

350 Cupla

For hydraulic pressures up to 34.5 MPa {352 kgf/cm²}

●Working pressure 34.5 MPa ●Valve structure Two-way shut-off ●Applicable fluids Hydraulic oil



"Airless valve structure" greatly reduces air admixing! Ideal for hydraulic circuits with large pressure fluctuations.

- **Unique "Airless valve structure" minimizes the quantity of in-mixed air.**
- **Working pressures up to 34.5 MPa {352 kgf/cm²}. Suitable for hydraulic circuits having large pressure fluctuations.**
- **Mechanism to prevent disconnection maintains tight connection against vibration or impact when connected.**
- **Both socket and plug have built-in automatic shut-off valves that prevent fluid outflow on disconnection. Simple to handle.**

Specifications

Body material	Special steel (Chrome-molybdenum steel), zinc-plated			
Size	3/8", 1/2", 3/4", 1, 1 1/4", 1 1/2", 2"			
Working pressure MPa {kgf/cm²}	34.5 {352}			
Pressure resistance MPa {kgf/cm²}	51.5 {525}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material
	NBR	SG	-20˚C ~ +80˚C	Order product

NBR : Nitrile butadiene rubber

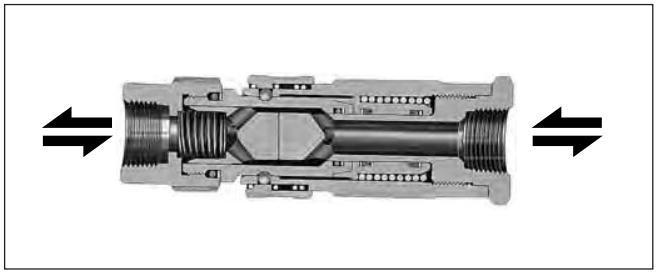
Max. Tightening Torque* N·m {kgf·cm}

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Torque	40 {408}	80 {816}	150 {1530}	250 {2550}	500 {5100}	500 {5100}	700 {7140}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.
350-10SP type and 12SP type can be connected.

Min. Cross-Sectional Area (mm²)

Product code	350-3SP	350-4SP	350-6SP	350-8SP	350-10SP	350-12SP	350-16SP
Area	32.2	78.5	149.6	227.0	452.4	452.4	907.9

Suitability for Vacuum Applications

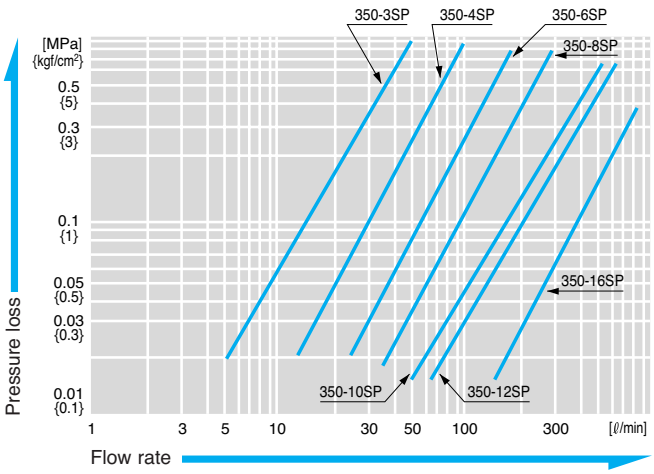
Not suitable for use with vacuum, either alone or in combination.

Admixture of Air on Connection (mℓ)

Product code	350-3SP	350-4SP	350-6SP	350-8SP	350-10SP	350-12SP	350-16SP
Volume of air	0.1	0.2	0.3	0.5	0.9	0.9	2.0

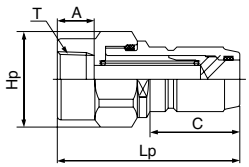
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 40˚C±5˚C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661 x 10^{3} kg/m³



Product Codes and Dimensions Tables

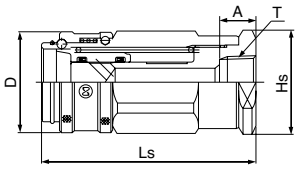
Plug P



Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	Hp	A	T
350-3P	R3/8	175	72	36	Hex.27	13	Rc3/8
350-4P	R1/2	245	85	40.5	Hex.27	16	Rc1/2
350-6P	R3/4	415	90	44.5	Hex.41	18	Rc3/4
350-8P	R1	1,035	119	57	Hex.50	22	Rc1
350-10P	R1 1/4	2,700	144	75	Hex.70	25	Rc1 1/4
350-12P	R1 1/2	2,600	144	75	Hex.70	25	Rc1 1/2
350-16P*	R2	7,500	198	88.5	Face 90 x ø105	29	Rc2

*Made-to-order item.

S Socket



Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øD	Hs	A	T
350-3S	R3/8	295	82	34	Hex.30	13	Rc3/8
350-4S	R1/2	465	93.5	41	Hex.36	16	Rc1/2
350-6S	R3/4	660	105.5	49	Face 46 x ø52	18	Rc3/4
350-8S	R1	1,740	129	63	Face 55 x ø62	22	Rc1
350-10S	R1 1/4	5,600	180	89	Hex.80	24	Rc1 1/4
350-12S	R1 1/2	5,500	180	89	Hex.80	25	Rc1 1/2
350-16S*	R2	14,500	239	117	Face 110 x ø115	29	Rc2

*Made-to-order item.

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Example of Usage

▲Snowplough

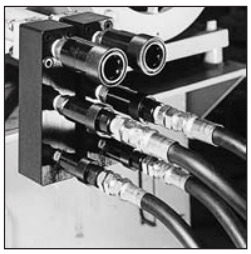
▲Hydraulic unit

For Hydraulics

450B Cupla

For hydraulic pressures up to 44.1 MPa {450 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids



▲Hydraulic unit

Metal-touch valve system for superior durability!
Sleeve stopper mechanism gives worry-free security.

- **High pressure Cupla for working pressures up to 44.1 MPa {450 kgf/cm²}.**
- **Metal-touch valves use no rubber packing, give excellent durability.**
- **Mechanism to prevent disconnection maintains tight connection against vibration or impact when connected.**
- **Both socket and plug have metal touch automatic shut-off valves that prevent fluid outflow on disconnection. Simple to handle.**

Specifications

Body material	Special steel (zinc-plated)			
Size	3/8", 1/2"			
Working pressure MPa {kgf/cm²}	44.1 {450}			
Pressure resistance MPa {kgf/cm²}	68.6 {700}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Order product
Flow loss upon disconnection	For 3/8", 0.01 Pa•m³/min. at 0.3 MPa {3 kgf/cm²} For 1/2", 0.05 Pa•m³/min. at 0.3 MPa {3 kgf/cm²}			

NBR : Nitrile butadiene rubber

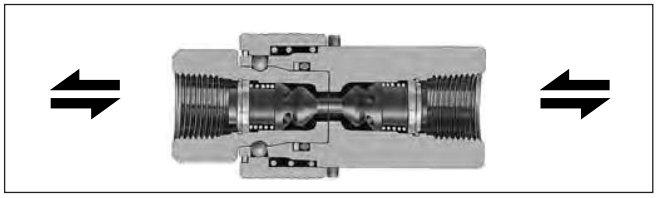
Max. Tightening Torque* N·m {kgf·cm}

Size	3/8"	1/2"
Torque	40 {408}	85 {867}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

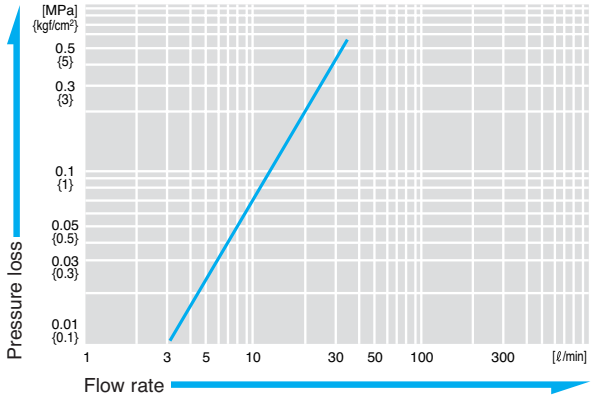
Product code	450B-3SP	450B-4SP
Min. cross-sectional area	37	66

Suitability for Vacuum Applications

Can be used to 1.3 Pa {1 x 10⁻² mmHg} only when socket and plug are connected.

Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10^{-6} m²/s •Specific gravity: 0.8661 x 10^3 kg/m³



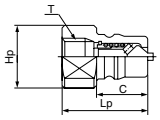
Admixture of Air on Connection (mℓ)

Product code	450B-3SP	450B-4SP
Volume of air	1.43	3.44

• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Product Codes and Dimensions Tables

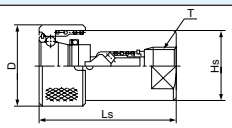
Plug P



Product code	Application	Mass (g)	Dimensions (mm)			
			Lp	C	Hp	T
450B-3P	R3/8	95	37.5	22.5	Face 24 x ø28	Rc3/8
450B-4P*	R1/2	–	50	35	Face 32 x ø35	Rc1/2

* Made-to-order item.

S Socket



Product code	Application	Mass (g)	Dimensions (mm)			
			Ls	øD	Hs	T
450B-3S	R3/8	285	59.5	36	Face 24 x ø30	Rc3/8
450B-4S*	R1/2	–	85	46	Face 36 x ø40	Rc1/2

* Made-to-order item.

For Hydraulics

700R Cupla

For hydraulic pressures up to 68.6 MPa {700 kgf/cm²}

●Working pressure ●Valve structure ●Applicable fluids

▲ Rock crusher

High pressure Cupla for working pressures up to 68.6 MPa and pressure resistance of 98 MPa! Unique Ring-lock system resists vibration and impact when connected.

- **High pressure Cupla for working pressures up to 68.6 MPa {700 kgf/cm²} and pressure resistance of 98MPa {1000kg/cm²}**
- **Metal-touch valves use no rubber packing, give excellent durability.**
- **Special Ring-lock system maintains tight connection against vibration or impact when connected.**
- **Both socket and plug have metal touch automatic shut-off valves that prevent fluid outflow on disconnection. Simple to handle.**

Specifications

Body material	Special steel (zinc-plated)			
Size	3/8", 1/2"			
Working pressure MPa {kgf/cm²}	68.6 {700}			
Pressure resistance MPa {kgf/cm²}	98.0 {1000}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Order product
Flow loss upon disconnection	For 3/8", 0.005 Pa•m³/min. at 0.2 MPa {2 kgf/cm²} For 1/2", 0.05 Pa•m³/min. at 0.3 MPa {3 kgf/cm²}			

NBR : Nitrile butadiene rubber

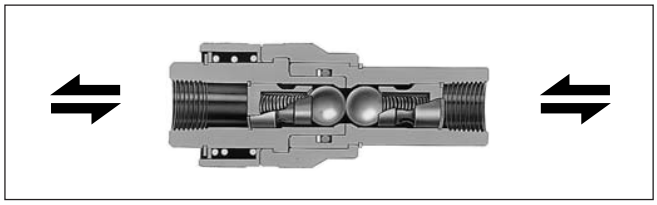
Max. Tightening Torque* N·m {kgf·cm}

Size	3/8"	1/2"
Torque	40 {408}	85 {867}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Different sizes are not interchangeable.

Min. Cross-Sectional Area (mm²)

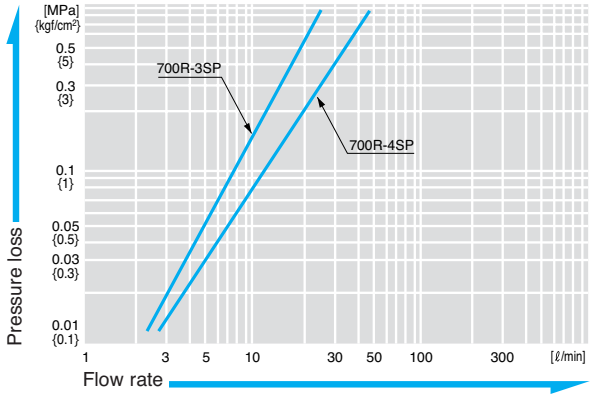
Product code	700R-3SP	700R-4SP
Min. cross-sectional area	34	55

Suitability for Vacuum Applications

Can be used to 1.3 Pa {1 x 10⁻² mmHg} only when socket and plug are connected.

Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic Fluid •Temperature: 30°C±5°C
•Kinematic viscosity: 46 x 10⁻⁶ m²/s •Specific gravity: 0.8661 x 10³ kg/m³



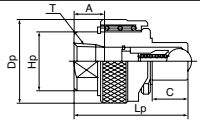
Admixture of Air on Connection (mℓ)

Product code	700R-3SP	700R-4SP
Volume of air	1.0	2.2

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

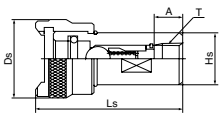
Product Codes and Dimensions Tables

Plug P



Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	C	øDp	Hp	A	T
700R-3P	R3/8	210	54	18	39.5	Face 24 x ø28	13	Rc3/8
700R-4P	R1/2	418	70	22	50	Face 27 x ø35	16	Rc1/2

Socket S

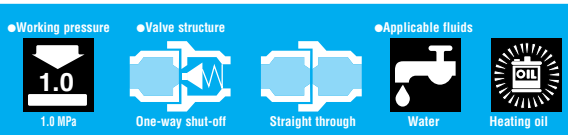


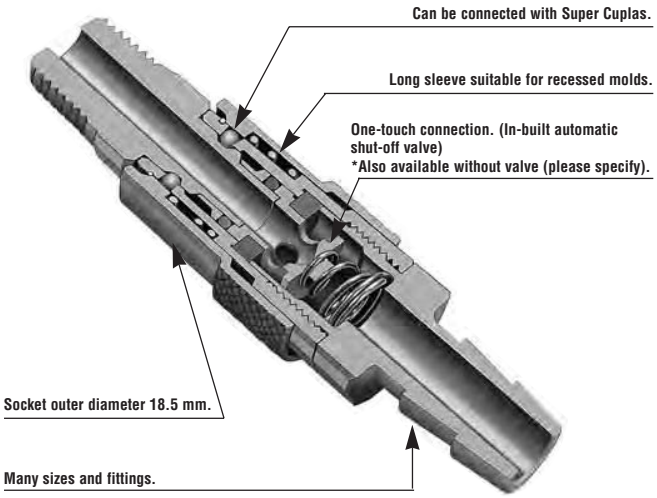
Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	øDs	Hs	A	T
700R-3S	R3/8	270	73	39.5	Face 22 x ø25	13	Rc3/8
700R-4S	R1/2	562	91	50	Face 27 x ø32	16	Rc1/2

For Cooling Water and Heating Oil of Mold

Mold Cupla

General purpose type and mold coolant port coupling





Designed for single replacement for mold and die!
Rust resistant, many variations.

- Small 18.5 mm outer diameter suits molds with closely spaced coolant ports.
- Long sleeve socket facilitates connection/disconnection with plug embedded in mold.
- Enables quick mold coolant hose connection/disconnection.
- Various sizes and fittings to suit a wide variety of mold applications.

Specifications

Body material	Brass			
Size	1/8", 1/4", 3/8"			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Standard material
	Fluoro-rubber (FKM)	X-100	-20°C ~ +180°C	Semi-Standard items

NBR : Nitrile butadiene rubber

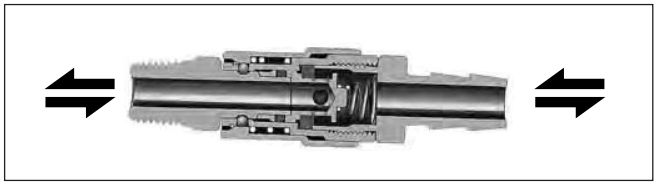
Max. Tightening Torque* N·m {kgf·cm}

Size	1/8"	1/4"	3/8"
Torque	5 {51}	9 {92}	11 {112}

* Recommended value

Fluid Flow Direction

Fluid flows in either direction from plug or socket.



Interchangeability

Sockets and plugs can be connected irrespective of type of connection. * Can be connected to Super Cupla.

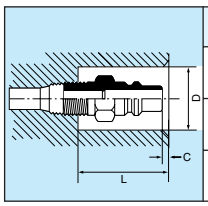
Min. Cross-Sectional Area (mm²)

Product code	K01SP	K02SP
Area	19	28

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

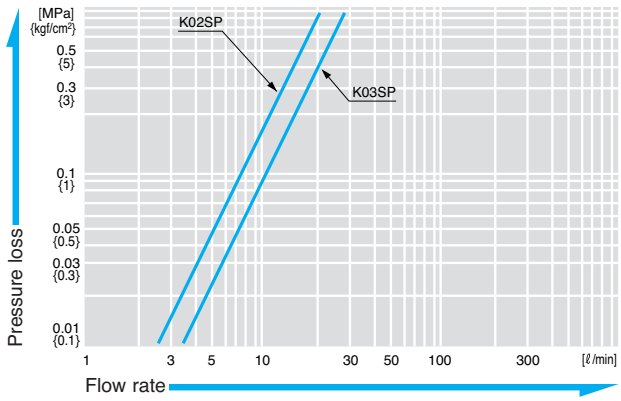
Plug Embedment Dimensions (mm)



Product code	D	C	L	Remarks
K01PM	20 or more	0 ~ 3	28	•Socket interference prevents connection/disconnection when C exceeds 3 mm. •Sizes in parentheses are the smallest practicable diameters that may be handled by the socket wrenches set forth in JIS B 4636.
K02PM	20 (23) or more	0 ~ 3	29	
K03PM	23 (29) or more	0 ~ 3	30	

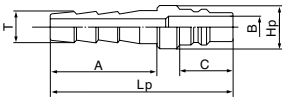
Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Water •Temperature: Room temperature



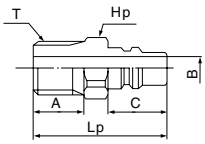
Product Codes and Dimensions Tables

Plug P



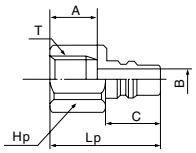
•For hose connection (PH)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	A	C	øHp	øT	øB
K02PH*	For 1/4" hose	17	42	21	15	12	8	6
K03PH*	For 3/8" hose	19	42	21	15	15	12	6



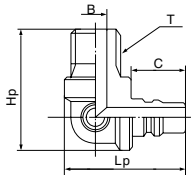
•For female thread connection (PM)

Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	Hp	C	A	T	øB
K01PM	Rc1/8 (PT1/8)	14	31	Hex.12	15	10	R1/8	5.5
K02PM	Rc1/4 (PT1/4)	20	34	Hex.14	15	13	R1/4	6
K03PM	Rc3/8 (PT3/8)	38	35	Hex.19	15	14	R3/8	6



•For male thread connection (PF)

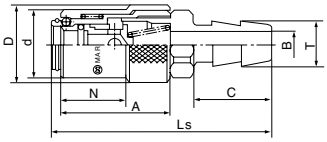
Product code	Application	Mass (g)	Dimensions (mm)					
			Lp	Hp	C	A	T	øB
K01PF	R1/8 (PT1/8)	16	28	Hex.14	15	10	Rc1/8	6
K02PF	R1/4 (PT1/4)	22	30.5	Hex.17	15	13	Rc1/4	6
K03PF	R3/8 (PT3/8)	35	32	Hex.21	15	14	Rc3/8	6



•For female thread connection (PML)

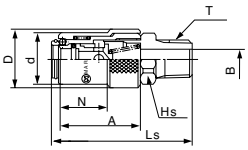
Product code	Application	Mass (g)	Dimensions (mm)				
			Lp	C	Hp	T	øB
K01PML	Rc1/8 (PT1/8)	43	33.5	15	30.5	R1/8	5
K02PML	Rc1/4 (PT1/4)	53	33.5	15	33.5	R1/4	6
K03PML	Rc3/8 (PT3/8)	71	33.5	15	33.5	R3/8	6

S Socket



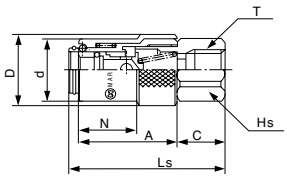
•For hose connection (SH)

Product code	Application	Mass (g)	Dimensions (mm)							
			Ls	øD	ød	N	A	C	øT	øB
K02SH*	For 1/4" hose	52	59	21	18.5	16.8	29	21	8	4.5
K03SH	For 3/8" hose	60	59	21	18.5	16.8	29	21	12	7



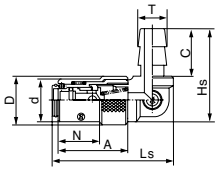
•For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm)							
			Ls	øD	ød	N	A	Hs	T	øB
K02SM	Rc1/4 (PT1/4)	70	51	21	18.5	16.8	29	Hex.17	R1/4	6
K03SM*	Rc3/8 (PT3/8)	82	51	21	18.5	16.8	29	Hex.19	R3/8	6



•For male thread connection (SF)

Product code	Application	Mass (g)	Dimensions (mm)							
			Ls	øD	ød	N	A	C	T	Hs
K02SF	R1/4	57	46.5	21	18.5	16.8	29	14.5	Rc1/4	Hex.17

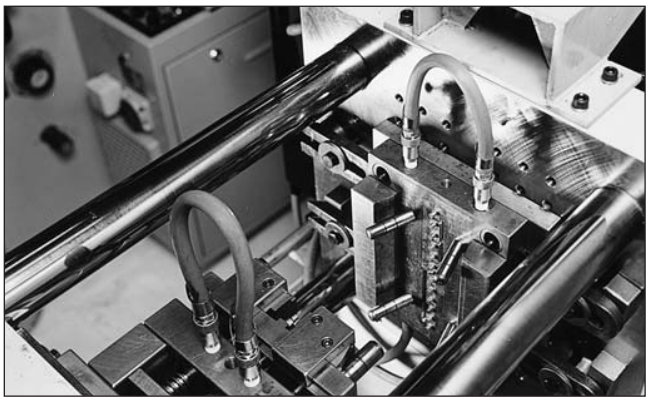


•For hose connection (SHL)

Product code	Application	Mass (g)	Dimensions (mm)							
			Ls	øD	ød	N	A	C	øT	Hs
K02SHL*	For 1/4" hose	79	52	21	18.5	16.8	29	21	8	41
K03SHL	For 3/8" hose	87	52	21	18.5	16.8	29	21	12	41

Notes: 1 *mark denotes made-to-order item. Price on application.
2 Also available without socket valve, identified by product code TS (e.g. K03SH without valve is K03TSH)
3 Also available with sleeve stopper. (Made-to-order item)

Example of Usage



▲Mold coolant hoses

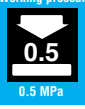
• **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For cooling water

Flow Meter

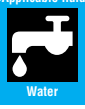
Flow meter with special valve for molds

●Working pressure

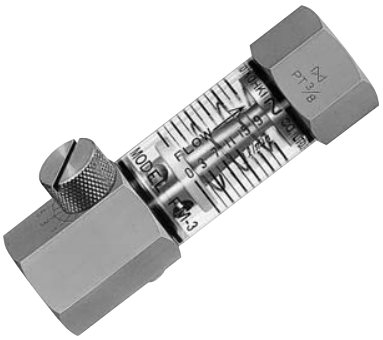


0.5 MPa

●Applicable fluids



Water



For stabilizing coolant flow and reproducing prescribed flow rate.

- Graduated scale enables confirmation of coolant flow rate, cooling conditions do not vary by any operator.
- Built-in flow rate adjustment valve enables free setting of forming conditions for various machines.
- Ability to reproduce forming conditions cuts lead time.
- Maintenance is extremely simple.

Specifications

Material	Body	Brass		
	Graduated tube	Polycarbonate		
Size	Both ends RC3/8(PT3/8) female thread			
Working pressure MPa {kgf/cm²}	0.5 {5}			
Pressure resistance MPa {kgf/cm²}	0.8 {8}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	+10˚C ~ +60˚C	Standard material
Max. flow rate	18 lit./min (0 to 18 lit./min adjustable)			

*Plastic float limits working temperature to +10˚C ~ +60˚C

NBR : Nitrile butadiene rubber

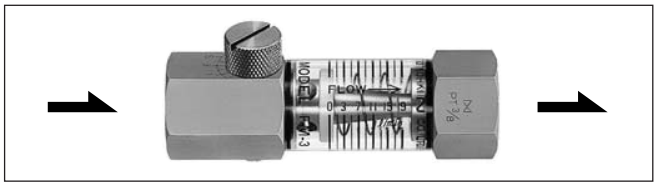
Max. Tightening Torque* N·m {kgf·cm}

Size	3/8"
Torque	12 {122}

* Recommended value

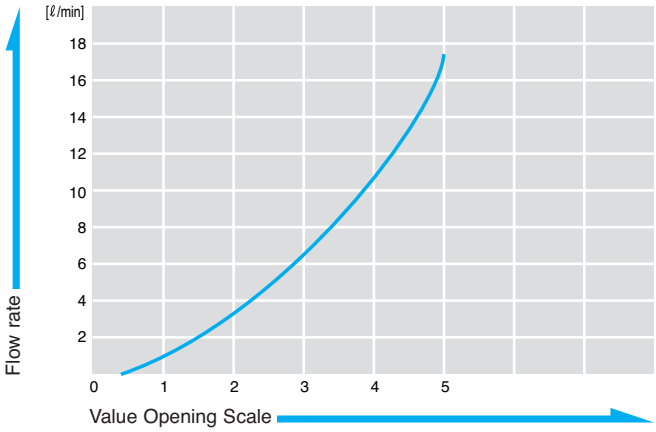
Fluid Flow Direction

Fluid must flow in the direction of the arrows.

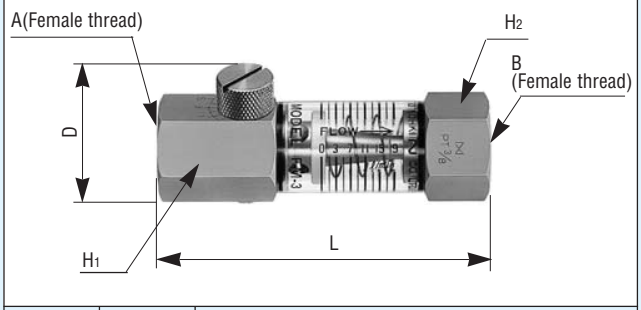


Flow Rate - Valve Opening Scale

[Measuring conditions] •Fluid: Water •Temperature: Room temperature •Upstream pressure: 0.3 MPa {3 kgf/cm²}

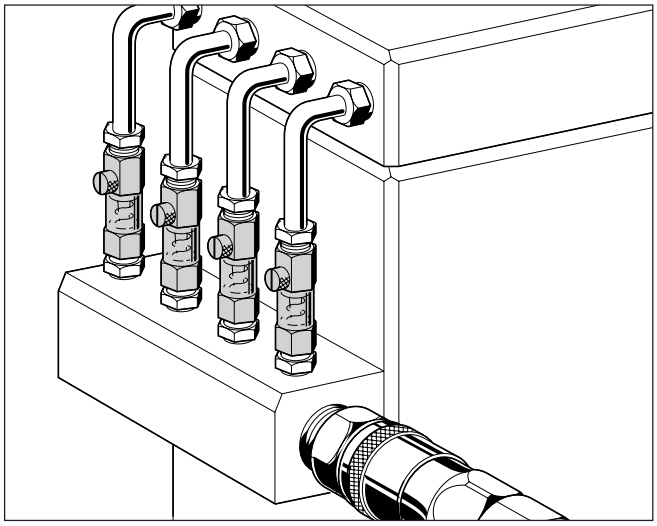


Product Codes and Dimensions Tables



Product code	Mass (g)	Dimensions (mm)					
		L	D	H_1	H_2	A	B
FM-03A	158	80	33	Hex.23	Hex.23	Rc3/8	Rc3/8

Example of Usage



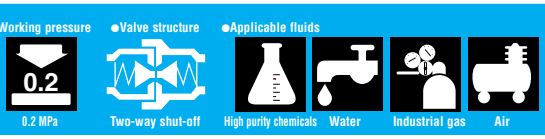
- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

For high purity chemicals

Semicon Cupla SP Type

For semiconductor manufacturing equipment

●Working pressure ●Valve structure ●Applicable fluids



▲Stainless steel container

General purpose type with stainless steel body and rubber packing.

- **Body and valve springs are stainless steel (SUS304). Body is electropolished for enhanced corrosion resistance.**
- **Choice of valve packing (sealant) to suit your fluid and application. Responds flexibly to semiconductor manufacturing processes.**
- **Many size variations allows choice to suit your application and flow rate.**
- **Plug cap available (option).**

Specifications

Body material	Stainless steel (SUS304, 316), electropolished			
Size	1/8", 1/4", 3/8", 1/2", 3/4", 1"			
Working pressure MPa {kgf/cm²}	0.2 {2}			
Pressure resistance MPa {kgf/cm²}	0.3 {3}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Fluoro-rubber (FKM)	RF704	0°C ~ +50°C	Standard material
	EPDM	RE702	0°C ~ +50°C	Standard material
	FFKM	P	0°C ~ +50°C	Standard material
	Kalrez (KL)	KL	0°C ~ +50°C	Standard material

*1 1/2" and 2" also available as made-to-order sizes

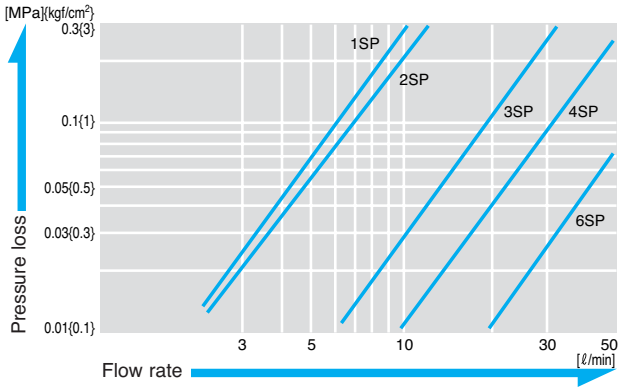
EPDM : Ethylene propylene rubber
FFKM : Perfluoroelastomer

Min. Cross-Sectional Area (mm²)

Product code	1SP	2SP	3SP	4SP	6SP	8SP
Area	10	17	44	62	143	257

Flow Rate - Pressure Loss Characteristics

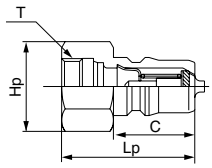
[Measuring conditions] •Fluid: Water •Temperature: 20°C±5°C



- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Product Codes and Dimensions Tables

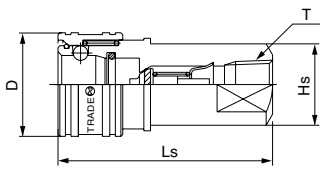
Plug P



Product code	Mass (g)	Dimensions (mm)			
		Lp	C	Hp	T (female thread)
1P-304-PT	19	29	19	Hex.14*	Rc1/8 (PT1/8)
1P-304-NPT	19	29	19	Hex.14*	NPT1/8
1P-304-UNS	34	33	19	Hex.21	19/32-18UNS
2P-304-PT	35	36	22	Hex.17*	Rc1/4 (PT1/4)
2P-304-NPT	35	36	22	Hex.17*	NPT1/4
2P-304-UNS	41	36	22	Hex.21	19/32-18UNS
3P-304-PT	60	40	25	Hex.21*	Rc3/8 (PT3/8)
4P-304-PT	115	44	28	Hex.29*	Rc1/2 (PT1/2)
6P-304-PT	216	52	36	Hex.35*	Rc3/4 (PT3/4)
8P-304-PT	352	62	40	Hex.41*	Rc1 (PT1)

*May have 2 spanner flats depending on packing material.
*The shapes of SUS304 and 316 are different. (316 is illustrated above)

S Socket



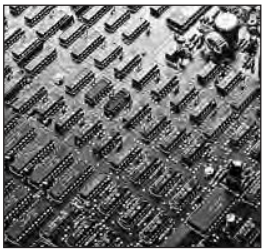
Product code	Mass (g)	Dimensions (mm)			
		Ls	øD	Hs	T (female thread)
1S-304-PT	84	48	24	Face 14	Rc1/8 (PT1/8)
1S-304-NPT					NPT1/8
2S-304-PT	138	58	28	Face 19	Rc1/4 (PT1/4)
2S-304-NPT					NPT1/4
3S-304-PT	206	65	35	Face 21	Rc3/8 (PT3/8)
4S-304-PT	419	72	45	Face 29	Rc1/2 (PT1/2)
6S-304-PT	720	88	55	Face 35	Rc3/4 (PT3/4)
8S-304-PT	1,006	102	65	Face 41	Rc1 (PT1)

For high purity chemicals

Semicon Cupla SCS Type

For semiconductor manufacturing equipment

●Working pressure ●Valve structure ●Applicable fluids



▲Semiconductor manufacturing equipment

Applied stainless steel body and fluoro-resin valves.

- **Body and valve springs are stainless steel (SUS304). Valve material is fluoro-resin. Excellent performance with many types of chemicals.**
- **Fluoro-resin valves with suppressed particle generation give excellent chemical resistant performance.**
- **Body (SUS304) is electropolished for enhanced corrosion resistance.**
- **Plug supplied with cap as standard equipment.**

Specifications

Body material	Stainless steel (SUS304), electropolished			
Size	1/8", 1/4"			
Working pressure MPa {kgf/cm²}	0.2 {2}			
Pressure resistance MPa {kgf/cm²}	0.3 {3}			
Packing material (Socket O-ring), Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	FFKM	P	0°C ~ +50°C	Standard material
	EPDM	RE702	0°C ~ +50°C	Standard material

*Please consult us for packing other than FFKM, EPDM.

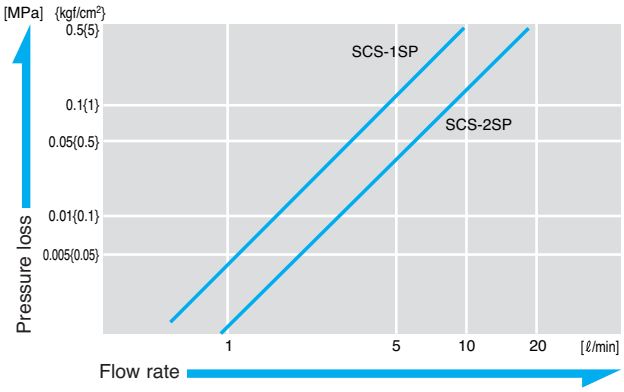
FFKM : Perfluoroelastomer
EPDM : Ethylene propylene rubber

Min. Cross-Sectional Area (mm²)

Product code	SCS-1SP	SCS-2SP
Min. cross-sectional area	10	17

Flow Rate - Pressure Loss Characteristics

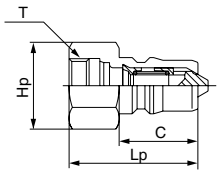
[Measuring conditions] •Fluid: Water •Temperature: 20°C±5°C



- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

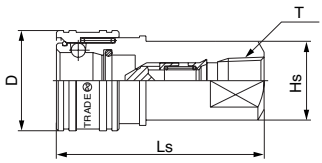
Product Codes and Dimensions Tables

Plug P



Product code	Mass (g)	Dimensions (mm)			
		Lp	C	Hp	T (female thread)
SCS-1P-NPT	17	29	19	Hex.14	NPT 1/8
SCS-1P-UNS	34	33	19	Hex.21	19/32-18UNS
SCS-2P-NPT	29	34	22	Hex.17	NPT1/4
SCS-2P-UNS	41	36	22	Hex.21	19/32-18UNS

S Socket



Product code	Mass (g)	Dimensions (mm)			
		Ls	øD	Hs	T (female thread)
SCS-1S-NPT	84	48	24	Face 14	NPT 1/8
SCS-2S-NPT	138	58	28	Face 19	NPT 1/4

For high purity chemicals

Semicon Cupla SCT Type

Fluororesin type for semiconductor manufacturing equipment

●Working pressure ●Valve structure ●Applicable fluids

Applied Tetra fluoro-plastic (PTFE) for the body.

- Tetra fluoro-plastic body gives excellent resistance to chemicals.
- Automatic shut-off valves in both socket and plug prevent fluid outflow from lines on disconnection.
- No dissolution of metal ions from part in contact with liquid ensures excellent reliability.
- All components are washed then assembled, inspected and packaged in a clean room.
- Select from an abundant variety of sizes to suit your application and fluid.

Specifications

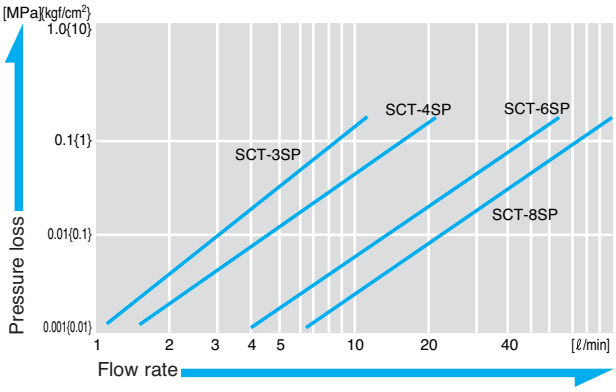
Body material	Tetra fluoro-plastic (PTFE)			
Size	1/4", 3/8", 1/2", 3/4", 1"			
Working pressure MPa {kgf/cm²}	0.2 {2}			
Pressure resistance MPa {kgf/cm²}	0.3 {3}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	FEP-covered Fluoro-rubber	–	+5˚C ~ +50˚C	Standard material

Min. Cross-Sectional Area (mm²)

Product code	SCT-2SP	SCT-3SP	SCT-4SP	SCT-6SP	SCT-8SP
Min. cross-sectional area	12	34	54	103	225

Flow Rate - Pressure Loss Characteristics

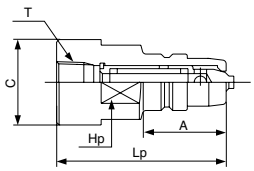
[Measuring conditions] •Fluid: Water •Temperature: 20˚C±5˚C



- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

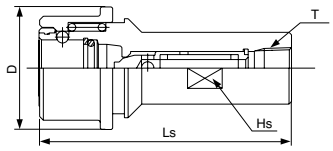
Product Codes and Dimensions Tables

Plug P



Product code	Mass (g)	Dimensions (mm)				
		Lp	A	øC	Hp	T (female thread)
SCT-2P-NPT	43	59	30.5	27.5	Face 24	NPT1/4
SCT-3P-NPT	77	68.5	33.5	34.5	Face 30	NPT3/8
SCT-4P-NPT	91	69.5	37.5	39.5	Face 36	NPT1/2
SCT-6P-NPT	160	78.5	45	48	Face 41	NPT3/4
SCT-8P-NPT	300	112	60.5	59	Face 50	NPT1

S Socket



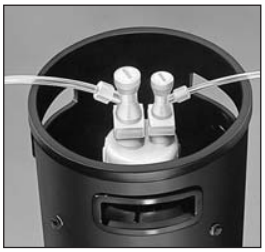
Product code	Mass (g)	Dimensions (mm)			
		Ls	øD	Hs	T (female thread)
SCT-2S-NPT	101	89.5	41	Face 19	NPT1/4
SCT-3S-NPT	156	102	49.5	Face 24	NPT3/8
SCT-4S-NPT	192	107	54.5	Face 30	NPT1/2
SCT-6S-NPT	340	123	68	Face 36	NPT3/4
SCT-8S-NPT	770	172.5	82	Face 46	NPT1

For high purity chemicals

Semicon Cupla SCF Type

Fluoro-resin type for semiconductor manufacturing equipment

●Working pressure ●Valve structure ●Applicable fluids



▲ Plastic container

All-plastic model with injection molded, fluoro-resin (PFA) body.

- All parts made of fluoro-resin. O-rings in particular are FEP-covered fluoro-rubber with excellent chemical resistance and no need for concern about their being dissolved.
- Unique new techniques such as "injection molding", "tube connect system" and "nut type plug fitting mechanism" are used to prevent the generation of particles, the great enemy of semiconductor manufacture.
- To connect with a plug, just push the socket over it. Disconnection is a simple, one-handed button operation.
- Unique "double-lock mechanism" prevents accidental disconnection of socket and plug.
- L-type line fittings improve handling and reduce piping space.
- Supplied with plug cap as standard equipment.

Specifications

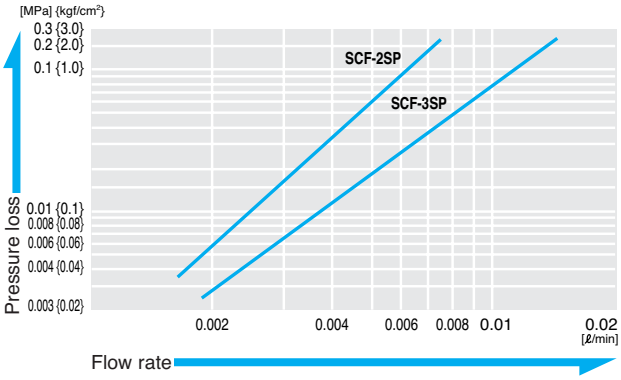
Body material	Fluoro-resin (PFA)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	0.2 {2}			
Pressure resistance MPa {kgf/cm²}	0.3 {3}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	FEP-covered Fluoro-rubber	–	+5°C ~ +50°C	Standard material

Min. Cross-Sectional Area (mm²)

Product code	SCF-2SP	SCF-3SP
Min. cross-sectional area	23.8	44.2

Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Water •Temperature: 20°C±5°C

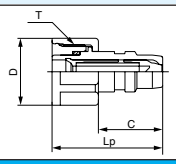


■ For information on tube fitting, see 84page.

• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Product Codes and Dimensions Tables

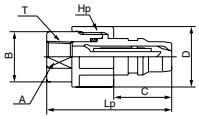
Plug P



●For male thread connection

Product code	Mass (g)	Dimensions (mm)			
		Lp	D	C	T (female thread)
SCF-2P-M26	33	54.2	Hex.30 x ø32.5	31.2	M26 x 1.5
SCF-3P-M32	50	57.9	Hex.36 x ø39	35.2	M32 x 1.5

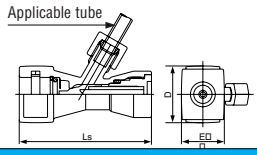
Made-to-Order item



●For male thread connection (straight type)

Product code	Mass (g)	Dimensions (mm)						
		Lp	C	øD	Hp	A	øB	T (female thread)
SCF-2P-3	53	67.2	31.2	32.5	Hex.30	Face 24	27	Rc3/8
SCF-3P-4	79	71.2	35.2	39	Hex.36	Face 30	33.05	Rc1/2

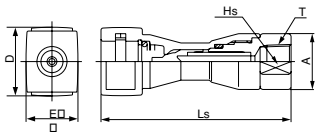
S Socket



●For tube connection

Product code	Mass (g)	Dimensions (mm)			
		Ls	D	E	Applicable tube
SCF-2SL-N08	76	77	45	34	ø6 x ø8
SCF-3SL-N10	116	85	51	39	ø8 ~ ø10

Made-to-Order item



●For male thread connection (straight type)

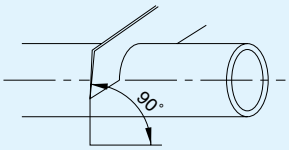
Product code	Mass (g)	Dimensions (mm)					
		Ls	øA	Hs	D	E	T (female thread)
SCF-2S-3	83	92	27	Face 24	45	34	Rc3/8
SCF-3S-4	124	102.5	33	Face 30	51	39	Rc1/2

Semicon Cupla SCF Type

How to attach a tube to the socket

(1) Cutting the tube

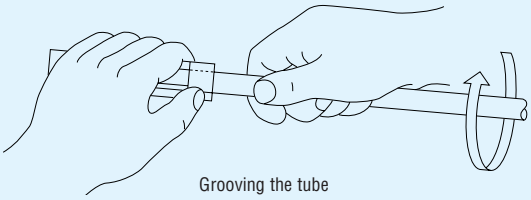
Cut the tube (PFA) at right angles with a cutter blade or knife.



(2) Grooving the tube

Insert the tube fully into the special jig (illustrated below) and press the jig's cutter blade as you rotate the tube 1-1/2 turns. Jigs are available to suit different tube sizes.

Special jig



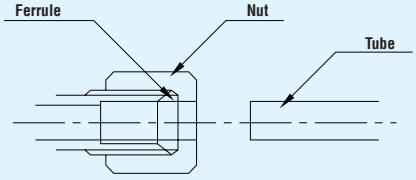
Grooving the tube

Special jig (made by NIPPON PILAR PACKING CO., LTD.)

Socket type	Tube size	Jig Model No.
SCF-2SL-N08	ø8 x ø6	T-8
SCF-3SL-N10	ø10 x ø8	T-10

(3) Inserting the tube

Insert the grooved tube firmly.
At this time, be careful not to undo the ferrule nut.



Note ferrule direction (taper to the back)

(4) Tightening the nut

After tightening the nut with your fingers, turn it another 1-1/2 turns with a spanner. Take care not to over-tighten.

Multi Cupla Series

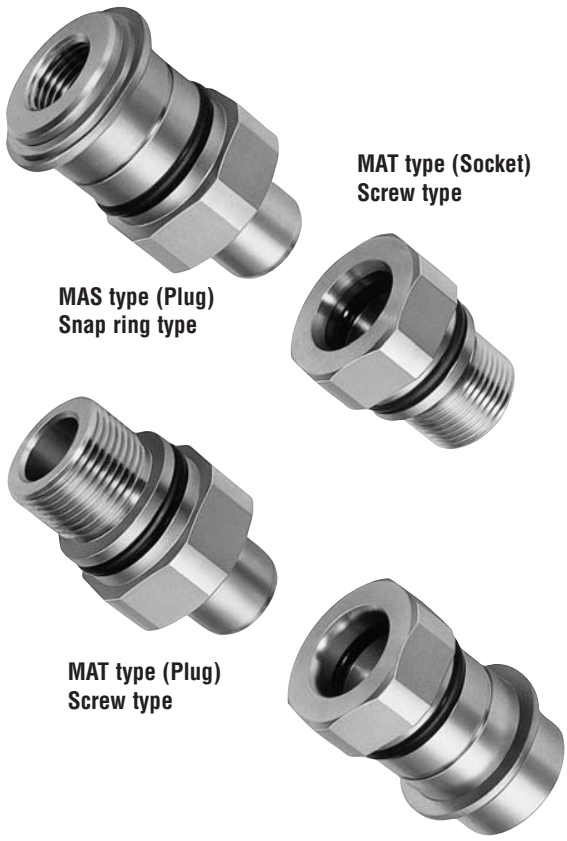
Multi Cupla

MAS Type/MAT Type

7.0 MPa {71 kgf/cm²} general purpose type

●Working pressure ●Valve structure ●Applicable fluids

7.0 MPa | Two-way shut-off | Air | Water | Hydraulic oil



Connects two or more pipes simultaneously with one operation. Handles pipes with different fluids and sizes.

- Ideal for automated systems that connect or disconnect several pipes simultaneously using hydraulic or pneumatic cylinders.
- Automatic shut-off valves in both sockets and plugs ensure no outflow of fluid from lines on disconnection.
- Body materials other than stainless steel, and valveless types, are also available. (Made-to-order products)
- Snap-ring type and screw type fittings to plate are standard.
- Due to O-rings provided in the body casing, MAS type can be made with axial eccentricity and plate hole machining position error of ±0.3 mm.

Specifications

Body material	Stainless steel (Kanigen-plated)			
Size	1/4", 3/8", 1/2", 3/4", 1"			
Working pressure MPa {kgf/cm²}	7.0 {71}			
Pressure resistance MPa {kgf/cm²}	10.0 {102}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material

Interchangeability

MAS and MAT types of the same size are interchangeable. Interchanges between MAT types should be avoided due to unacceptable eccentricity.

Min. Cross-Sectional Area (mm²)

Size	1/4"	3/8"	1/2"	3/4"	1"
Min. cross-sectional area	23	49	75	145	220

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Admixture of Air on Connection (mℓ)

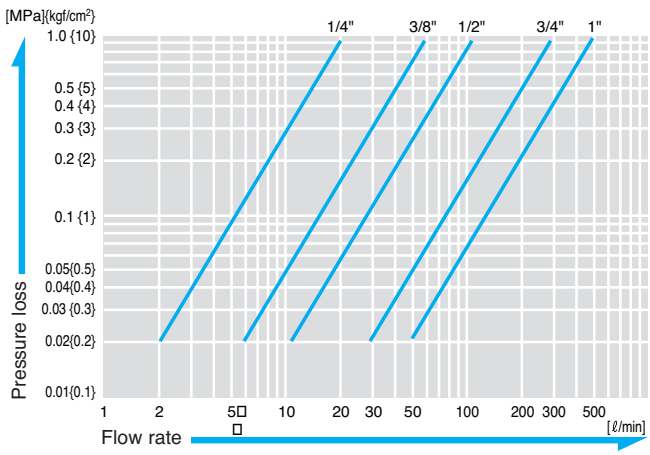
Size	1/4"	3/8"	1/2"	3/4"	1"
Volume of air	1.1	2.4	3.2	10.5	17

Min. maintained load when pressurized (internal pressure 10.0 MPa {102 kgf/cm²}

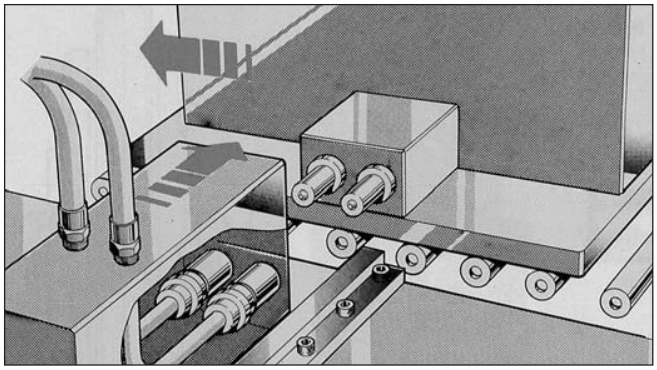
Size	1/4"	3/8"	1/2"	3/4"	1"
Load kN {kgf}	1.9 {193}	3.1 {319}	5.5 {561}	8.6 {875}	12.3 {1258}

Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Water •Temperature: 30˚C±5˚C



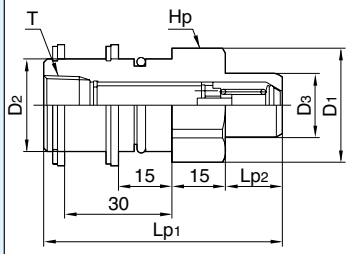
Example of Usage



▲ Oil and air circuits connect/disconnect automatically for automatic mold replacement

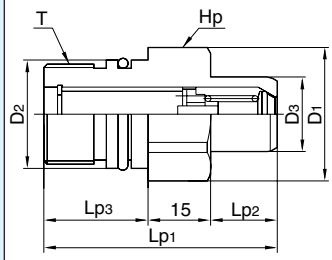
Product Codes and Dimensions Tables

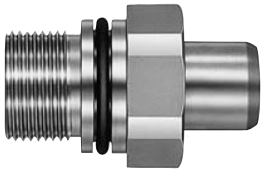
Plug P



•Snap ring fastening type (MAS)

Product code	Application	Mass (g)	Dimensions (mm)						
			Lp_1	Lp_2	$øD_1$	$øD_2$	$øD_3$	Hp	T
MAS-2P	R1/4 (PT1/4)	150	65	14	28	21.9	14	Hex.26	Rc1/4 (PT1/4)
MAS-3P	R3/8 (PT3/8)	203	67	16	35	25.9	18	Hex.32	Rc3/8 (PT3/8)
MAS-4P	R1/2 (PT1/2)	412	73	20	44	35.9	24	Hex.41	Rc1/2 (PT1/2)
MAS-6P	R3/4 (PT3/4)	579	76.5	23.5	50	41.9	30	Hex.46	Rc3/4 (PT3/4)
MAS-8P	R1 (PT1)	720	78	24	58	47.9	36	Hex.54	Rc1 (PT1)



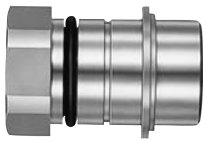


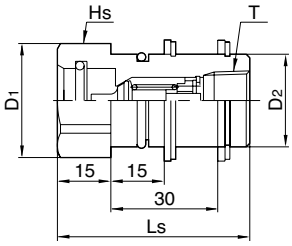
•Screw fastening type (MAT)

Product code	Application	Mass (g)	Dimensions (mm)							
			Lp_1	Lp_2	Lp_3	$øD_1$	$øD_2$	$øD_3$	Hp	T
MAT-2P	M20 x 1.5	121	53	14	24	28	21.9	14	Hex.26	M20 x 1.5
MAT-3P	M24 x 1.5	164	56	16	25	32	25.9	18	Hex.29	M24 x 1.5
MAT-4P	M30 x 2	332	67	20	32	44	35.9	24	Hex.41	M30 x 2
MAT-6P	M39 x 2	453	73	23.5	34.5	50	41.9	30	Hex.46	M39 x 2
MAT-8P	M45 x 2	571	76	24	37	54	47.9	36	Hex.50	M45 x 2

*No interconnection between MAT types.

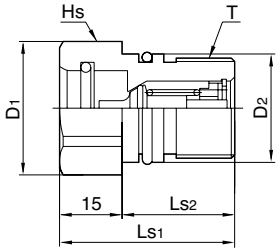
Socket S





•Snap ring fastening type (MAS)

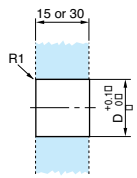
Product code	Application	Mass (g)	Dimensions (mm)				
			Ls	$øD_1$	$øD_2$	Hs	T
MAS-2S	R1/4 (PT1/4)	126	51.5	28	21.9	Hex.26	Rc1/4 (PT1/4)
MAS-3S	R3/8 (PT3/8)	171	55	35	25.9	Hex.32	Rc3/8 (PT3/8)
MAS-4S	R1/2 (PT1/2)	406	65	44	35.9	Hex.41	Rc1/2 (PT1/2)
MAS-6S	R3/4 (PT3/4)	604	76	50	41.9	Hex.46	Rc3/4 (PT3/4)
MAS-8S	R1 (PT1)	825	87	58	47.9	Hex.54	Rc1 (PT1)



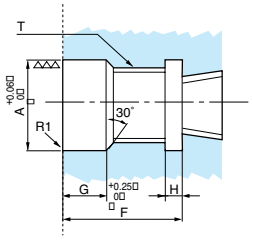
•Screw fastening type (MAT)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls_1	Ls_2	$øD_1$	$øD_2$	Hs	T
MAT-2S	M20 x 1.5	95	39	24	28	21.9	Hex.26	M20 x 1.5
MAT-3S	M24 x 1.5	124	42	27	32	25.9	Hex.29	M24 x 1.5
MAT-4S	M30 x 2	246	48	33	44	35.9	Hex.41	M30 x 2
MAT-6S	M39 x 2	382	58	43	50	41.9	Hex.46	M39 x 2
MAT-8S	M45 x 2	506	66	51	54	47.9	Hex.50	M45 x 2

Dimensions of Mating Parts



•MAS type



•MAT type

Size	øD
1/4”	23
3/8”	27
1/2”	37
3/4”	43
1”	49

Size	øA	G	F		H	T
			Plug	Socket		
1/4”	22	10.5	25		4	M20 x 1.5
3/8”	26	10.5	26	28	4	M24 x 1.5
1/2”	36	12.5	33	34	5	M30 x 2.0
3/4”	42	13.5	35.5	44	5	M39 x 2.0
1”	48	13.5	38	52	5	M45 x 2.0

- **Before use, please be sure to read “Requests Regarding Use” at the end of this book and “Notices and Points to be Observed” attached to the product.**

Multi Cupla Series

Multi Cupla

MALS Type/MALT Type

14.0 MPa {142 kgf/cm²} airless type

●Working pressure ●Valve structure ●Applicable fluids

14.0 MPa | Two-way shut-off | Air | Hydraulic oil

MALS type (Plug)
Snap ring type

MALT type (Socket)
Screw type

MALT type (Plug)
Screw type

MALS type (Socket)
Snap ring type

Connects two or more pipes simultaneously with one operation. Suppresses admixing of air on connection.

- Valve structure allows extremely little air into pipe on connection.
- Liquid dripping on disconnection is very little, suits locations with many connections/disconnections.
- Available with snap-ring or screw type plate fittings.
- Due to O-rings provided in the body casing, MALS type can be made with axial eccentricity and plate hole machining position error of ±0.3 mm.

Specifications

Body material	Steel (Kanigen-plated)			
Size	1/4", 3/8", 1/2", 3/4"			
Working pressure MPa {kgf/cm²}	14.0 {142}			
Pressure resistance MPa {kgf/cm²}	20.6 {210}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material

Interchangeability

MALS and MALT types of the same size are interchangeable. Interchanges between MALT types should be avoided due to unacceptable eccentricity.

Min. Cross-Sectional Area (mm²)

Size	1/4"	3/8"	1/2"	3/4"
Min. cross-sectional area	19	39	77	108

Suitability for Vacuum Applications

Not suitable for use with vacuum, either alone or in combination.

Admixture of Air on Connection (mℓ)

Size	1/4"	3/8"	1/2"	3/4"
Volume of air	0.1	0.2	0.4	0.5

Min. maintained load when pressurized (internal pressure 20.6 MPa {210 kgf/cm²})

Size	1/4"	3/8"	1/2"	3/4"
Load kN {kgf}	7.1 {727}	11.0 {1117}	16.5 {1681}	22.7 {2311}

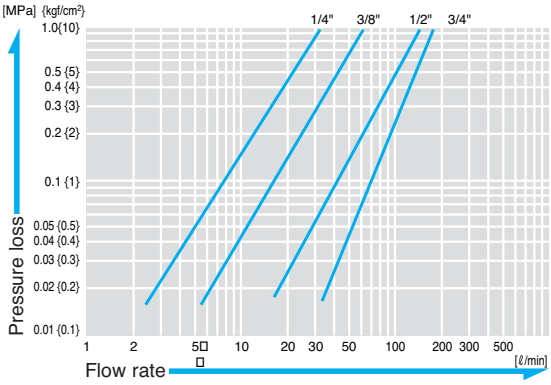
Flow rate (ℓ/min)

Size	1/4"	3/8"	1/2"	3/4"
On connection/disconnection*1	8.5	8.5	12.45	12.45
When connected*2	8.5	15.0	40	60

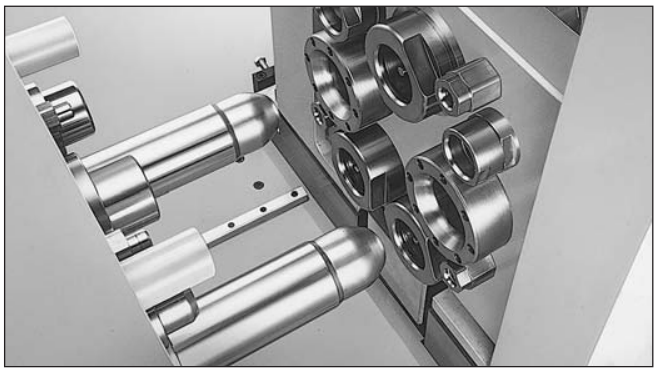
*1 Allowable value *2 Recommended value

Flow Rate - Pressure Loss Characteristics

[Measuring conditions] •Fluid: Hydraulic oil •Temperature: 30˚C±5˚C



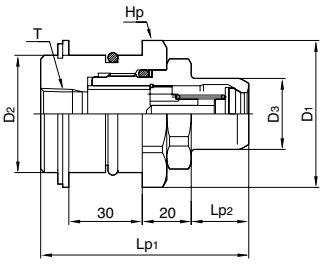
Example of Usage

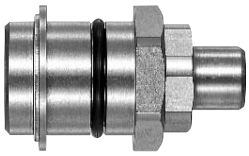


▲Multiple pipes

Product Codes and Dimensions Tables

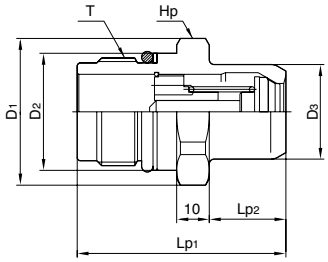
Plug P





•Snap ring fastening type (MALS)

Product code	Application	Mass (g)	Dimensions (mm)						
			Lp_1	Lp_2	$øD_1$	$øD_2$	$øD_3$	Hp	T
MALS-2HP	R1/4 (PT1/4)	236	75	17.5	40	31.9	19	Hex.36	Rc1/4 (PT1/4)
MALS-3HP	R3/8 (PT3/8)	450	85	20.5	51	39.9	23.6	Hex.46	Rc3/8 (PT3/8)
MALS-4HP	R1/2 (PT1/2)	576	85	23.5	60	47.9	29	Hex.54	Rc1/2 (PT1/2)
MALS-6HP	R3/4 (PT3/4)	922	85.5	24.5	67	55.9	34	Face 60	Rc3/4 (PT3/4)

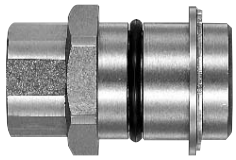


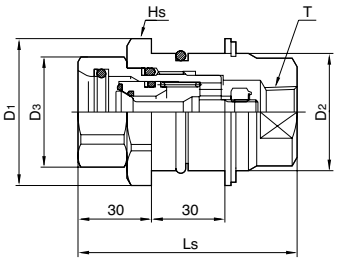
•Screw fastening type (MALT)

Product code	Application	Mass (g)	Dimensions (mm)						
			Lp_1	Lp_2	$øD_1$	$øD_2$	$øD_3$	Hp	T
MALT-2HP	M22 x 1	91	48.5	17.5	29	23.9	19	Hex.27	M22 x 1
MALT-3HP	M28 x 1.5	180	59	20.5	35.5	30.9	23.6	Hex.32	M28 x 1.5
MALT-4HP	M33 x 2	266	64	23.5	45	35.9	29	Hex.41	M33 x 2
MALT-6HP	M42 x 2	430	66	24.5	55	43.9	34	Hex.50	M42 x 2

*No interconnection between MAT types.

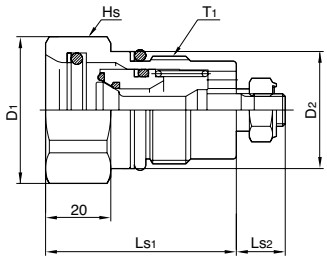
S Socket





•Snap ring fastening type (MALS)

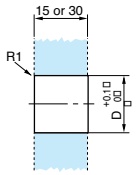
Product code	Application	Mass (g)	Dimensions (mm)					
			Ls	$øD_1$	$øD_2$	$øD_3$	Hs	T
MALS-2HS	R1/4 (PT1/4)	258	69	40	31.9	29	Hex.36	Rc1/4 (PT1/4)
MALS-3HS	R3/8 (PT3/8)	489	76	51	39.9	35.5	Hex.46	Rc3/8 (PT3/8)
MALS-4HS	R1/2 (PT1/2)	668	90.5	60	47.9	45	Hex.54	Rc1/2 (PT1/2)
MALS-6HS	R3/4 (PT3/4)	1259	106	67	55.9	55	Face 60	Rc3/4 (PT3/4)



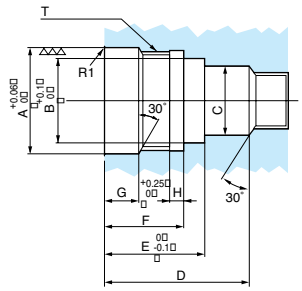
•Screw fastening type (MALT)

Product code	Application	Mass (g)	Dimensions (mm)					
			Ls_1	Ls_2	$øD_1$	$øD_2$	Hs	T_1
MALT-2HS	M22 x 1	113	42.5	9.5	29	23.9	Hex.27	M22 x 1
MALT-3HS	M28 x 1.5	219	50.5	12	35.5	30.9	Hex.32	M28 x 1.5
MALT-4HS	M33 x 2	301	58.5	15	45	35.9	Hex.41	M33 x 2
MALT-6HS	M42 x 2	558	68	17	55	43.9	Hex.50	M42 x 2

Dimensions of Mating Parts



•MALS type



•MALT type

Size	øD
1/4”	33
3/8”	41
1/2”	49
3/4”	57

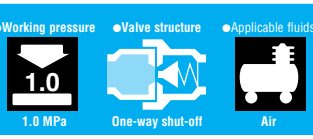
Size	øA	øB	øC	D	E		F	G	H	T
				Socket	Plug	Socket				
1/4”	24	20.1	15	36	23.3		18	8	3	M22 x 1
3/8”	31	25.1	20	46.5	31.3		23	10	4	M28 x 1.5
1/2”	36	30.1	26	57.5	31.3	39.3	28	12	5	M33 x 2.0
3/4”	44	38.1	30	69	32.3	48.8	28.5	12	5	M42 x 2.0

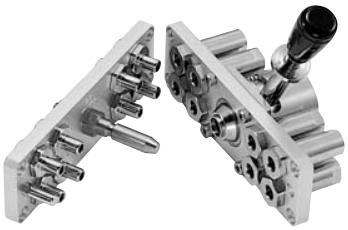
• **Before use, please be sure to read “Requests Regarding Use” at the end of this book and “Notices and Points to be Observed” attached to the product.**

For Air

Multi Cupla MAM Type

Multiple air line system





▲ Piping to a welding robot work clamp

Simultaneously connects several lines securely in one operation! Greatly cuts time in multiple line replacement.

- ●Handles several lines at once
- ●Lever action simplifies manual connection/disconnection
- ●Lever stopper prevents socket plate flying off suddenly on disconnection
- ●Valve on socket side only

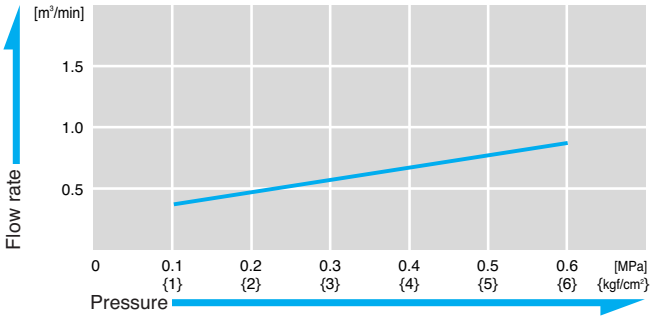
Specifications

Body material	Brass (chrome-plated)			
Size	1/8"			
Working pressure MPa {kgf/cm²}	1.0 {10}			
Pressure resistance MPa {kgf/cm²}	1.5 {15}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	0°C ~ +80°C	Standard material

NBR : Nitrile butadiene rubber

Pressure - Flow Rate Characteristics (Per set)

[Measuring conditions] •Fluid: Air •Temperature: Room temperature



Min. Cross-Sectional Area (mm²)

Per set	15.9

Suitability for Vacuum Applications

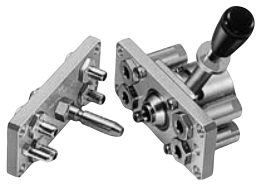
Not suitable for use with vacuum, either alone or in combination.

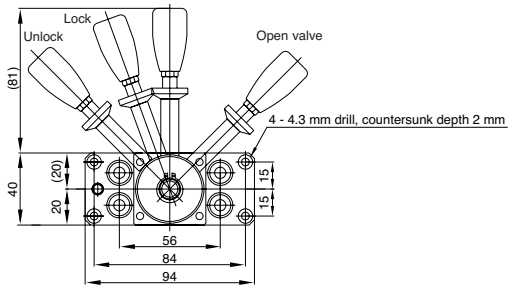
Product Codes and Dimensions Tables

Plug P S Socket

•4-port type (MAM-1SP-4 type)

- **Mass: 650 g**
- **Application: R1/8**

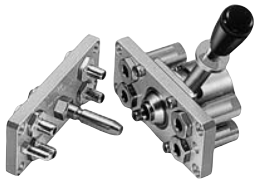


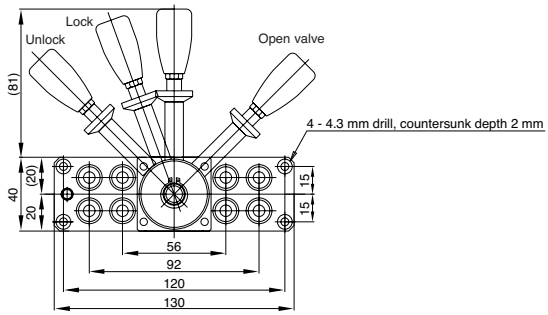


Unit: mm

•8-port type (MAM-1SP-8 type)

- **Mass: 900 g**
- **Application: R1/8**





Unit: mm

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

For artificial dialyzing fluid

Artificial Kidney Cupla
Plastic/Stainless Steel

For dialyzer piping

●Working pressure ●Valve structure ●Applicable fluids

▲ Piping for artificial dialyzer

Couples directly to dialysis fluid supply and discharge ports! For quick dialyser replacement.

- **Connects with overseas as well as domestic dialysers.**
- **Available with excellent corrosion-resistant stainless steel or light-weight plastic body.**
- **Simple, labor-saving connection/removal**

Specifications

Body material	Stainless steel (SUS304)		Modified polyphenylene ether (Modified PPE)	
Size	3/8"		ø6 x ø12, ø8 x ø13.5	
Working pressure MPa {kgf/cm²}	1.5 {15}		0.06 {0.6}	
Pressure resistance MPa {kgf/cm²}	2.2 {22}		0.08 {0.8}	
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	Silicone rubber	SI	-40˚C ~ +150˚C	Standard material*1
	Fluoro-rubber (FKM)	X-100	-20˚C ~ +180˚C	Standard material*2

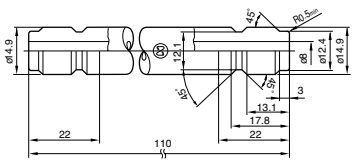
*1 Body material : SUS304
*2 Body material : Modified PPE

Product Codes and Dimensions Tables

Plug P

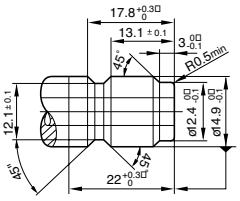
●For socket connection (M-3TPP) Stainless steel type

•Application: Intermediate plug •Mass: 136 g



unit: mm

•Plug for dialyzer (plug dimensions below suit socket shown on right)



unit: mm

Interchangeability

Sockets and plugs can be connected irrespective of type of connection.

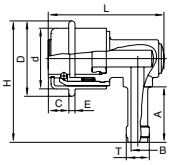
Min. Cross-Sectional Area (mm²)

Product code	M-3TS type
Min. cross-sectional area	38

Product Codes and Dimensions Tables

S Socket

*Blue and red make one set.



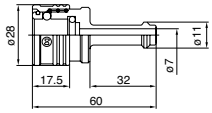
unit: mm

●For hose connection (SL-C) Plastic type

Product code	Application	Mass (g)	Dimensions (mm)								
			L	øD	ød	C	E	A	øT	øB	H
M-3TSL-C6B/R	ø6 x ø12	23.2	55.3	36	29	10	3	26.5	9.5	6.5	58
M-3TSL-C8B/R	ø8 x ø13.5	23.7	55.3	36	29	10	3	26.5	11	6.5	58

●For hose connection (M-3TSH) Stainless steel type

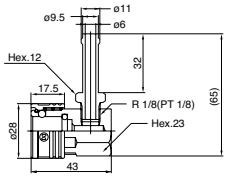
•Application: For 3/8" hose •Mass: 90 g



unit: mm

●For hose connection (M-3TSL-A) Stainless steel type

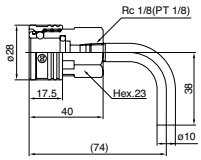
•Application: For 3/8" hose
•Mass: 130 g



unit: mm

●For hose connection (M-3TSL-B) Stainless steel type

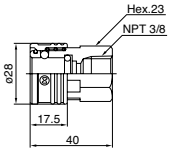
•Application: For 3/8" hose •Mass: 120 g



unit: mm

●For male thread connection (M-3TSF) Stainless steel type

•Application: NPT3/8 •Mass: 120 g



unit: mm

- **Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.**

Residual Pressure Release Jig

For releasing residual pressure

A simple operation releases residual pressure within socket or plug - just turn the handle.

- Residual pressure within socket or plug can be released easily just by turning a handle.
- Residual pressure release jigs are available as a socket type for use with plugs and as a plug type for use with sockets.
- Connection to sockets and plugs is the same as the ordinary Cupla connection method.

For plug

For socket

Applicable Cuplas

SP Cupla, HSP Cupla, 210 Cupla, S210 Cupla, 450B Cupla

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Dust Caps

Dip mole cap

For Cupla dust-proofing and body protection

Shuts out admixture or deposition of foreign matter!
Cupla is always clean and ready for use.

- If dust or sand is stuck on a Cupla, either the coupling function is entirely lost or the whole of the fluid path is badly affected. When a Cupla is left disconnected for a long period, be sure to select and use a dust cap with the appropriate product number and size.

For plug

For socket

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Semi-standard Cupla Series Contents

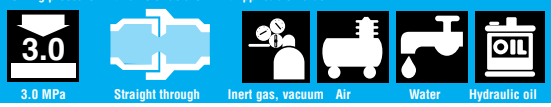
Screw Cupla PCS Type	93
Charge Cupla CS Type	94
Auto Cupla AC Type	95
Auto Cupla ACV Type	95
Airless Cupla CNA Type	96
TSP-HP Cupla for High Pressure	96
Compact Cupla	97
Safety Cap	97
Cupla with Single Lock Cupla with Safety Lock	98

For vacuum

Screw Cupla PCS Type

For vacuum and pressure testing

●Working pressure ●Valve structure ●Applicable fluids



3.0 MPa | Straight through | Inert gas, vacuum | Air | Water | Hydraulic oil

Ability to connect directly to a screwed part greatly improves working! Equipped with stopper for safety.

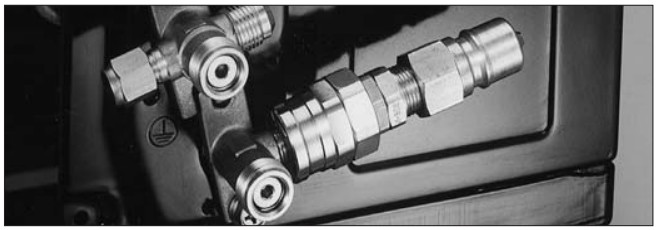
- ●Connects directly to a male parallel thread (unified thread)
- ●Just push over the screwed part for connection. Secure design ensures that locking claws clamp the thread crests firmly at the same time as the connection is made.
- ●Equipped with stopper mechanism that prevents accidental disconnection when in use.
- ●The tedious task of screw tightening is eliminated, cutting the time required for piping work.

Specifications

Body material	Steel (partially stainless steel)			
Size	For 7/16-20UNF, 5/8-18UNF, 3/4-16UNF, 7/8-14UNF, 1 1/16-14UNS			
Working pressure MPa {kgf/cm²}	3.0 {31}			
Pressure resistance MPa {kgf/cm²}	4.5 {46}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	CR	C308	-20˚C ~ +80˚C	Standard material
	H-NBR	H708	-20˚C ~ +120˚C	Order product

CR : Chloroprene rubber H-NBR : Hydrogen added nitrile butadiene rubber

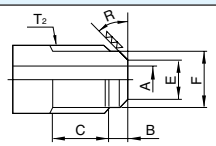
Example of Usage



▲Filling air conditioner refrigerant gas and pipe leak testing

Product Codes and Dimensions Tables

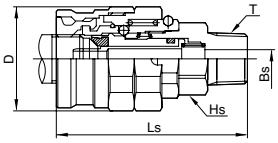
Applied work



Dimensions (mm)

øE	øF	R	B	C	øA	T2
5.5	8.7	45º	3.7	8.3 or more	4.8	7/16-20UNF
8	13.5	45º	4.8	8.2 or more	7	5/8-18UNF
11	16	45º	6	10 or more	10	3/4-16UNF
13.5	19	45º	6	14 or more	12	7/8-14UNF
18	24	45º	6	20 or more	16	1 1/16-14UNS

S Socket



●For female thread connection (PCS)

Product code	Connecting screw parts	Type	Application	Mass (g)	Dimensions (mm) Ls	øD	øBs	Hs	T
PCS-7U	7/16-20UNF	PCS-7U-2	Rc1/4 (PT1/4)	127	55	28	4	Hex.19	R1/4
		PCS-7U-3	Rc3/8 (PT3/8)	133					R3/8
PCS-10U	5/8-18UNF	PCS-10U-2	Rc1/4 (PT1/4)	191	63	34	7	Hex.21	R1/4
		PCS-10U-3	Rc3/8 (PT3/8)	196					R3/8
PCS-12U	3/4-16UNF	PCS-12U-2	Rc1/4 (PT1/4)	299	71.5	40	7	Hex.24	R1/4
		PCS-12U-3	Rc3/8 (PT3/8)	305			10		R3/8
PCS-14U	7/8-14UNF	PCS-14U-2	Rc1/4 (PT1/4)	359	75.5	43	7	Hex.27	R1/4
		PCS-14U-3	Rc3/8 (PT3/8)	365			10		R3/8
PCS-17U	1 1/16-14UNS	PCS-17U-3	Rc3/8 (PT3/8)	-	75	51	11	Hex.35	R3/8

• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Charge Cupla CS Type

For industrial gas

●Working pressure ●Valve structure ●Applicable fluids

3.0 MPa | Two-way shut-off | Inert gas,vacuum | Imdustrial gas | Air | Water | Hydraulic oil

- This is the Cupla for charging refrigerant gas, for exhausting a vacuum or for removing residual pressure.
- Connects/disconnects easily under pressure, lever action opens/closes valves.
- Accepts SP-V Cupla 1/4" and 3/8" plugs.

■Example of Usage

Refrigerated van

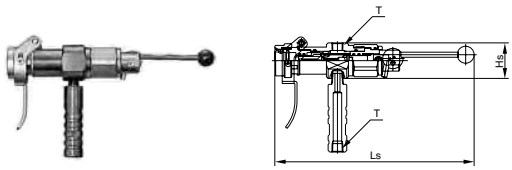
Specifications

Body material	Stainless steel (partially aluminum, brass)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	3.0 {31}			
Pressure resistance MPa {kgf/cm²}	3.6 {37}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	CR	C308	-20°C ~ +80°C	Order product
	H-NBR	H708	-20°C ~ +120°C	Order product

CR : Chloroprene rubber H-NBR : Hydrogen added nitrile butadiene rubber

Product Codes and Dimensions Tables

S Socket



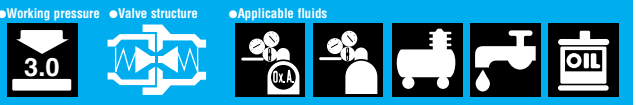
Product code	Application	Dimensions (mm)		
		Ls	øHs	T
CS-2S-V	For plug (2P-V) connection	232.5	42	Rc1/4 (PT1/4)
CS-3S-V	For plug (3P-V) connection	235.5	42	Rc1/4 (PT1/4)

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Auto Cupla AC Type

For industrial gas

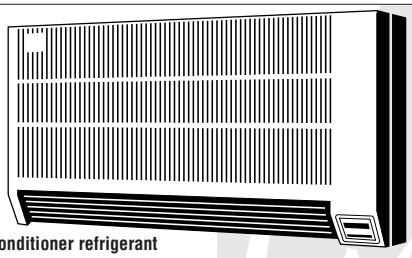
●Working pressure ●Valve structure ●Applicable fluids



3.0 MPa | Two-way shut-off | Inert gas,vacuum | Imdustrial gas | Air | Water | Hydraulic oil

- ●This is the Cupla for manufacturing (gas charging) coolers and refrigerators.
- ●Air-operated connection/disconnection with plug and valve opening/closing.
- ●Accepts SP-V Cupla 1/4" and 3/8" plugs.

■Example of Usage



Filling air conditioner refrigerant

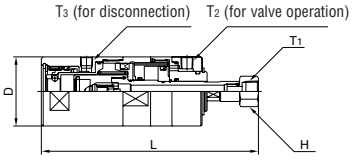
Specifications

Body material	Stainless steel (partially aluminum, brass)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	3.0 {31}			
Pressure resistance MPa {kgf/cm²}	3.6 {37}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	CR	C308	-20°C ~ +80°C	Order product
	H-NBR	H708	-20°C ~ +120°C	Order product
	NBR	SG	-20°C ~ +80°C	Order product
Cupla maximum internal working pressure MPa {kgf/cm2}	On valve operation		1.0 {10}	
	On plug disconnection		1.0 {10}	

H-NBR : Hydrogen added Nitrile butadiene rubber
NBR : Nitrile butadiene rubber
CR : Chloroprene rubber

Product Codes and Dimensions Tables

S Socket



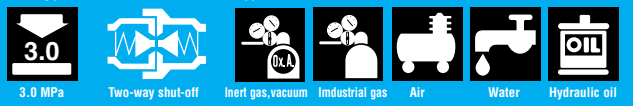
Product code	Application	Dimensions (mm)					
		H	øD	L	T_1	T_2	T_3
AC-2S	R1/4 (PT1/4)	Hex.17	44	155	Rc1/4	Rc1/8	Rc1/8
AC-3S	R3/8 (PT3/8)	Hex.21	55	173	Rc3/8	Rc1/8	Rc1/8

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Auto Cupla ACV Type

For industrial gas

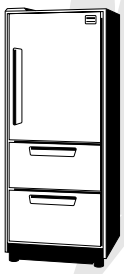
●Working pressure ●Valve structure ●Applicable fluids



3.0 MPa | Two-way shut-off | Inert gas,vacuum | Imdustrial gas | Air | Water | Hydraulic oil

- ●This is the Cupla for manufacturing (charging gas, vacuum exhausting, etc.) coolers and refrigerators.
- ●Air-operated disconnection of socket and plug.
- ●Accepts SP-V Cupla 1/4" and 3/8" plugs.

■Example of Usage



Exhausting a refrigerator

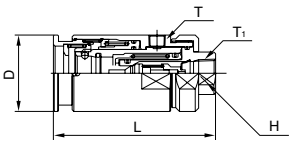
Specifications

Body material	Stainless steel (partially aluminum, brass)			
Size	1/4", 3/8"			
Working pressure MPa {kgf/cm²}	3.0 {31}			
Pressure resistance MPa {kgf/cm²}	3.6 {37}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	CR	C308	-20°C ~ +80°C	Order product
	H-NBR	H708	-20°C ~ +120°C	Order product
	NBR	SG	-20°C ~ +80°C	Order product
Cupla maximum internal working pressure MPa {kgf/cm2}	On plug disconnection		1.0 {10}	

H-NBR : Hydrogen added Nitrile butadiene rubber
NBR : Nitrile butadiene rubber
CR : Chloroprene rubber

Product Codes and Dimensions Tables

S Socket



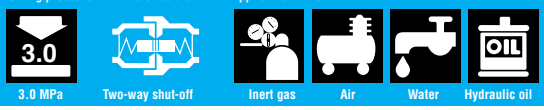
Product code	Application	Dimensions (mm)				
		H	øD	L	T	T_1
ACV-2S	R1/4 (PT1/4)	Face 19	42	100	Rc1/8 (PT1/8)	Rc1/4 (PT1/4)
ACV-3S	R3/8 (PT3/8)	Face 21	45	96	Rc1/8 (PT1/8)	Rc3/8 (PT3/8)

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

Airless Cupla CNA Type

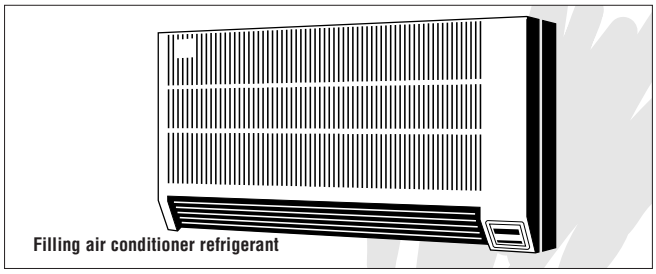
For industrial gas

●Working pressure ●Valve structure ●Applicable fluids



- ●Airless construction minimizes admixture of air on connection and fluid outflow on disconnection.
- ●Built-in automatic shut-off valves in socket and plug.
- ●Connects/disconnects easily under pressure, lever action opens/closes valves.

Example of Usage



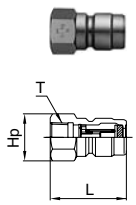
Specifications

Body material	Stainless steel (partially aluminum, brass)			
Size	1/4", 3/8", 1/2"			
Working pressure MPa {kgf/cm²}	3.0 {31}			
Pressure resistance MPa {kgf/cm²}	3.6 {37}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	CR	C308	-20˚C ~ +80˚C	Order product
	H-NBR	H708	-20˚C ~ +120˚C	Order product

H-NBR : Hydrogen added Nitrile butadiene rubber
CR : Chloroprene rubber

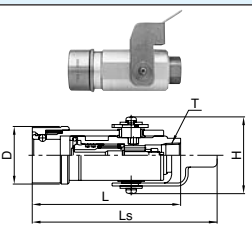
Product Codes and Dimensions Tables

Plug P



Product code	Application	Mass (g)	Dimensions (mm) L	Hp	T
CNA-2P-V	R1/4	–	–	–	–
CNA-3P-V	R3/8	75	43	Hex.22	Rc3/8
CNA-4P-V	R1/2	140	52	Hex.27	Rc1/2

S Socket



Product code	Application	Mass (g)	Dimensions (mm) Ls	L	øD	H	T
CNA-2S-V	R1/4	–	–	–	–	–	–
CNA-3S-V	R3/8	380	114	103	38	48	Rc3/8
CNA-4S-V	R1/2	800	157	136	45	53	Rc1/2

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

TSP-HP Cupla for High Pressure

High pressure and general purpose type

●Working pressure ●Valve structure ●Applicable fluids

- ●Suits high pressure water piping for high pressure washers, car washers.
- ●Valveless type ensures high flow rate.

- Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

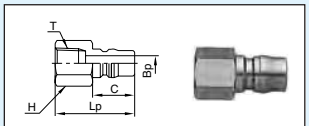
Specifications

Body material	Stainless steel			
Size	1/4", 3/8", 1/2"			
Working pressure MPa {kgf/cm²}	9.0 (92)			
Pressure resistance MPa {kgf/cm²}	15.0 (153)			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20˚C ~ +80˚C	Order product
	EPDM	E. P. T	-40˚C ~ +150˚C	Order product

EPDM : Ethylene propylene rubber NBR : Nitrile butadiene rubber

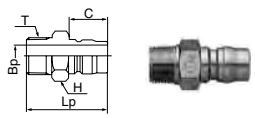
Product Codes and Dimensions Tables

Plug P



●For male thread connection (TPF)

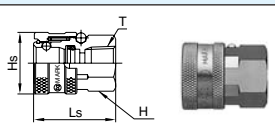
Product code	Application	Dimensions (mm) Lp	H	C	T	øBp
2TPF-HP	R1/4	34	Hex.17	18	Rc1/4	6.5
3TPF-HP	R3/8	38	Hex.21	21	Rc3/8	10
4TPF-HP	R1/2	47.5	Hex.29	26.5	Rc1/2	13



●For female thread connection (TPM)

Product code	Application	Dimensions (mm) Lp	H	C	T	ØBp
2TPM-HP	Rc1/4	38	Hex.17	18	R1/4	6.5
3TPM-HP	Rc3/8	43	Hex.19	21	R3/8	10

S Socket



●For male thread connection (TSF)

Product code	Application	Dimensions (mm) Ls	øHs	H	T
2TSF-HP	R1/4	32	24	Hex.19	Rc1/4
3TSF-HP	R3/8	35	28	Hex.23	Rc3/8
4TSF-HP	R1/2	44.5	35	Hex.29	Rc1/2

Compact Cupla

For small pneumatic devices

●Working pressure ●Valve structure ●Applicable fluids

0.7 MPa | Two-way shut-off | Air | Water | Hydraulic oil

●16.5 mm outer diameter, yet socket and plug have automatic shut-off valves.
●Lightweight, compact, one-touch connection.

• Before use, please be sure to read "Requests Regarding Use" at the end of this book and "Notices and Points to be Observed" attached to the product.

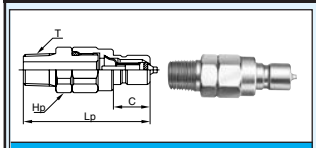
Specifications

Body material	Brass, stainless steel			
Size	1/8"			
Working pressure MPa {kgf/cm²}	0.7 {7}			
Pressure resistance MPa {kgf/cm²}	1.0 {10}			
Packing material, Working temperature range	Packing material	Nitto symbol	Working temp	Remarks
	NBR	SG	-20°C ~ +80°C	Order product

NBR : Nitrile butadiene rubber

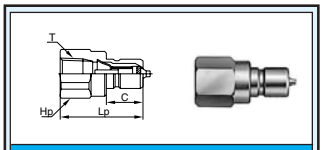
Product Codes and Dimensions Tables

Plug P



●For female thread connection (PM)

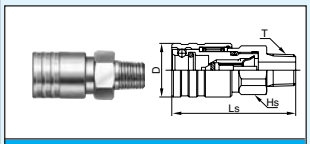
Product code	Application	Mass (g)	Dimensions (mm) Lp	C	Hp	T
CO-1PM	Rc1/8	31	39	11.3	Hex.13	R1/8



●For male thread connection (PF)

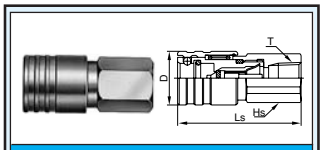
Product code	Application	Mass (g)	Dimensions (mm) Lp	C	Hp	T
CO-1PF	R1/8	26	25.5	11.3	Hex.14	Rc1/8

S Socket



●For female thread connection (SM)

Product code	Application	Mass (g)	Dimensions (mm) Ls	øD	Hs	T
CO-1SM	Rc1/8	44	38	16.5	Hex.14	R1/8



●For male thread connection (SF)

Product code	Application	Mass (g)	Dimensions (mm) Ls	øD	Hs	T
CO-1SF	R1/8	49	38	16.5	Hex.14	Rc1/8

Safety Cap

For Cupla dust-proofing and body protection

Safety Cap for plug | Safety Cap for socket

●Metal cap prevents entry and deposition of dust and grit as well as stopping leaks. (Made-to-order product)

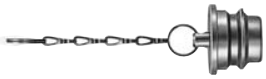
Applicable Cuplas (The following Cuplas can be fitted with caps)

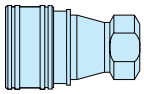
Safety Caps for Plugs

●SP-V Cupla (page 51)
●SP Cupla (page 55)
●TSP Cupla (page 57)
●HSP Cupla (page 63)

●210 Cupla (page 67)
●S210 Cupla (page 69)
●450B Cupla (page 75)

Safety Caps for Sockets





●SP-V Cupla (page 51)
●SP Cupla (page 55)
●TSP Cupla (page 57)
●HSP Cupla (page 63)

●210 Cupla (page 67)
●S210 Cupla (page 69)
●450B Cupla (page 75)

Cupla with Single Lock
Cupla with Safety Lock

Mechanism to prevent disconnection

Cupla with Single Lock

Cupla with Safety Lock

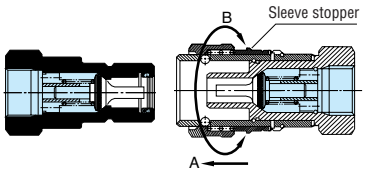
The standard Cuplas listed on the right can be fitted with a single lock mechanism or a safety lock mechanism that prevent accidental disconnection of socket and plug after they have been connected.

●Cupla with Single Lock
The sleeve is provided with a notch and the body of the socket has a lock pin or ball.
After connecting the Cupla, simply turning the sleeve fixes the up and down movement of the sleeve.

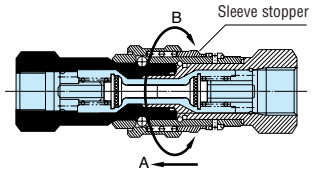
●Cupla with Safety Lock
A sleeve stopper is provided below the sleeve. After connecting the Cupla, simply turning the sleeve stopper fixes the up and down movement of the sleeve. (See diagram on the right)

Construction and method of use of the safety lock (mechanism to prevent disconnection)

●To Lock
If the sleeve stopper is pushed towards A and turned 90˚ in either B direction, the sleeve stopper will be fixed and the sleeve will be locked.



●To Unlock
If the sleeve stopper is pushed towards A and turned 90˚ in either B direction, the sleeve stopper will be freed and the lock will be released. Socket and plug can now be simply disconnected.



Applicable Cuplas (The following Cuplas can be fitted with locks)

Cuplas fitted with single locks

- ●Hi Cupla (page 13)
- ●SP Cupla (page 55)
- ●TSP Cupla (page 57)
- ●HSP Cupla (page 63)
- ●210 Cupla (page 67)
- ●Mold Cupla (page 77)

The above are made-to-order products

The following are fitted as standard equipment

- ●Lock Cupla 200 (page 25)
- ●350 Cupla (page 73)
- ●450B Cupla (page 75)

Cuplas fitted with safety locks

- ●SP Cupla (page 55)
- ●TSP Cupla (page 57)
- ●HSP Cupla (page 63)
- ●210 Cupla (page 67)
- ●350 Cupla (page 73)

The above are made-to-order products

The following are fitted as standard equipment

- ●S210 Cupla (page 69)

Packing Material Selection Table (Reference)

For the sealing part of the Cupla (the important part that prevents leaking to the outside), it is important to select the ideal type of packing material to suit the type and temperature of the fluid. Since an error in this selection may completely destroy the function of the Cupla or cause an unexpected accident, it needs careful study.

NBR : Nitrile butadiene rubber **EPDM : Ethylene propylene**
FFKM : Perfluoro elastomer

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
A	Acetaldehyde	–	–	–	○	◎	–
	Acetic anhydride	–	○	–	○	◎	○
	Acetone	–	–	–	○	◎	–
	Acetonitrile	–	–	–	◎		–
	Acetophenone	–	–	–	◎	◎	–
	Acetylacetone	–	–	–	◎	◎	–
	Acetylchloride	–	–	◎	–		◎
	Acetylene	◎	○	◎	◎		△
	Air (50°C)	◎	◎	◎	◎		◎
	Aluminium bromide (65°C)	◎	◎	◎	◎		○
	Aluminium chloride (65°C)	◎	◎	◎	◎		◎
	Aluminium nitrate (65°C)	◎	○	–	◎		○
	Aluminium sulfate (65°C)	◎	◎	◎	◎		◎
	Amin	–	○	–	○		–
	Ammonia (65°C)	–	○	–	○		◎
	Ammonia (anhydrous)	○	◎	–	◎		○
	Ammonia (cool)	◎	◎	–	◎		◎
	Ammonia gas	◎	◎	–	◎		◎
	Ammonium carbonate	–	◎	–	◎		–
	Ammonium chloride	◎	◎	–	◎		–
	Ammonium dioxide	–	–	–	–		–
	Ammonium hydroxide	–	◎	○	◎		◎
	Ammonium nickelsulfate	–	–	–	–		–
	Ammonium nitrate (65°C)	◎	○	–	◎		○
	Ammonium phosphate (65°C)	◎	◎	–	◎		◎
	Ammonium sulfate (65°C)	◎	◎	–	◎		–
	Ammonium sulfite	–	–	–	◎		–
	Ammonium thiosulfate	○	◎	◎	◎		◎
	Amyl acetate	–	–	–	△		–
	Amyl alcohol	○	○	○	◎		△
	Aniline	–	–	△	○	◎	–
	Aniline boron	–	–	–	–	–	–
	Animal oil	◎	○	◎	○		○
	Arsenic trichloride	–	–	–	–	–	–
	Asphalt	○	○	◎	–		○
B	Barium chloride	◎	◎	◎	◎		◎
	Barium hydroxide (65°C)	◎	◎	◎	◎		◎

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Barium nitrate	–	–	◎	–		–
	Barium sulfate (65°C)	◎	◎	–	–		◎
	Barium sulfide	◎	◎	◎	◎		◎
	Beer	△	○	◎	◎		◎
	Benzene	–	–	◎	–		–
	Benzyl alcohol (65°C)	–	◎	◎	○		–
	Benzyl aldehyde	–	–	–	◎		–
	Benzyl chloride	–	–	◎	–		–
	Brake oil	–	–	○	◎		–
	Bromine	–	–	◎	–		–
	Bromine water	–	–	◎	–		–
	Butadiene	–	○	○	△		–
	Butane (2.2-, 3-dimethyl)	◎	○	◎	–		–
	Butane (liquid)	◎	○	◎	–		–
	Butane	○	○	◎	–		–
	Butanol (Butyl alcohol)	◎	◎	◎	○		○
	Butter	◎	–	◎	○		○
	Butyl acetate	–	–	–	○		–
	Butyl stearate	○	–	◎	–		–
	Butylene	○	△	◎	–		–
	Butyraldehyde	△	–	–	○		△
C	Cadmium cyanide	◎	◎	◎	◎		◎
	Calcium acetate (65°C)	○	○	–	◎		–
	Calcium acetate	○	○	–	◎		–
	Calcium carbide	–	–	–	–		–
	Calcium carbonate	–	–	–	–		–
	Calcium hyposulfite	○	◎	◎	◎		◎
	Calcium hydroxide (65°C)	◎	◎	◎	◎		–
	Calcium nitrate (65°C)	◎	◎	◎	◎		◎
	Calcium perchloric acid	–	–	–	–		–
	Calcium sulfate (65°C)	–	–	–	–		–
	Calcium sulfate	–	–	–	–		–
	Calcium sulfite	–	–	◎	–		–
	Carbitol	○	○	○	○		○
	Carbon disulfide	–	–	◎	–		–
	Carbon monoxide (65°C)	◎	○	◎	◎		◎
	Carbon tetrachloride	○	–	◎	–	◎	–

■How to read the selection tables

◎ – Practically no effect, can be used (Excellent)
○ – Some effect but can be used under some conditions (Good)
△ – Should be avoided if possible (Passable)
— – Cannot be used (Unsuitable)

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Castor oil	◎	◎	◎	○		◎
	Chlorine (liquid)	–	–	–	–		–
	Chlorine gas	–	–	◎	–		–
	Chlorine water	△	–	◎	○		–
	Chloroacetone	–	–	–	◎		–
	Chlorobenzene	–	–	◎	–		–
	Chloroform	–	–	◎	–	◎	–
	Chlorophenol	–	–	◎	–		–
	Chromium hydroxide	–	–	◎	–		–
	Coconut oil	◎	–	◎	◎		–
	Cod liver oil	–	–	–	–		–
	Coffee	◎	–	–	–		–
	Copper chloride (65°C)	◎	○	◎	◎		–
	Copper cyanide	◎	◎	◎	◎		◎
	Copper sulfate	◎	◎	◎	◎		◎
	Corn oil	◎	○	◎	△		◎
	Cotton seed oil	◎	○	◎	△		△
	Cresol (50°C)	–	–	◎	–		–
	Crude oil	○	–	◎	–		–
	Cyclohexane	○	–	◎	–	◎	–
	Cylohexanol	○	◎	◎	–	◎	–
	Cyclophenol	–	–	◎	–		–
D	Diacetone alcohol	–	◎	–	◎	◎	–
	Dibenzyl ether	–	–	–	○		–
	Diesel oil	◎	△	◎	–		–
	Diethanol amin	○	○	–	○		○
	Diethylene glycol	◎	◎	◎	◎		○
	Dioctyl phthalate	–	–	–	–		–
E	Ethanol	◎	◎	◎	◎		◎
	Ethyl acetate	–	–	–	○		○
	Ethyl alcohol	◎	◎	◎	◎	◎	○
	Ethyl benzene	–	–	◎	–	◎	–
	Ethyl cellulose	○	○	–	○		○
	Ethyl chloride	◎	○	◎	◎		–
	Ethylene glycol	◎	◎	◎	◎	◎	○
	Ethylene perchlorate	◎	–	◎	–		–
	Ethylene tetrachloride	–	–	◎	–		–

■Note:

When selecting the packing material, please consider the following items carefully:

1. If there is no warning on the fluid line, saturation is reached at room temperature.
2. Please ask us about applications for high fluid temperatures or unusual concentrations.
3. For applications related to foods, please order separately.
4. The standard packing is nitrile butadiene rubber. Unless otherwise specified, couplers will be supplied with standard packing.

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene
FFKM : Perfluoro elastomer

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Ethylene trichloride	△	–	◎	–		–
F	Fish oil	◎	–	◎	–	◎	–
	Fluorine (dry)	–	–	–	–		–
	Formaldehyde	○	◎	–	–		–
	Freon 11	◎	–	○	–		–
	Freon 12	◎	◎	◎	○		–
	Freon 22	–	◎	–	◎		–
	Fruits	–	–	–	–		–
	Fuel oil	◎	○	◎	–		–
	Furfural	–	–	–	○	◎	–
G	Gasoline	◎	–	◎	–		–
	Gelatin	◎	◎	◎	◎		◎
	Glucose	◎	◎	◎	◎		◎
	Glycerine (65°C)	◎	◎	◎	◎		◎
	Glycol	◎	◎	◎	◎		◎
	Grease (65°C)	◎	◎	◎	–		◎
H	Helium	◎	◎	◎	◎		◎
	Heptane	–	–	–	–		–
	Hexane	–	–	–	–	◎	–
	Hexane glycol	–	–	–	–		–
	Hydraulic fluid (oil base)	◎	△	◎	–		△
	Hydraulic fluid (water base)	◎	△	◎	△		△
	Hydrogen bromide	◎	–	–	–		–
	Hydrogen peroxide (30%)	○	○	○	○		◎
	Hydrogen	◎	◎	◎	◎		△
	Hyposulfite soda	○	◎	◎	◎		◎
I	Iron chloride	◎	◎	◎	◎		◎
	Iron nitrate (65°C)	◎	◎	◎	◎		○
	Iron sulfate (10%)	◎	◎	–	–		○
	Iron sulfite (100%)	◎	–	–	–		–
	Iso octane	◎	○	◎	–	◎	–
	Iso propane	◎	○	◎	–		–
	Isoamyl alcohol	–	–	–	–		–
	Isopropyl acetate	–	–	–	○		–
	Isopropyl alcohol	○	○	◎	◎		◎
	Isopropyl ether	○	△	–	–		–
K	Kerosine	◎	○	◎	–		–

NBR : Nitrile butadiene rubber EPDM : Ethylene propylene
FFKM : Perfluoro elastomer

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
L	L.P.G.	◎	○	◎	–		△
	Lard	◎	–	–	–		–
	Latex	–	–	–	–		–
	Liquor (beet)	◎	◎	◎	◎		◎
	Liquor (sucrose)	◎	◎	◎	◎		◎
	Lubricating oil	◎	△	◎	–		○
M	Magnesium ammonium sulfate	–	–	–	–		–
	Magnesium chloride (65°C)	◎	◎	◎	◎		◎
	Magnesium hydroxide (65°C)	○	○	◎	◎		–
	Magnesium nitrate	◎	–	–	–		–
	Magnesium sulfate (65°C)	◎	◎	◎	◎		◎
	Maleic acid anhydride	–	–	◎	–		–
	Mercury	◎	◎	◎	◎		–
	Methanol	◎	◎	–	◎		◎
	Methyl bromide	○	–	◎	–		–
	Methyl butyl ketone	–	–	–	◎		–
	Methyl chloride	–	–	◎	△		–
	Methyl ethyl ketone	–	–	–	◎	◎	–
	Methyl isoketone	–	–	–	△	◎	–
	Methyl propyl ketone	–	–	–	○		–
	Methyl salicylate	–	–	–	○		–
	Methylene bromide	–	–	○	–		–
	Methylene chloride	–	–	○	△	○	–
	Milk	◎	◎	◎	◎		◎
	Mineral oil	◎	△	◎	–		△
	Molasses	–	–	–	–		–
	Monobromo benzene	–	–	◎	–		–
	Monochloro benzene	–	–	–	–		–
	Monomethanol amin	–	–	–	○		○
N	Naphtha	○	–	◎	–		–
	Naphthalene	–	–	◎	–		–
	Naphthenic oil	◎	–	◎	–		–
	Nickel acetate (65°C)	–	–	–	◎		–
	Nickel acetate	○	○	–	◎		–
	Nickel chloride	◎	◎	◎	◎		◎
	Nickel nitrate	–	–	–	–		–
	Nickel sulfate	–	–	–	–		–

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Nitrobenzen	–	–	○	–	◎	–
	Nitrogen (gas)	◎	◎	◎	◎		◎
	Normal amyl alcohol	–	–	–	–		–
	Normal butyl alcohol	–	–	–	–		–
	Normal heptan	◎	○	◎	–		–
	Normal hexan	◎	○	◎	–		–
	Normal pentane	◎	◎	◎	–		–
O	Octyl alcohol	○	○	◎	◎		○
	Oleic acid (65°C)	△	–	○	–		–
	Olive oil	◎	○	◎	○		–
	Ortho-dichlorobenzen	–	–	◎	–		–
	Oxychloride phosphorus (dry)	○	○	◎	◎		○
	Oxychloride phosphorus (wet)	○	○	◎	◎		○
	Oxygen (gas)	○	◎	◎	◎		◎
	Ozone	–	△	◎	◎		◎
P	Palm oil	–	–	–	–		–
	Hypo (sodiumthiosulfate)	–	–	–	–		–
	Para-dichlorobenzen	–	–	◎	–		–
	Paraffin oil	◎	–	◎	–		–
	Peanut oil	◎	○	◎	△		◎
	Pentane (2-. 3-. 4-methyl)	–	–	–	–		–
	Perboric acid soda bleaching	○	○	◎	◎		○
	Phenol	–	–	◎	–		–
	Phosphorus	–	–	–	–		–
	Photographic liquid	◎	◎	◎	○		◎
	Phtalic anhydride	–	–	–	–		–
	Pine oil	○	–	◎	–		–
	Potassium acetate (65°C)	○	○	–	◎		–
	Potassium aluminium phosphate	–	–	–	–		–
	Potassium bichromate	◎	◎	◎	◎		◎
	Potassium carbonate	–	–	–	–		–
	Potassium cyanide	◎	◎	◎	◎		◎
	Potassium hydroxide (65°C)	○	◎	–	◎		△
	Potassium hypocarbonate	–	–	–	–		–
	Potassium hyposulfite	○	◎	◎	◎		◎
	Potassium nitrate (65°C)	◎	◎	◎	◎		◎
	Potassium nitrite	–	–	–	◎		–

■How to read the selection tables

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○ – Some effect but can be used under some conditions (Good)
△ – Should be avoided if possible (Passable)
— – Cannot be used (Unsuitable)

	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Potassium phosphate	–	–	–	–		–
	Potassium silicate	◎	◎	◎	◎		–
	Potassium sulfate	◎	◎	◎	◎		◎
	Potassium thiosulfate	–	–	–	–		–
	Printing ink	◎	–	–	–		–
	Propane	◎	○	◎	–		–
	Propionic aldehyde	△	△	–	○		○
	Propionic nitrile	◎	◎	◎	◎		◎
	Propyl acetate	–	–	–	○		–
	Propyl alcohol (65°C)	◎	◎	◎	◎		◎
	Propylene	–	–	◎	–		–
	Pyridine	–	–	–	○	◎	–
R	Resin oil	◎	–	–	–		–
S	Sec. butyl alcohol	–	–	–	–		–
	Soapy water (65°C)	◎	○	◎	◎		◎
	Soda hypocarbonate	–	–	–	–		–
	Sodium acetate	○	○	–	◎		–
	Sodium aluminate	–	–	–	◎		–
	Sodium bichromate	◎	◎	◎	◎		◎
	Sodium carbonate	◎	◎	◎	◎		◎
	Sodium chloride (salt water)	◎	◎	◎	◎		◎
	Sodium chloride	◎	◎	◎	◎		◎
	Sodium cyanide	◎	◎	–	◎		◎
	Sodium hydro chloride	–	–	–	–		–
	Sodium hydroxide (50°C)	○	○	–	◎		–
	Sodium hydroxide (50%)	◎	◎	△	◎	◎	–
	Sodium hypochloride acid	○	–	◎	○	◎	○
	Sodium hyposulfate	○	◎	◎	◎		◎
	Sodium iodide	–	–	–	–		–
	Sodium metaphosphate	◎	○	◎	◎		–
	Sodium nitrate	○	◎	–	◎		–
	Sodium nitrite	–	–	–	◎		–
	Sodium peroxide	○	○	◎	◎		–
	Sodium phosphate	◎	◎	–	–		△
	Sodium silicate	◎	◎	◎	◎		–
	Sodium sulfate	◎	◎	◎	◎		◎
	Sodium sulfide	◎	◎	◎	◎		◎

■Note:

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	Fluid type	Packing Material					
		NBR	Chloroprene rubber	Fluoro-rubber	EPDM	FFKM	Silicone rubber
	Sodium sulfite	◎	◎	◎	◎		◎
	Sodium trichloride	–	–	–	–		–
	Spindle oil	◎	–	◎	–		△
	Starch	◎	◎	◎	◎		◎
	Steam (100°C)	–	–	–	◎		–
	Styrene monomer	–	–	○	–		–
	Sugar	◎	◎	◎	◎		–
	Sulfur	–	◎	◎	◎		◎
	Sulfur chloride (dry)	–	–	◎	–		–
	Sulfur dioxide	–	○	◎	◎		○
	Sulfur tetroxide	–	–	◎	–		–
	Syrup	◎	–	–	–		–
T	Tert.butyl alcohol	–	–	–	–		–
	Tetracethyl lead	○	–	◎	–		–
	Tetralin	–	–	◎	–		△
	Titanium tetrachloride	○	–	◎	–		–
	Toluen (Toluoil)	–	–	◎	–	◎	–
	Triethanol amine	△	◎	–	○		–
	Trifluorophosphite	–	–	–	◎		–
	Tung oil	◎	○	◎	–		–
V	Vinegar	○	◎	◎	◎		◎
	Vinyl acetate	–	○	–	◎		–
	Vinyl chloride	–	–	◎	△		◎
	Vinyl chloride resin	–	–	◎	–		–
W	Water (65°C)	◎	○	◎	◎		◎
	Water glass	–	–	–	–		–
	Wax	–	–	–	–		–
	Whisky	◎	◎	◎	◎		◎
	Wine	◎	◎	◎	◎		◎
X	Xylene	–	–	◎	–	◎	–
Z	Zinc chloride (65°C)	◎	◎	◎	◎		◎
	Zinc sulfate (65°C)	◎	◎	◎	◎		◎

Body Material Selection Table

The material for the body of the Cupla is closely related to the usage application, type of fluid, concentration (%) of the fluid, pressure, working environment, etc. and must be carefully considered with respect to the fluid in order to use the Cupla efficiently and obtain its full performance. Since there are some metals that should not be used with certain fluids, please refer to this table when making your selection.

Selection Chart Symbols: ○ **Suitable** △ **Unsuitable under certain conditions**

	Fluid type	Brass	Stainless steel	Steel
A	Acetic acid	△	○	
	Acetic anhydride		○	
	Acetone	○	○	○
	Air	○	○	○
	Aluminium chloride		△	
	Aluminium fluoride			
	Aluminium sulfate		△	
	Ammonia		○	
	Ammonium nitrate		○	
	Ammonium phosphate		○	
	Ammonium sulfate			
	Aniline		○	
	Arsenic acid		○	
B	Barium chloride			
	Barium hydroxide		○	
	Barium sulfide		○	○
	Beer	○	○	
	Benzene	○	○	○
	Benzine	○	○	○
	Boric acid		○	
	Butane	○	○	○
	Butyl acetate	○	○	○
C	Calcium chloride			
	Calcium hydroxide	○	○	○
	Carbon dioxide	○	○	○
	Carbon disulfide	○	○	○
	Carbon tetrachloride		○	
	Carbonic acid		○	
	Caustic soda		○	
	Chlorine		○	○
	Chromic acid		○	
	Citric acid		○	
	Cresylic acid	○	○	○
D	Diesel fuel	○	○	○
	Downtherm		○	
	Drinking water	△	○	
E	Ether	○	○	○
	Ethyl acetate	○	○	○
	Ethyl alcohol	○	○	○
	Ethylene chloride			
	Ethylenglycol	○	○	○
F	Fatty acid		○	
	Ferric chloride			
	Freon	○	○	○
	Formaldehyde		○	
	Formalin		○	

	Fluid type	Brass	Stainless steel	Steel
	Formic acid		○	
G	Glycerine	○	○	○
H	Hexane	○	○	
	Hydrobromic acid			
	Hydrochloric acid			
	Hydrofluoric acid		○	
	Hydrogen	○	○	○
	Hydrogen peroxide		○	
	Hydrogen sulfide		△	
I	Industrial water	○	○	△
	Iron (II) sulfate		△	
J	Jet fuel		○	△
L	Lactic acid		○	
	LPG	○	○	○
M	Magnesium chloride			
	Mercury		○	○
	Methyl alcohol	○	○	○
N	Naphtha	○	○	○
	Naphthalene	○	○	○
	Natural gas	○	○	○
	Nickel chloride		○	
	Nitric acid		△	
	Nitrobenzene		○	○
O	Octane			
	Oxygen	○	○	○
P	Paraffin	○	○	○
	Phenol		○	
	Phosphoric acid		○	
	Potassium chloride		△	
	Potassium hydroxide		○	
	Pure water	△	○	
R	Refined gasoline	○	○	○
	Refined petroleum	○	○	○
S	Salt water		△	
	Sodium carbonate		○	○
	Sodium chloride	○	○	○
	Sodium hydroxide		○	
	Sodium nitrate		○	○
	Sodium phosphate		△	
	Sodium sulfate	○	○	
	Sulfuric acid			
	Sulfurous acid			
T	Tannic acid		○	
W	Wine		○	
Z	Zinc chloride			

Notes: 1. Since fluid concenration (%) and conditions of use may vary, a detailed study is necessary when choosing materials.
2. For applications involving fluids with blank lines please consult us.

Unit Conversion Tables

■Length

m	cm	in	ft	yd	km	mile	n.mile
1	100	39.37	3.281	1.094	1	0.6214	0.5400
0.01	1	0.3937	0.03281	0.01094	1.6093	1	0.8690
0.0254	2.540	1	0.08333	0.02778	1.852	1.151	1
0.3048	30.48	12	1	0.3333			
0.9144	91.44	39	3	1			

■Area

m^2	in^2	ft^2	yd^2	km^2	acre	$mile^2$	ha
1	1550	10.76	1.196	1	247.1	0.3861	100
*$0.0_3 6452$	1	$0.0_2 6944$	$0.0_3 7716$	$0.0_2 4046$	1	$0.0_2 1562$	0.04047
0.09290	144	1	0.1111	2.590	640	1	259.0
0.8361	1296	9	1	0.01	2.471	$0.0_2 3861$	1

* $0.0_3 6452$ means 0.0006452

■Mass (Weight)

kg	gr	oz	lb	t	l.t	s.t
1	15432	35.27	2.205	0.001	$0.0_3 9842$	$0.0_2 1102$
*$0.0_4 6480$	1	$0.0_2 2286$	$0.0_3 1429$	$0.0_7 6480$	$0.0_7 6328$	$0.0_7 7143$
0.02835	437.5	1	0.0625	$0.0_4 2835$	$0.0_4 2790$	$0.0_4 3125$
0.4536	7000	16	1	$0.0_3 4536$	$0.0_3 4464$	0.0005
1000	1.543×10^7	35274	2205	1	0.9842	1.102
1016	1.568×10^7	35840	2240	1.016	1	1.12
907.2	1.4×10^7	32000	2000	0.9072	0.8929	1

* $0.0_4 6480$ means 0.00006480

■Force

N	kgf	lbf	pdl
1	0.1020	0.2248	7.233
9.807	1	2.205	70.93
9.448	0.4536	1	32.17
0.1383	0.01410	0.03108	1

■Pressure

MPa	kgf/cm^2	lbf/in^2 (PSI)	atm	mHg	inHg	mH_2O	ftH_2O
1	10.20	145.0	9.869	7.501	295.3	102.0	334.6
0.09807	1	14.22	0.9678	0.7356	28.96	10	32.81
0.006895	0.07031	1	0.06805	0.05171	2.036	0.7031	2.307
0.1013	1.033	14.70	1	0.76	29.92	10.33	33.90
0.1333	1.360	19.34	1.316	1	39.37	13.60	44.60
0.003386	0.03453	0.4912	0.03342	0.0254	1	0.3453	1.133
0.009806	0.1	1.422	0.09678	0.07355	2.896	1	3.281
0.022989	0.03048	0.4335	0.02950	0.02242	0.8827	0.3048	1

UDC 621.882.082.2 JIS

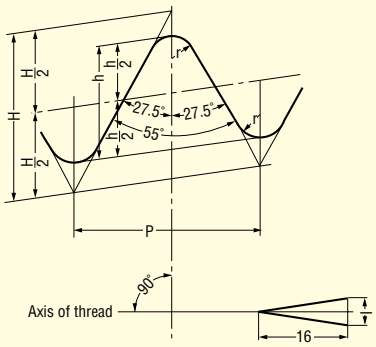
Japanese Industrial Standard

Taper Pipe Threads (JIS B 0203 -1982)

This Japanese Industrial Standard specifies taper pipe threads and is applicable to the threads used mainly for pressure-tight joints on the threads for joining pipes, pipe fittings, fluid machinery, etc.

Attached Table: Basic Profiles, Basic Dimensions and Tolerance

Basic Profile Applied for Taper External and Taper Internal Threads

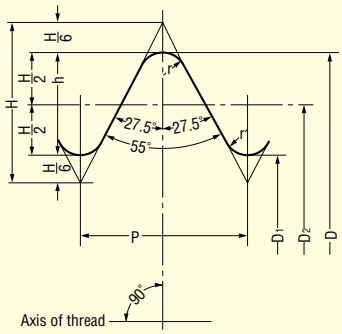


Thick continuous line shows basic profile.

$P = \frac{25.4}{n}$

H = 0.960237 P
h = 0.640327 P
r = 0.137278 P

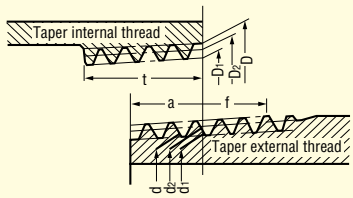
Basic Profile Applied for Parallel Internal Threads



Thick continuous line shows basic profile.

$P = \frac{25.4}{n}$

H = 0.960491 P
h = 0.640327 P
r = 0.137329 P



How to Symbolige taper pipe threads :

Taper external thread	R3/8
Taper internal thread	Rc3/8

Unit: mm

Designation of thread	Thread: Number of threads (in 25.4 mm) *n*	Thread: Pitch *P* (Given for reference)	Thread: Height of thread *h*	Thread: Radius *r* or *r'*	Gauge dia. External thread: Major dia. *d*	Gauge dia. External thread: Pitch dia. d_2	Gauge dia. External thread: Minor dia. d_1	Gauge dia. Internal thread: Major dia. *D*	Gauge dia. Internal thread: Pitch dia. D_2	Gauge dia. Internal thread: Minor dia. D_1	Position of gauge plane: External thread, From pipe end: Gauge length *a*	Position of gauge plane: External thread, From pipe end: Axial tolerance ±*b*	Position of gauge plane: Internal thread, At pipe end: Axial tolerance ±*c*	Tolerance on D, D_2 and D_1 of parallel internal thread ±	Length of useful thread (min.): External thread, From position of gauge plane toward larger dia. end *f*	Length of useful thread (min.): Internal thread, When there is incomplete thread part, Taper internal thread, From position of gauge plane toward smaller dia. end *l*	Length of useful thread (min.): Internal thread, When there is incomplete thread part, Paralle internal thread, From end of pipe or coupler *l'* (Given for reference)	Length of useful thread (min.): Internal thread, When there is no incomplete thread part, Taper internal thread/ Parallel internal thread, From gauge plane or end of pipe or coupler *t*	Size of carbon steel pipe for ordinary piping (Given for reference): Outer dia.	Size of carbon steel pipe for ordinary piping (Given for reference): Thickness
R 1/8	28	0.9071	0.581	0.12	9.728	9.147	8.566				3.97	0.91	1.13	0.071	2.5	6.2	7.4	4.4	10.5	2.0
R 1/4	19	1.3368	0.856	0.18	13.157	12.301	11.445				6.01	1.34	1.67	0.104	3.7	9.4	11.0	6.7	13.8	2.3
R 3/8	19	1.3368	0.856	0.18	16.662	15.806	14.950				6.35	1.34	1.67	0.104	3.7	9.7	11.4	7.0	17.3	2.3
R 1/2	14	1.8143	1.162	0.25	20.955	19.793	18.631				8.16	1.81	2.27	0.142	5.0	12.7	15.0	9.1	21.7	2.8
R 3/4	14	1.8143	1.162	0.25	26.441	25.279	24.117				9.53	1.81	2.27	0.142	5.0	14.1	16.3	10.2	27.2	2.8
R 1	11	2.3091	1.479	0.32	33.249	31.770	30.291				10.39	2.31	2.89	0.181	6.4	16.2	19.1	11.5	34.0	3.2
R 1-1/4	11	2.3091	1.479	0.32	41.910	40.431	38.952				12.70	2.31	2.89	0.181	6.4	18.5	21.4	13.4	42.7	3.5
R 1-1/2	11	2.3091	1.479	0.32	47.803	46.324	44.845				12.70	2.31	2.89	0.181	6.4	18.5	21.4	13.4	48.6	3.5
R 2	11	2.3091	1.479	0.32	59.614	58.135	56.656				15.88	2.31	2.89	0.181	7.5	22.8	25.7	16.9	60.5	3.8
R 2-1/2	11	2.3091	1.479	0.32	75.184	73.705	72.226				17.46	3.46	3.46	0.216	9.2	26.7	30.1	18.6	76.3	4.2
R 3	11	2.3091	1.479	0.32	87.884	86.405	84.926				20.64	3.46	3.46	0.216	9.2	29.8	33.3	21.1	89.1	4.2
R 3-1/2	11	2.3091	1.479	0.32	100.330	98.851	97.372				22.23	3.46	3.46	0.216	9.2	31.4	34.9	22.4	101.6	4.2
R 4	11	2.3091	1.479	0.32	113.030	111.551	110.072				25.40	3.46	3.46	0.216	10.4	35.8	39.3	25.9	114.3	4.5
R 5	11	2.3091	1.479	0.32	138.430	136.951	135.472				28.58	3.46	3.46	0.216	11.5	40.1	43.5	29.3	139.8	4.5
R 6	11	2.3091	1.479	0.32	163.830	162.351	160.872				28.58	3.46	3.46	0.216	11.5	40.1	43.5	29.3	165.2	5.0

Production Bases Support Product Quality

Large scale production bases in Tochigi, Yamagata and Yamanashi, having the capability of flexible mass production, are in full operation around the clock and constitute a complete high-grade supply system, from the machining of components to the assembly and testing of finished products, that is forever ready and able to respond to our users' reliance.

Ujiie Plant (Tochigi)

TPM Award for Excellence

In October 1994, Nitto Kohki's Ujiie Plant was assessed by the Japan Plant Maintenance Association for the success of its Total Productive Maintenance (TPM) activities and approved as a high level plant.

ISO 9002 Certificate

In November 1995, Nitto Kohki's Ujiie Plant was granted the international standard "ISO 9002" by the Japan Quality Assurance Organization (JQA) for quality control and quality assurance in the manufacture of Cupla products (quick-acting, fluid couplings) as well as 1 kW Linear Drive air compressors, vacuum pumps and application products.

Yamagata Plant (Yamagata)

Kofu Plant (Yamanashi)

From Development to Production, Management and Marketing of “Cuplas”

Nitto Kohki is introducing an integrated “total product system” for the supply of high-performance high-quality “Cuplas”, embracing every aspect from, that is capable of responding promptly to “users’ needs”

Nitto Kohki’s total product system

■Research and Development

The needs of the time and the latest information are gathered and analyzed, and applied with creative technology to the challenge of ceaseless development of good Cuplas, Cuplas that are suggested by user demand

■Quality Control

The careful selection of materials, painstaking pursuit of machining precision, and passing strict surveillance processes such as severe endurance testing have earned trust for our Cuplas as a world brand.

■Production

High-grade, rationalized, and integrated production system extends from the machining of parts to the assembly and testing of completed products.
Robots we make in our own plants and many other latest facilities that can not be seen elsewhere have marvelous capacity for mass production and we aim an establishment of a flexible supply system.

■Marketing

Meticulous marketing activities include advertising in the general industrial press and specialist papers, nationwide and local exhibitions, training meetings, catalogs, video tapes, presentations of the latest products and technical data, unique and dynamic campaigns, etc.

Nitto Kohki Labor-Saving Products

In addition to quick-acting fluid couplings, "Cuplas", Nitto Kohki is responding to the needs of users by introducing next-generation labor-saving devices to the world, including "materials handling devices" such as various types of industrial robots and balancers, various "machine tools and hand tools", "Telemeasure" factory automation devices, linear drive free piston type "compressors/vacuum pumps"

Creating "Technology that speaks to People"

▲ Various types of industrial robots, materials handling devices

▲ Various machine tools

▲ Radio system enters and monitors measurement data

▲ Compressors, vacuum pumps and their application products

▲ Head office and laboratory

Care and Inspection of Cuplas

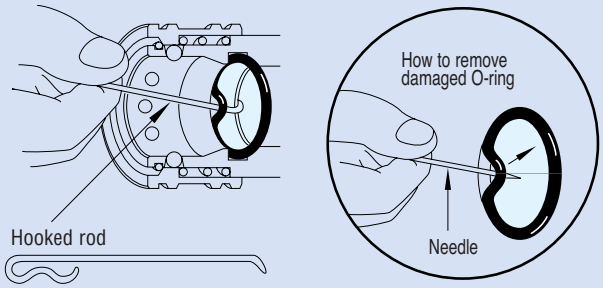
Cuplas should be inspected periodically to ensure safe operation and to prevent a drop in performance or faulty action. If you notice something abnormal or obvious worn, please replace it with a new one or contact Nitto Kohki or the shop where you bought it.

O-ring replacement procedure

Internal O-rings are consumable items. If leakage occurs due to the O-ring in the socket being cut, worn or aged, use the following procedure to replace it with a new O-ring.

Removing an O-ring

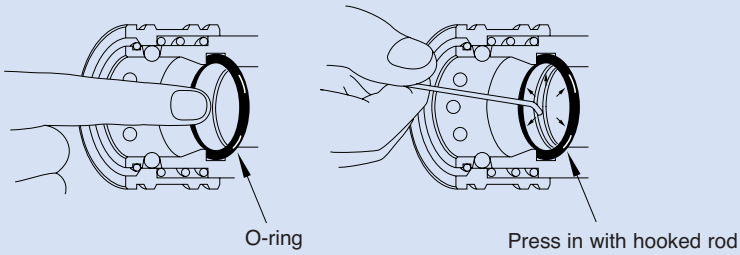
(1) Use an object with a bent end, such as a crochet hook, to remove the O-ring. (A cut or aged O-ring is easy to remove with a straight needle)



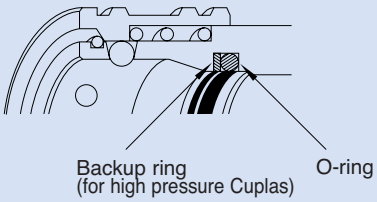
(2) After removing the O-ring, wipe the groove clean with a cloth.

Fitting an O-ring

(1) To fit an O-ring, press in one part of the O-ring and the remaining part can easily be pressed in with something like a crochet hook.



(2) A high pressure Cupla has a back up ring. Insert an O-ring in the place shown on the diagram.
If connection/disconnection is difficult after the O-ring has been replaced, apply a little grease to the O-ring.



Cupla Inquiry Form

If you are unable to select a Cupla from this catalog, or there is no type that suits your particular requirements, please fill in this form and fax it to us. We will select the most suitable Cupla for your usage conditions and contact you.

FAX Sheet Fax: +81-3-37544131

To Nitto Kohki Marketing Department

Company Name		Factory/Branch	
Address		TEL FAX	
Department/Section		Full Name	

■Cupla Usage Conditions

Application	(Product/Machinery) Name	Quantity to be used	
Size	Special Spec No. If any	Location	Indoors • Outdoors
Products Name	Hi Cupla • Super Cupla • Molding Cupla • SP • HSP • 350 • TSP • Mini Cupla • Others		
Body Material		Packing Material	
Surface Treatment		Connection/Disconnection frequency	( ) times/day ( ) times/month
Valve	Socket (with • without), Plug (with • without)	Fluid	Air • Water • Oil • Steam (Others :)
Pressure	Maximum ( ) kgf/cm² Normal ( ) kgf/cm² Minimum ( ) MPa Impulse (with • without)		
Maximum Flow	( )lit./min		
Vacuum	( ) kPa		
Temperature	Maximum ( ) ºC Normal ( ) ºC Minimum ( ) ºC		
Type of Thread	1. Unified nipple 2. Male thread 3. Female thread	4.Special thread/hose nipple Special Spec. No., If any ( )	
Other Requirements			

*** Please do not write in the following section**

Processing	Product Code		Packing Material	Approved Drawing No.			
	Body Material		Surface Finish				

* Please use a copy of this form

FAX Sheet Fax: +81-3-37544131

Notes on Using Cuplas

Precautions relating to the use of all Cuplas

- Don't use for applications other than quick-acting coupling.
- Don't use for fluids other than the suitable fluids.
- Don't connect with other brands of quick-acting couplings.
- Don't exceed specified working pressure.
- Don't use at temperatures outside the working temperature range. This may damage the packing and cause leakage.
- Don't hit, bend or pull. This may cause leakage or damage.
- Don't use in a place where metal dust or grit may enter. This may cause malfunction or leakage.
- Don't tighten screw type fittings in excess of the maximum torque. This may cause damage.
- Use screw packing on male tapered pipe threads.
- Don't dismantle the Cupla.
- Don't use as a swivel joint.
- Use with a vibrating or impact device may cause reduced endurance.
- Don't use a cracked or split hose. This may cause leakage or disconnection.
- Don't use with hoses or tubes of other than suitable sizes.
- Tighten nut fitting types within the recommended torque range. Don't cross-thread the nut.

Precautions relating to the use of Cuplas for air

- Be sure that fluid flows is from socket to plug. (Except types where flow is from the plug)
- Push the hose to the root of the hose nipple and secure it with a hose clamp. (SH types, PH types)
- Never hit the Cupla when fitting a hose to the hose nipple. This may cause malfunction.
- If a hose is to be reconnected, cut off and discard at least 6 cm from the end of the hose.
- When using with a vibrating or impact device, install a 30 cm length of intermediate hose between the device and the Cupla or use an anti-vibration plug hose (sold separately, see page 18).
- A shut-off valve must be installed on the pressurized side of the socket.
- Compressed air in the plug will be discharged to atmosphere on disconnection. Be sure to grasp the plug side securely.
- Don't allow continuous forced rotation.
- To fit a spring nut, apply torque within the specified torque range while you press in the spring nut. Don't cross-thread the spring nut.

Oil Cuplas

- When the dust cap is removed, residual pressure in the oil tank will be released from the oil filler port. A little oil may be blown out at this time so you should avoid removing the cap near your face or some other item that you do not wish to be sprayed with oil.
- Watch the oil level line when supplying oil to the filler port. Over-filling of oil causes to leakage or poor oil feeding.
- Do not push the oil supply button when the oil filler port is open. Similarly, don't open the oil filler port while you are pushing the oil supply button. This will cause oil spout from the filler port.
- Use Nitto genuine oil or turbine oil 1 type 32.
- To fit a spring nut, apply torque within the specified torque range while you press in the spring nut. Don't cross-thread the spring nut.

Duster Cuplas and Super Duster Cuplas

- Wear eye protection and a dust mask when using as an air duster.
- Don't subject the Cupla to impact such as dropping. This may cause damage.
- Dusting while using an air tool may cause the air tool to lose power.
- Don't touch the operating button except when dusting.
- To fit a spring nut, apply torque within the specified torque range while you press in the spring nut. Don't cross-thread the spring nut.

Purge Line Cuplas

- Compressed air is released from the plug side when the lever is raised. Don't touch the sleeve or tool switch until the compressed air has escaped completely.
- Be careful not to jamb your fingers when operating the lever.

Purge Hi Cuplas

- When you have removed it from the box, lift the lever and pull the sleeve. If you allow fluid to pass without doing this, the fluid will flow out. The plug cannot be connected unless the sleeve is pulled.
- Compressed air is released from the plug side when the lever is raised. Don't touch the sleeve or tool switch until the compressed air has escaped completely.
- Be careful not to jamb your fingers when operating the lever.

Rotary Line Cuplas and Line Cuplas

- Always put the cap on when not in use.

Hi Cupla Ace

- To fit a spring nut, apply torque within the specified torque range while you press in the spring nut. Don't cross-thread the spring nut.
- If a hose is to be reconnected, cut off and discard at least 3 cm from the end of the hose.
- Don't paint the Cupla. Paint on the Cupla may cause malfunction or leakage.

Micro Line Cuplas

- Fluid will flow out from the plug side when it is disconnected. Be careful if the fluid is water. Don't use these Cuplas with dangerous fluids such as chemicals or hot fluids.

Multi Cuplas MAM Type

- When connecting, check the lever position and then connect securely.
- If not all ports are to be used, fit stop plugs on the plug side before use.
- Don't apply unnecessary force to the lever.
- If unequal pressures are to be applied to the ports, the high pressure piping should be located as close to the lock as possible.

Small Cuplas and Small Line Cuplas

- If a hose is to be reconnected, cut off and discard at least 2 cm from the end of the hose.

Plastic Cuplas BC Type

- Be careful when using hot fluids.
- Please consult us regarding air tightness.

Plastic Cuplas BCC Type

- Be careful when using hot fluids.
- Please consult us regarding air tightness.
- Use the flow rate adjustment as a reference.

Precautions relating to the use of Cuplas for oxygen and fuel gas

- Don't use in a place where gas is likely to remain.
- Don't connect/disconnect Cuplas near a flame.
- Replace the Cupla with a new one after a backfire has occurred.
- Oil must not be used when connecting a hose. This may cause spontaneous combustion.
- If a hose is to be reconnected, cut off and discard at least 3 cm from the end of the hose.
- Fit the hose right to the root of the hose nipple and secure it with a hose clamp.
- Store indoors away from water.
- Always check for leakage before use. If a leak is detected, stop using the Cupla immediately and replace it.
- Before use, check that the torch valves are closed.
- Don't dismantle the Cupla. This may cause gas leakage.

Precautions relating to the use of Cuplas for inert gases

- Don't connect/disconnect when pressurized or when residual pressure is present.
- A shut-off valve must be installed between pressure source and the Cupla.

SP-V Cuplas

- Don't pressurize the socket or plug when they are disconnected. This may cause the valve to be blown out.
- Don't hit the end of an automatic shut-off valve with a hammer or other tools. This may cause leakage or malfunction. Please consult us if you wish to release residual pressure.
- Fluid must be cleaned by filtration before use.
- O-rings must be oiled before use.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.

PCV Pipe Cuplas

- Fluid in the pipe will be discharged on disconnection. Be careful if particularly dangerous fluids (such as chemicals and hot fluids) are to be used.
- Don't use with pipes of other than applicable sizes.
- Don't connect to pipes other than copper or aluminum pipes.
- Don't allow rotation after connection.
- Don't use is a place where metal dust or grit may enter. If metal dust or grit has entered the piping, it must be washed out. This may cause malfunction or leakage.
- The end of the pipe must be chamfered. Don't use a burred or distorted pipe.
- Push the pipe right in until its end reaches the packing before lowering the lever.
- Store with the lever up when not in use.
- Don't use if the lever is deformed.
- When connected, make sure the lever is fully down before use.
- Be careful not to jamb your fingers when operating the lever.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.
- Replace after connecting/disconnecting about 5000 times.

Precautions relating to the use of Cuplas for use with gases and liquids

- A shut-off valve must be installed between pressure source and the Cupla.
- Don't use a steel Cupla with aqueous glycol type hydraulic fluids. This will dissolve the zinc plating.
- Fluid must be cleaned by filtration before use.
- O-rings must be oiled before use.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.

SP Cuplas

- Don't pressurize the socket or plug when they are disconnected. This may cause the valve to be blown out.
- Don't hit the end of an automatic shut-off valve with a hammer or other tools. This may cause leakage or malfunction. Please consult us if you wish to release residual pressure.
- Don't connect/disconnect when pressurized or when residual pressure is present.
- When used with hydraulic equipment, keep the fluid flow rate below 8 m/s.

Experience with 3000 Series, 25000 types

Nitto Kohki's vast experience, extending over the development of 3,000 series and 25,000 types, is brought to life in a multitude of patented technology.

- From general household use to high-tech industrial applications in oceanic and space development
- Diameters range from a tiny 2.5 mm to a huge 540 mm
- Bodies of steel, brass, plastic, aluminum and stainless steel
- "Cupla" is the world brand that answers all user needs in all industries

For replacements:	Replacements of pneumatic/hydraulic tools, pneumatic/hydraulic cylinders, mold attachments, etc.
For testing:	Vacuum, pressure, leakage, running tests, etc.
For filling:	For filling all types of industrial gases, including inert gases, nitrogen, LPG, carbon dioxide, oxygen, fuels gas, etc.
For maintenance:	For maintenance of computer cooling equipment, hydraulic cylinders on diecasting machines
For conveying:	For conveying solid items such as screws and nuts as well as connecting/disconnecting an electric power cable.
For joining:	Applications other than the conveying of fluids include connections for holding and moving the work, such as fishing rod joints and compact disks.

SP Cupla
(Two-way shut-off type)

A profusion of patented technology crystallized in global recognition of high quality and high performance.

ISO 9001 Certification Award

Quick-acting fluid couplings, "Cuplas", produced as a crystallization of high-grade know-how nurtured in the fields of fluid engineering and materials engineering, and top level precision machining technology.
Having assessed the consistent assurance and quality control system, from design and development through procurement of materials, manufacture, assembly and shipping, in December 1997 the authority for inspection and registration, the Japan Quality Assurance Foundation, awarded the international standard "ISO 9001" certificate of quality assurance.
High reliability built on unparalleled "high quality" and an unquestionable record of "productive capacity" for stable supply.
Receiving overwhelming support from many users spread throughout the world as the top brand for fluid energy transmission and control.

ISO 9001 Certified
JQA-2025

CUPLA is a registered trade mark of Nitto Kohki Co., Ltd.

CUPLA®

⚠ The following precautions must be taken when using a Cupla.
For repair, or if there is something that is not clear, please contact Nitto Kohki or the shop where you bought the Cupla.

TSP Cuplas
- Don't connect/disconnect when pressurized.
- Fluid in the pipe will be discharged on disconnection. Be careful if particularly dangerous fluids (such as chemicals and hot fluids) are to be used.

Lever Lock Cuplas
- Don't connect/disconnect when pressurized.
- Fluid in the pipe will be discharged on disconnection. Be careful if particularly dangerous fluids (such as chemicals and hot fluids) are to be used.
- When connected, make sure the lever is fully down before use.
- Be careful not to jamb your fingers when operating the lever.

Precautions relating to the use of hydraulic Cuplas
- Don't pressurize the socket or plug when they are disconnected. This may cause the valve to be blown out.
- Don't connect/disconnect when pressurized or when residual pressure is present.
- A shut-off valve must be installed between pressure source and the Cupla.
- Fluid must be cleaned by filtration before use.
- O-rings must be oiled before use.
- When used with hydraulic equipment, keep the fluid flow rate below 8 m/s.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.

HSP Cuplas
- Don't use with aqueous glycol type hydraulic fluids. This will dissolve the zinc plating.

Super HSP Cuplas
- Arrange piping so that residual pressure is on the plug side. Don't allow the socket side to remain pressurized.
- Don't hit the end of an automatic shut-off valve with a hammer or other tools. This may cause leakage or malfunction. Please consult us if you wish to release residual pressure in the socket side.
- Don't use with aqueous glycol type hydraulic fluids. This will dissolve the zinc plating.
- Before the Cupla is used after it has been connected, first allow fluid to flow for at least 30 seconds from the socket side to the plug side at a pressure of 1 MPa (10 kgf/cm^2) more than residual pressure on the plug side (including zero residual pressure).

210 / 280 / 350 Cuplas
- Don't use with aqueous glycol type hydraulic fluids. This will dissolve the zinc plating.

450 / 700R Cuplas
- Don't use with aqueous glycol type hydraulic fluids. This will dissolve the zinc plating.
- The metal sealing structure of the valve may cause little leakage when the valve is alone and disconnected.

Precautions relating to the use of Cuplas and flow meters with cooling or heating water
- Fluid must be cleaned by filtration before use.
- If a hose is to be reconnected, cut off and discard at least 3 cm from the end of the hose.

Mold Cuplas
- A shut-off valve must be installed between pressure source and the Cupla.
- O-rings must be oiled before use.
- Don't connect/disconnect when pressurized.

Flow Meters
- Don't use for a purpose other than cooling water flow metering.
- Fluid must flow from the valve side in the direction of the arrow above the graduated scale. (See Fluid flow direction)
- When connecting to a nipple, tighten by applying a spanner to the hexagonal part on the connection side.
- If the float is difficult to see due to soiling inside the graduated case, loosen the screw and take it apart for cleaning with a cloth.
- Don't dismantle unnecessarily.
- Since the float is made of plastic, the water temperature should be between +10°C and +60°C.

Semicon Cuplas
- The packing should be tested for solubility to confirm whether the material is suitable for the fluid.
- In order to reduce rubbing resistance (insertion load) and to protect the O-ring at the time of insertion, apply fluid or distilled water to the O-ring or the plug (where it rubs on the O-ring).
- Since a small amount of fluid will escape on disconnection, to avoid danger, the fluid inside the Cupla should be expelled with compressed air before disconnecting.
- Don't pressurize the socket or plug when they are disconnected. This may cause the valve to be blown out.
- The prescribed dust cap must be fitted when the Cupla is not connected.
- Don't connect/disconnect when pressurized.
- Don't hit the end of an automatic shut-off valve with a hammer. This may cause leakage or malfunction. Please consult us if you wish to release residual pressure.

Artificial Kidneys Cuplas
- Must be sterilized before use.
- Don't use for other than dialysis fluid or hot water.
- Sterilize with hot water up to 90C. (Plastic models)
- Don't use high pressure steam sterilization. (Plastic models)
- Use plugs that comply with DIN58352 and ISO8637.
- When connecting, make sure it is securely locked before passing fluid.
- Note that fluid will flow out on disconnection.
- If leakage occurs, replace the Cupla with new one.
- Connection to a dialyzer should be parallel to the axis of the plug. If not, bacterial contamination may occur.

Multi Cuplas
- When connecting, the hexagonal end faces of socket and plug should meet.
- When pressurized, a load of 1.2 to 2 times the reactive force should be maintained.
- Don't use if eccentricity exceeds 0.3 mm.
- Fluid must be cleaned by filtration before use.
- Don't hit the end of an automatic shut-off valve with a hammer or other yools. This may cause leakage or malfunction.
- O-rings must be oiled when in use.
- When used with hydraulic equipment, keep the fluid flow rate below 8 m/s.
- Since eccentricity is unacceptable, MAT type combinations should not be connected.
- Since eccentricity is unacceptable, MALT type combinations should not be connected.
- MAS and MAT types are not interchangeable with MALS and MALT types.
- Since the fitting height of MALS type is different from that of MAS, MAT and MALT types, it cannot be used on the same plate.
- Piping for MALS and MALT types should be arranged so that there is no residual pressure on the socket side.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.

Residual Pressure Release Jig
- Be careful when using hot fluid.

Dust Caps
- Since these dust caps are intended to prevent the entry of dirt and sand into the Cupla, they are made of vinyl chloride. They should not be used in a place where they will be subjected to heat. (Working temperature range 0C to +50C)
- Don't use this item as a stopper.

Precautions relating to the use of Semi-standard Cupla Series

Screw Cupla PCS
- Don't connect/disconnect when pressurized.
- Fluid in the pipe will be discharged on disconnection. Be careful if particularly dangerous fluids (such as chemicals and hot fluids) are to be used.
- Don't use for connection to work with a screw size other than the appropriate screw size.
- A shut-off valve must be installed between pressure source and the Cupla.
- Don't use with a work items whose screw part or end is flawed or burred.
- After insertion into the work, make sure the sleeve is slid completely towards the work side before use.
  If the sleeve does not slide completely, pull back the sleeve and rotate the Cupla 60° with respect to the work then insert the Cupla again into the work.
- Connect and disconnect parallel to the axis.
- Refer to pages 99-103 of this catalog and confirm that packing and body materials are compatible with the fluids to be used.

Charge Cupla CS / CNA
- Be careful not to jamb your fingers when operating the lever.

Auto Cupla AC / ACV
- Use with air pressure between 0.5 and 0.6 MPa (5 to 6 kgf/cm2)
- Connect parallel to the axis.

TSP-HP Cuplas (for high pressure)
- Fluid in the pipe will be discharged on disconnection. Be careful if particularly dangerous fluids (such as chemicals and hot fluids) are to be used.

Compact Cuplas
- Check fluid flow rate before using.
- For connection, grasp the sleeve on the socket and insert it over the plug. When installing, be sure to consider enough space for operation.

⚠ Before using, please be sure to read the "Precautions" sheet attached to the product or the "Precautions" items on the package.