

Data for selecting couplers / Instructions for selection and use

■ Couplers and pumps/cylinders (when operating one cylinder by one pump)

Type	Pump type	Cylinder
S-1	All types of manual pumps Hydraulic pumps Electric pumps of 1.5 kW or smaller	<ul style="list-style-type: none"> ● All types of single-acting cylinders, double-acting cylinders of 350 kN or smaller ● Center hole cylinders of 500 kN or smaller
S-23 S-24	The same as the above MP-12/15 electric pumps	<ul style="list-style-type: none"> ● Double-acting cylinders between 500 kN and 2000 kN, center hole cylinders of 700 kN or larger ● When each cylinder is operated in MP-12/MP-15 and the cylinder coupler is S-1R or ROC-13R, it should be replaced with S-24R.
S-3	MP-15 electric pumps	<ul style="list-style-type: none"> ● When the cylinder speed is important, the coupler should be replaced with S-3R.
S-5	All types of manual pumps Hydraulic pumps Electric pumps of 2.2 kW or smaller	<ul style="list-style-type: none"> ● Used when the cylinder connection diameter is 3/8 and in particular, the pressure loss needs to be smaller.
S-6	MP-17 electric pumps	<ul style="list-style-type: none"> ● The S-6R coupler is mounted to each cylinder.
S-8	MP-20 electric pumps	<ul style="list-style-type: none"> ● The S-8R coupler is mounted to each cylinder.

⚠ Instructions for selecting couplers:

- For a hydraulic circuit in which the pressure fluctuates largely due to blanking and punching, for example, the self-sealing types (S-1※/S-5/ROC-13 types) should not be used.
- ※ Excluding the NS-1 type.
- The NS-1 type is a coupler eliminating the internal check mechanism from the S-1 type. The pump has a Rc3/8 port, and should be used for a hydraulic circuit with large pressure fluctuation. **The NS-1 type must not be used with other types of couplers.**
- A coupler appropriate for the port of each pump should be selected. A coupler smaller than the pump port could prevent attaining the predetermined cylinder speed or cause heat generation in the hydraulic oil and noise.
- When a coupler on the S-3R/S-5R cylinder sides is mounted to the cylinder, a nipple appropriate for the Rc screw (see P. 168) is necessary.
- Only the coupler body of the OS-1 type is stainless steel; note that the inner parts are made of standard materials. (The OS-1 type should be used to prevent rust on the coupler surface.)
- All metal parts of the WS-1 type are stainless steel.

⚠ Instructions on using couplers:

- Couplers should be connected correctly to the root.
- Couplers should be used after removing the air in the pipe line before applying pressure.
- It is dangerous to connect or detach the couplers while in the pressurized state.
- When the pressure fluctuates often or vibration is transmitted to the couplers, looseness of the cap nut should be inspected on a regular basis.
- A dust cap is attached to the coupler. The cap should be fitted after using the equipment.
- After the couplers of the S-6/S-8 types are connected, a loosening proof screw should be tightened and fixed with a nut.
- If a cylinder which operated properly with the self-sealing couplers stops suddenly, the most likely cause is looseness (clearance) between the couplers. The couplers should be tightened using a tool.

