

Selecting models

What output is required ?

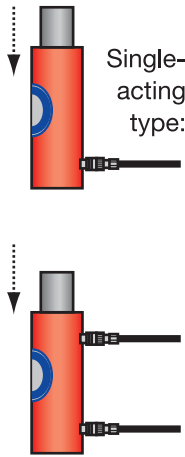
Output required → kN Stroke → mm

The output while a cylinder is operating should be within 70% to 80% of the cylinder specification.
A cylinder longer than the necessary stroke should be selected.

Selecting cylinders

Selecting the single- or double-acting type

Single/double-acting types are available according to the “return” functions of the cylinder.



Load return:

An external force is required to return the piston. For the return force, see the column of each cylinder specification.

Return by spring:

The “return” spring has only sufficient force to return the piston. In addition, the return time is not fixed; it depends on the length of the hose and hydraulic oil temperature, etc.

Double-acting type:

The double-acting type should be selected when the cylinder is frequently used and the operating cycle time needs to be managed, or a “pull” output is required by attaching a heavy jig to the piston.

Instructions for using the cylinders:

- The cylinder should be loaded vertically.
- The allowable unbalanced load is 2.5% of the cylinder specification indication or lower.
- The cylinders should be fixed with a flange (see P. 45), preferably using collar threads.
- The cap should always be used when the load is received directly by the piston. In addition, parts for each cylinder (see P. 44 to 48) should be used depending on the application.
- When cylinder parts such as caps are used, they should be screwed completely.
- A strong-type cylinder (see P. 29 to 31) should be used when the cylinder is frequently used.
- We are able to manufacture large cylinders of 5000 kN or larger, as well as others not listed in the catalogue, upon request. Please consult us.

Selecting pumps

Selecting a manual (foot) pump / electric pump

- The discharge volume from low pressure to high pressure is automatically switched in manual pumps and two-stage electric pumps. Rapid traverse is made under the no-load condition, which speeds up the work.
- Controls suitable for each work, such as preventing falling under self-weight and a pressure control circuit, are determined by the combination of valves. See the examples of combinations (see P. 3 to 5) and the examples of valve applications shown in the circuit (P. 99 and 100) and others.
Consult us for further information.
- When replenishing the hydraulic oil, use ISO VG 32 oil. For large electric pumps of MP-17 or larger and electric pumps of the 200 MPa series, use ISO VG 46 oil.
(See P. 203 for detailed information such as the manufacturers, etc.)

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