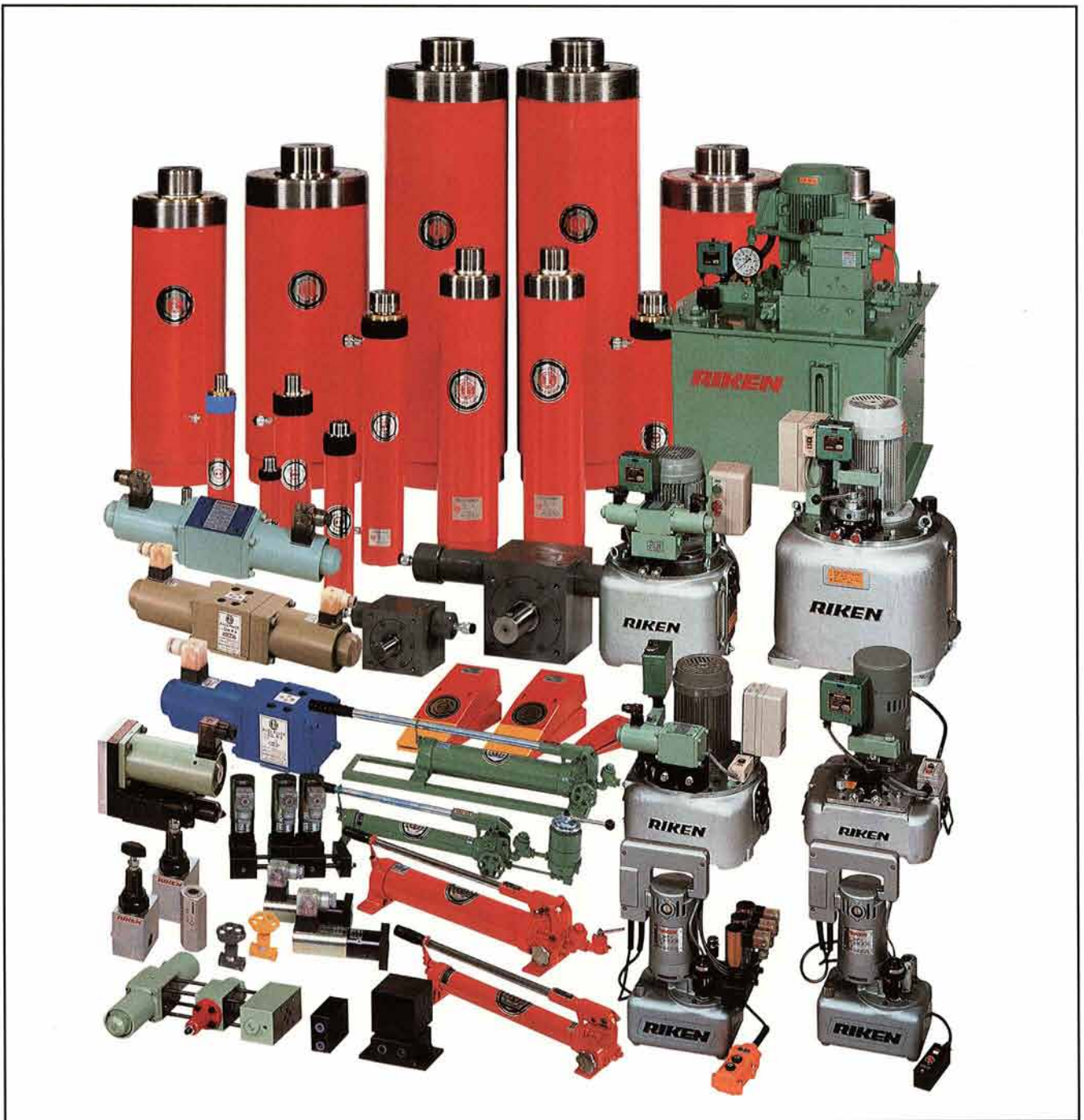


# ***RIKEN Power***

## ***Hydraulic Equipment and Tools***

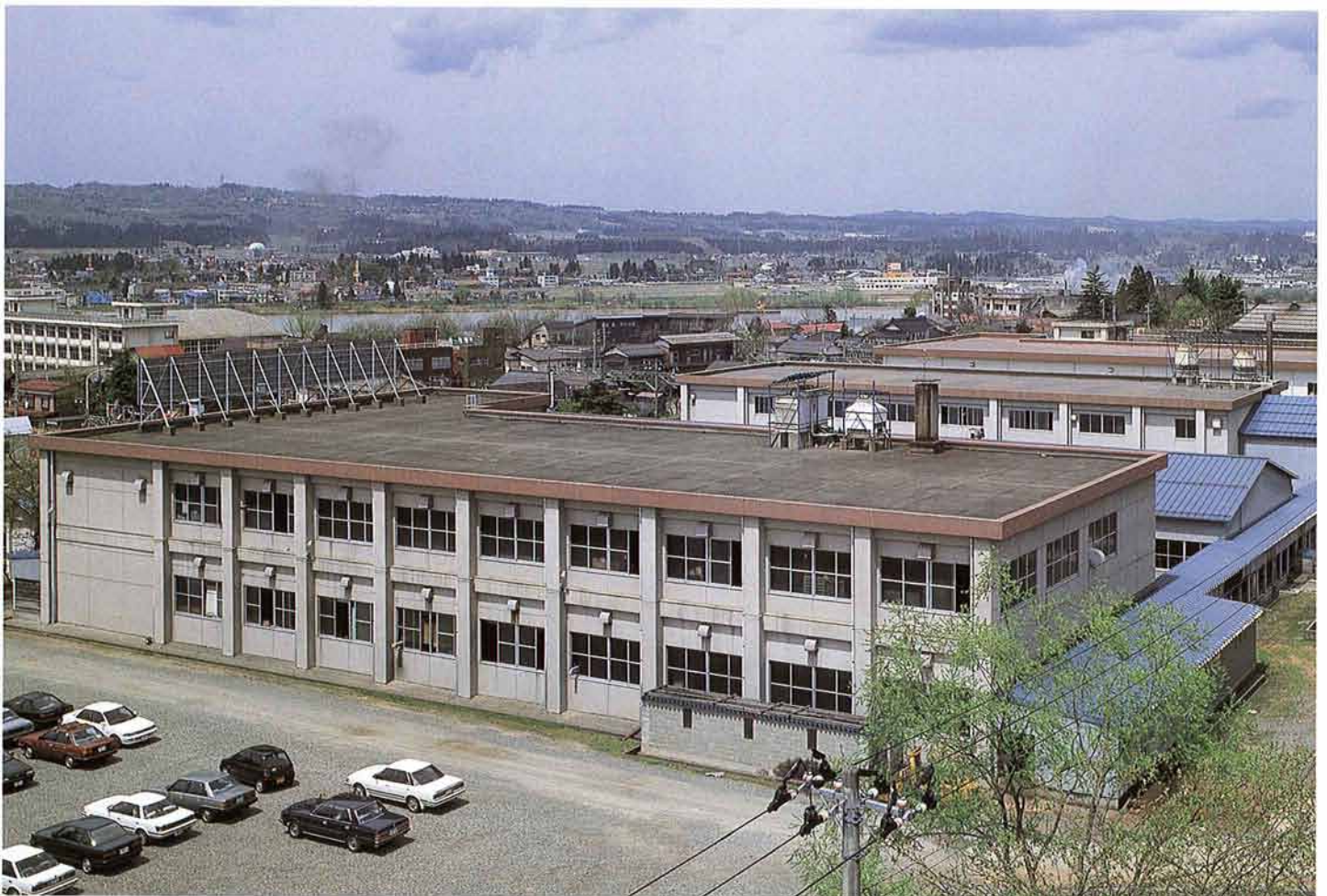


***Ultra-high Pressure 70-2,000MPa{700-20,000kgf/cm<sup>2</sup>}***

Since 1955 *RIKEN* has carried on the spirit and tradition of The Institute of Physical and Chemical Research, a sanctuary of Japanese science, and has developed and marketed hydraulic equipment of 70MPa{700kgf/cm<sup>2</sup>} and higher pressures to meet the increasingly diversified needs of various industries. This catalogue presents the world's most complete line of *RIKEN* standard hydraulic pumps, cylinders, control valves, accessories and tools. They are designed for operational requirements ranging to the most vigorous pressure cycle conditions. Their quality is unsurpassed, because they are made using only the finest selected materials under a stringent quality control system.



Head sales office in Tokyo



Niigata factory

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### Examples of applications

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### Accessories

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### Applied equipment and tools

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# Features and Applications of *RIKEN* Power

## *RIKEN* Power offers

### ★Ultra-high pressure

### ★Light-weight and compactness

For many years, *RIKEN* has provided industry with solutions to high pressure power needs. Our emphasis lies in the range of very high, and ultra-high pressure hydraulic systems. In this special field, *RIKEN* has extensive worldwide experience, and can offer solutions for almost every application.

Versatile *RIKEN* hydraulic systems are widely used in many industries for various jobs, which require

### ★Versatility

### ★Safety and reliability

pushing, pulling, spreading, clamping, bending, lifting, pressing, punching and other similar operations.

*RIKEN* high pressure hydraulic equipment, tools and accessories are available in complete lines for a wide range of applications in plant maintenance and production. They are made to meet your requirements. Use *RIKEN* Power in your operations to upgrade equipment and increase productivity.

## Where and How *RIKEN* Power Equipment is used:

### REMOVING OR INSTALLING

Pins, bushes, sprockets, bearings, gears, cylinder bushes, tubes, ship-propellers, fitting pieces, etc.

### STRAIGHTENING

Shafts, doors, windows, frames of box construction, girders of all kinds, vehicle bodies, welded structures, conveying devices and carts, steel and nonferrous bars, rods, etc.

### PRESSING, CUTTING AND CLAMPING

Steel plates, bars and rods, cables, welded structures, machine tools, etc.

### MOUNTING

Heavy machine parts, gearings, heavy bolts, etc.

### BENDING

Conduits and gas pipes, steel bars and rods, steel and nonferrous plates, etc.

### LIFTING, JACKING

Heavy machines, welded structures, locomotives and other vehicles, girders, etc.

### COMPRESSING

Cable connectors and sleeves, terminals, sleeves for concrete reinforcing steel bars, fitting pieces, etc.

### TESTING (STRENGTH, PRESSURE, TENSION, STATIC PRESSURE, FATIGUE, ETC.)

Steel structures, welded goods, plastics, rubbers, chains, tanks, vessels, tubes, valves, hoses, torsion bars, shock absorbers, etc.

*RIKEN* bearing & coupling pullers, attachments, presses, pumps and cylinders.

Attachments, presses, rod straighteners, pumps and cylinders.

Presses, rod cutters, cable cutters, port punches, pumps and cylinders.

Presses, bolt tensioners, torque wrenches, pumps and cylinders.

Presses, pipe benders, rod straighteners, rotary actuators, pumps and cylinders.

Pumps and cylinders.

Compression tools, presses, porta grippers, pumps and cylinders.

Pumps, including air-operated hydraulic pumps and cylinders.

## Materials/Treatment

The major components of *RIKEN* Power products are manufactured from heat treated Chromium Molybdenum Steels to provide reliability and long life.

## ISO 9001

Our factory is certified for ISO 9001 international quality standards.

## SI Units for Hydraulic and Pneumatic Equipments

This catalogue uses the following units conversion figures and descriptions for easy understanding;

|                              |                                |
|------------------------------|--------------------------------|
| 1MPa = 10kgf/cm <sup>2</sup> | <Examples>                     |
| 1N = 0.1kgf                  | 100kN{10tonf}                  |
| 1kN = 0.1tonf                | 70MPa{700kgf/cm <sup>2</sup> } |

When you convert the SI units precisely, use the following conversion figures;

|   |                                 |            |
|---|---------------------------------|------------|
| 1kg = 1kgf,                                     | 1kgf = 1kg                      | (Weight)   |
| 1N = 0.102kgf,                                  | 1kgf = 9.80N                    | (Weight)   |
| 1kN = 0.102tonf,                                | 1tonf = 9.80kN                  | (Weight)   |
| 1MPa = 10.2kgf/cm <sup>2</sup> ,                | 1kgf/cm <sup>2</sup> = 0.098MPa | (Pressure) |
| 1N · m = 0.102kgf · m,                          | 1kgf · m = 9.80N · m            | (Torque)   |
| 1N/mm <sup>2</sup> = 0.102kgf/mm <sup>2</sup> , | 1kgf/mm <sup>2</sup> = 9.80N/mm | (Stress)   |

## Local Units Conversion

To you convert other units precisely, use the following conversion figures;

|  |  |          |
|--|--|----------|
| 1kgf/cm <sup>2</sup> = 14.23psi = 0.980bar = 9.80N/cm <sup>2</sup> | (Pressure)                               |          |
| 1kgf = 2.204lb = 9.80N   | (Weight)                                 |          |
| 1metric ton = 1,000kgf   | (Weight)                                 |          |
| 1 long ton = 1,016kgf  | (Weight)                                 |          |
| 1 short ton = 907.2kgf   | (Weight)                                 |          |
| 1mm = 0.039in,   | 1in = 25.4mm                             | (Length) |
| 1cm <sup>2</sup> = 0.155in <sup>2</sup> ,                          | 1in <sup>2</sup> = 6.452cm <sup>2</sup>  | (Area)   |
| 1cm <sup>3</sup> = 0.061in <sup>3</sup> ,                          | 1in <sup>3</sup> = 16.387cm <sup>3</sup> | (Volume) |
| 1 ltr. = 61.02in <sup>3</sup> = 0.220gal(UK) = 0.264gal(USA)       | (Volume)                                 |          |
| 1kgf · m = 7.233 ft · lb = 9.80 N · m                              | (Torque)                                 |          |