

CKD

Becoming a contributor to Carbon Neutrality

HP

HIGH PRODUCTIVITY



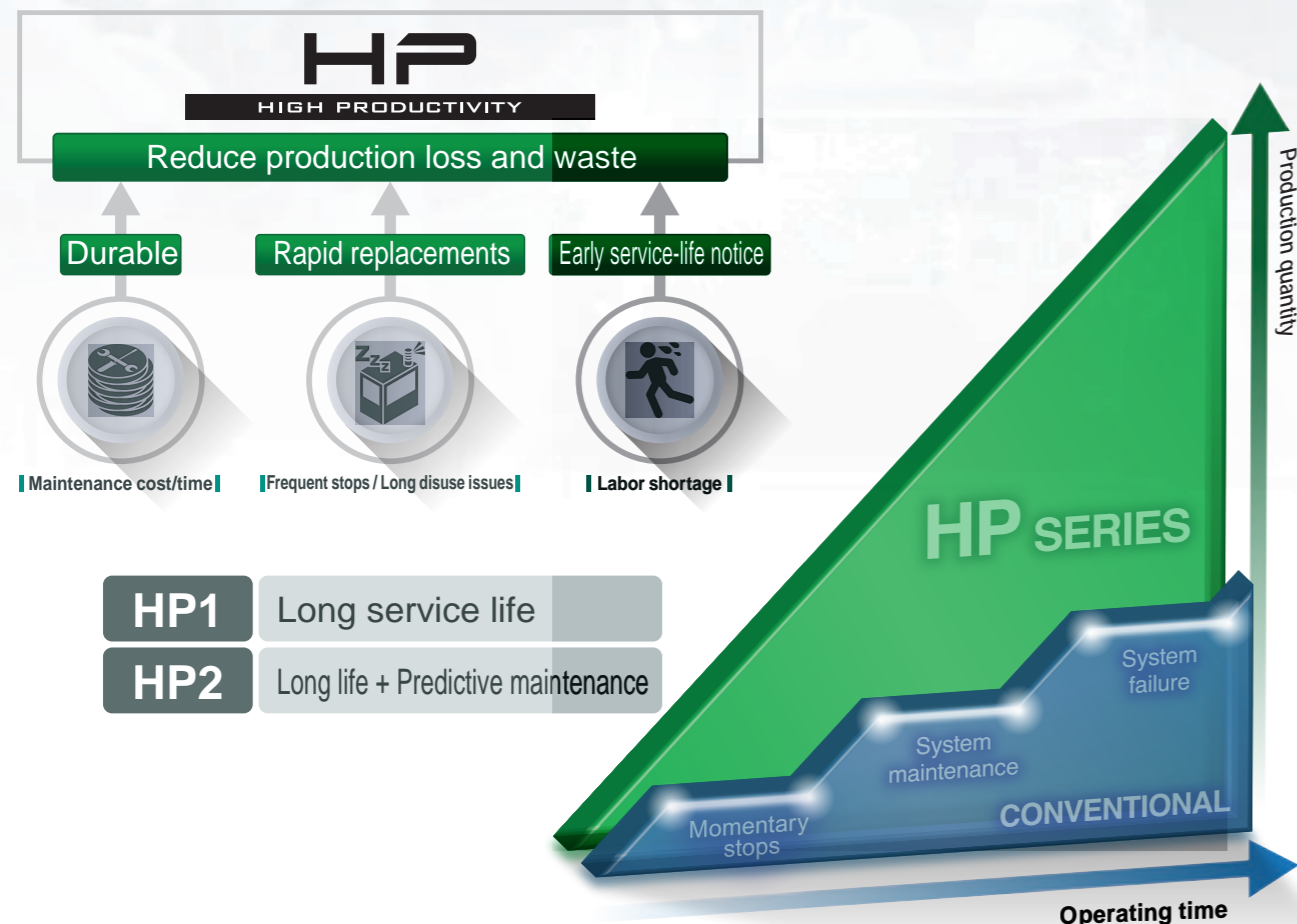
CKD Corporation

CC-1550A 4

Carbon neutrality comes from reducing CO₂ emissions through long service life products

CKD's idea of "HIGH PRODUCTIVITY"

Loss occurs when productivity decreases. Additionally, parts that require maintenance become waste. We believe that eliminating maintenance and achieving high productivity will lead to carbon neutrality. CKD's HP Series focuses on the origins of manufacturing from the component's perspective. In order to improve productivity in high-frequency, stressful environment processes, we will contribute to "unstoppable production equipment" and the "realization of stable operation" with unprecedented long-life products.



Optimized sliding parts will not break even with high frequency usage

Long life cylinder HP1 Series

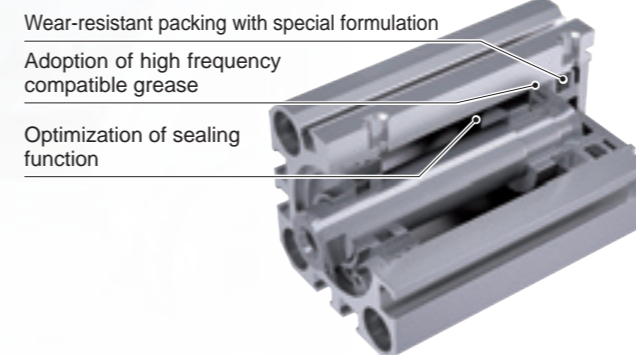
Significant reduction in # of frequent stops
Significant reduction in # of replacements
Durability count of 20 million cycles or more
According to our specified conditions



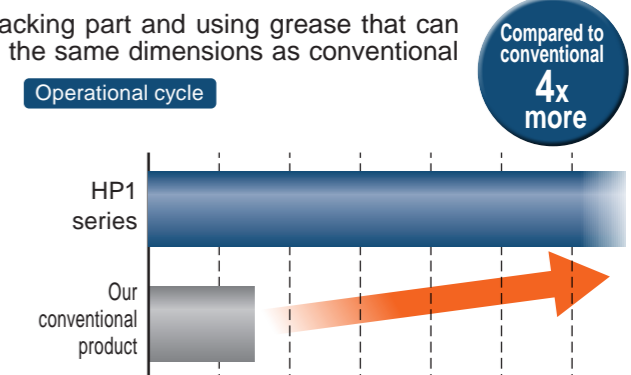
| | | |
|--|---|---|
| Pencil shaped cylinder SCPD3 | Round shaped cylinder SCM | Small bore size cylinder CMK2 |
| Compact cylinder SSD2 | Compact direct mounting cylinder MDC2 | Small compact cylinder MSD |
| Small guided compact cylinder MSDG-L | Compact cylinder SMG | Linear slide cylinder LCR |
| Linear slide cylinder LCG | Guided cylinder STM | Guided cylinder STG |
| Twin rod cylinder STR2 | | |

Long life

By optimizing the design and sealing function of the packing part and using grease that can be used frequently, we have achieved a longer life with the same dimensions as conventional products.



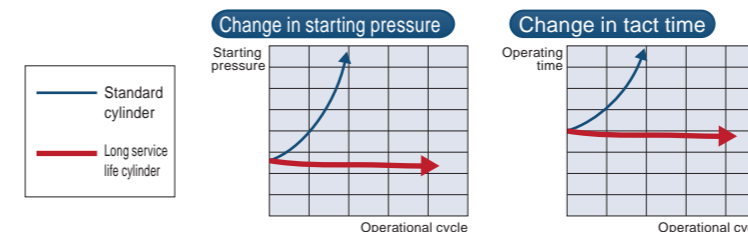
Operational cycle



* The durability of the HP Series is the lifespan under our specified conditions, and as it varies depending on the usage conditions and surrounding environment, we cannot guarantee that it will last four times longer under all conditions.

Stable operation

Due to the optimal structure of the sliding part, the starting pressure does not increase even after repeated operations. Since the starting pressure is constant, the operating time is also constant. This contributes to stable operation without occasional stoppages.



Flexible lead wire switch available

We offer switches that use bend-resistant lead wires that do not easily break even when used on moving parts. (Switch model number T2HR3, T2VR3, F-switch)



Same dimensions as conventional products

Since it has the same dimensions as the conventional product, it can be replaced without changing the design or modifying the equipment.

Improved environmental resistance Will not break even in dusty environments

Environmentally resistant cylinder

G-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Improved environmental resistance

Durability count of 5 million cycles or more

According to our specified conditions



Long life even in harsh environments

Equipped with a powerful scraper and lube keeper to prevent dust from entering and maintain lubrication. Durability in dusty environments has been significantly improved.

Fiber aggregate (Lube Keeper)

Powerful scraper

Powder / Foreign matter

LCR guide part

Added seal structure and lubrication mechanism to improve guide durability.

Scraper
Lubrication retention mechanism

STG, STS/L guide section

Contributes to long-term stable operation by preventing dust from entering the guide rod.

Powerful scraper
Lube Keeper

Operational cycle

Compared to conventional 4x more

* The durability of the HP Series is the lifespan under our specified conditions, and as it varies depending on the usage conditions and surrounding environment, we cannot guarantee that it will last four times longer under all conditions.

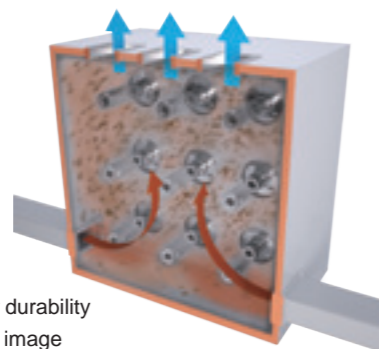
Stable operation even in harsh environments

Conducted tests that simulated a dusty environment. Durability has been confirmed through rigorous testing.

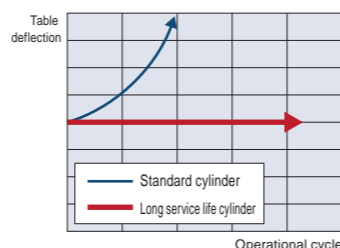
[Test conditions]

| | |
|---------------------------|---------------------|
| Working pressure | 0.5 MPa |
| Dust type | 5 to 75 μm |
| Dust amount | 1.5 g / twice a day |
| Number of dust injections | 2 times / day |
| Payload | None |

* Our durability test image



Change in LCR table deflection



Increased rigidity of linear guide Achieves high rigidity, high precision, and high durability

Linear Slide Hand

LSH-HP1 Series

LST-HP1 Series

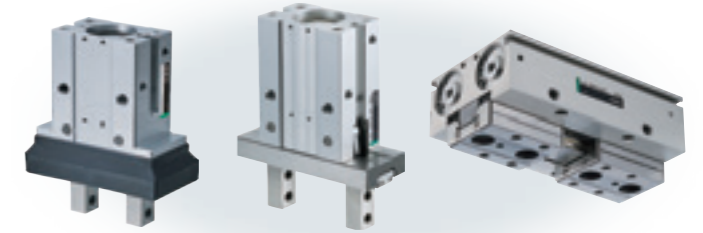
Significant reduction in # of frequent stops

Significant reduction in # of replacements

Significant reduction in replacement time

Durability count of 20 million cycles or more

According to our specified conditions



Length can be measured at the same time as grasping - Replacement before breakdowns.

Length measuring hand

LSHM-HP2 Series

LSTM-HP2 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Predictive maintenance Possible

Durability count of 20 million cycles or more

According to our specified conditions



Increased guide rigidity Realizes high rigidity and durability

Wide parallel hand

HMC-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Significant reduction in replacement time

Durability count of 10 million cycles or more

According to our specified conditions



Increased guide rigidity Realizes high rigidity, high precision, and high durability

3-way jaw chuck

CKW-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Significant reduction in replacement time

Durability count of 10 million cycles or more

According to our specified conditions



From the perspective of compressed air: Longer component life and improved productivity

Air booster (air pressure intensifier)

ABP2-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Durability count of 10 million cycles or more

According to our specified conditions



Optimized sliding parts Long-life plug-in block manifold

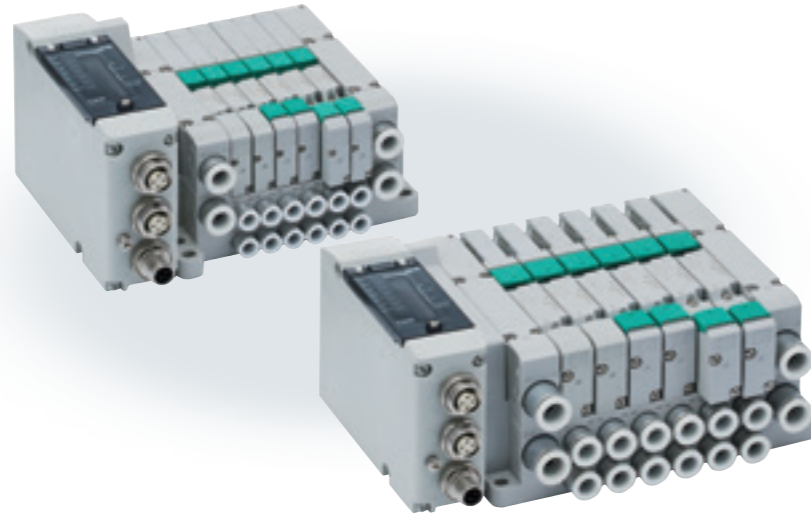
Directional control valve

Wide parallel hand

TVG Series

Significant reduction in # of frequent stops
Significant reduction in # of replacements
Significant reduction in replacement time

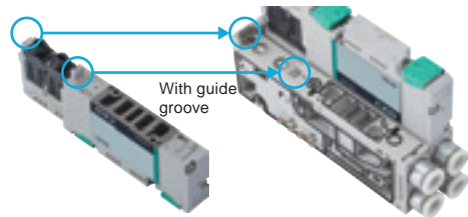
Durability count of 120 million cycles or more
IP65/67
According to our specified conditions



Plug-in valve with ultimate workability

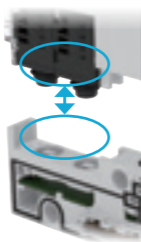
1 Positioning support standard compatible PAT.P

Equipped as standard with a "positioning support" that allows anyone to easily position the valve and base.



2 Plug-in connection for easy assembly PAT.P

Actuator additions are wired complete by plug-ins.



3 Easy to increase/decrease stations with connector coupling

Internal wiring was completed at the same time as the manifold assembly.



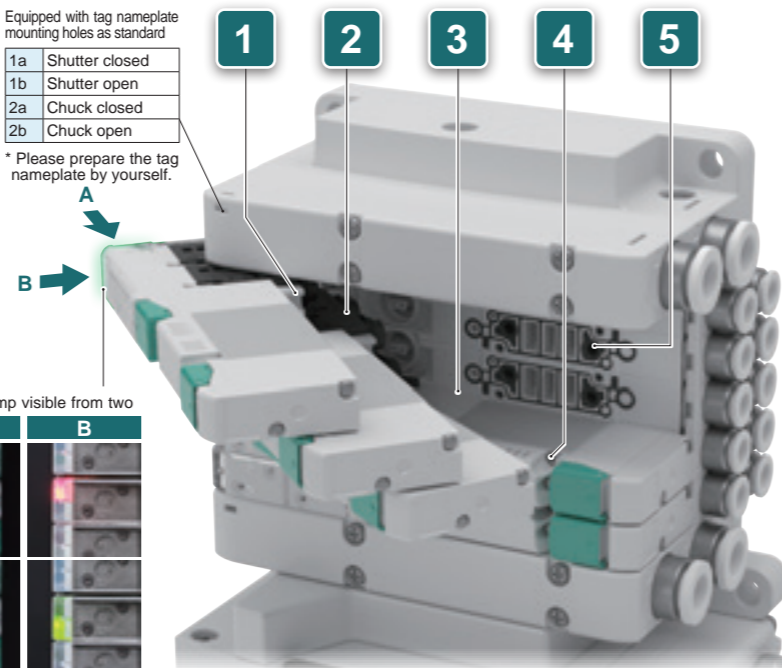
4 Standard feature to prevent screws from falling out



Equipped with tag nameplate mounting holes as standard

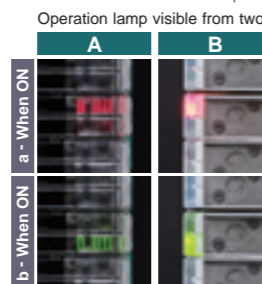
| | |
|----|----------------|
| 1a | Shutter closed |
| 1b | Shutter open |
| 2a | Chuck closed |
| 2b | Chuck open |

* Please prepare the tag nameplate by yourself.



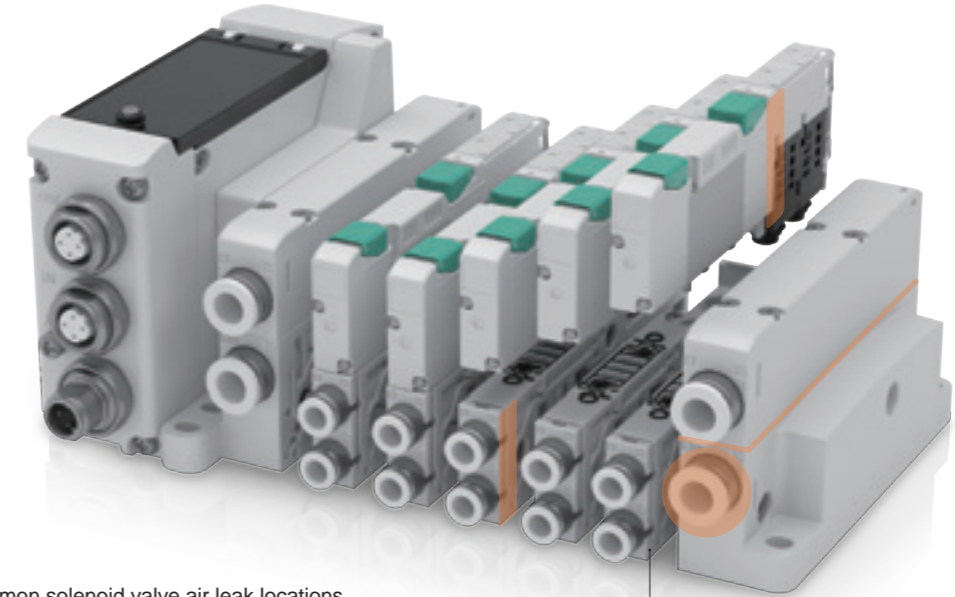
5 No falling parts

Gasket is built into the base.



Pursuing air leak reduction

Thoroughly improved the parts of the valve that are prone to air leaks. A plug-in valve that combines CKD's commitment to energy savings that lasts even after long-term use.



Common solenoid valve air leak locations

Adopts special resin

Pursuing stable operation

The TVG Series has optimized the sliding parts and has achieved a durability of 120 million cycles*. Stable operation due to low sliding supports reliable operation of the actuator, realizing stable operation of equipment and reducing variations in quality.

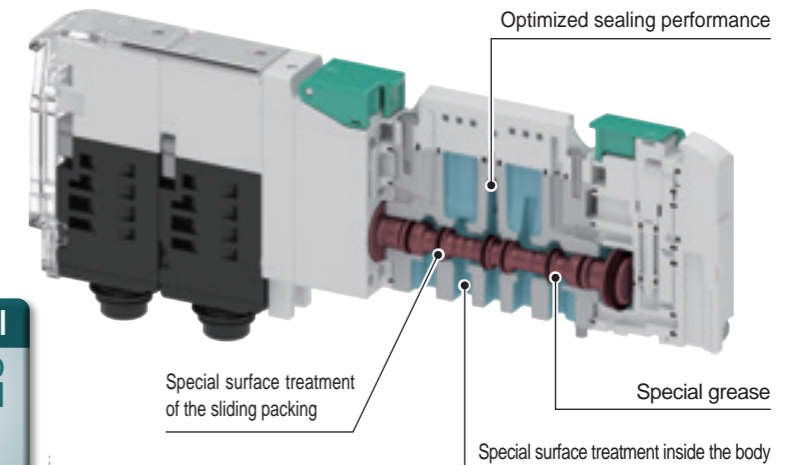
Low friction / Long service life

The superb sliding mechanism of the main valve realizes low friction and long service life. The elastic seal withstands 120 million cycles. Achieves both long life and low air leakage.

Durability of 120 million cycles*

*Based on our specified conditions.

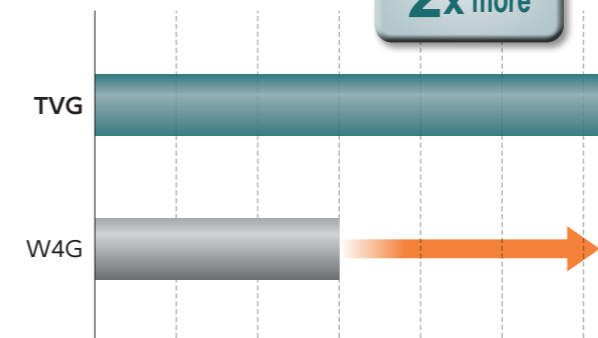
Elastic seal
Compared to conventional
2x more



Special surface treatment of the sliding packing

Special grease

Special surface treatment inside the body



Improved idle response

Starts smoothly even after holidays. Effective for Monday morning troubles and unexplained stoppages as well.

Uses special grease

The lubrication effect continues even in extremely dry air.

A total proposal for pneumatic systems that contributes to reducing CO₂ emissions

By managing compressed air properly and choosing the best one for each component, you can achieve a longer life as a system.

Drain measures

Drainage in compressed air can wash away grease from equipment, shortening its lifespan, or cause rust, leading to equipment failure. Measures must be taken to prevent drainage from occurring and to ensure that any drainage that occurs is removed.

Super dryer
SD, SU, SDM Series

Drain separator
FX Series

Condition monitoring

The operational status of the equipment, such as air flow rate and air pressure, as well as the number of times each component is operated, the energization time, etc., are constantly output as digital signals, making it possible to monitor the status and perform preventive maintenance.

Pilot operated 3, 5-port valve
4G Series

Compact flow sensor Rapiflow®
FSM3 Series

Digital pressure sensor
PPX Series

Digital gap switch
GPS3 Series

Compact flow controller
FCM Series

Digital electro pneumatic regulator
EVD Series

Cleaning compressed air

Foreign matter and oil in compressed air can lead to equipment failure, so they must be removed reliably using a filter or oil mist filter. Since they will certainly be used, CKD puts emphasis on elements with long service life.

Air filter
F Series

Oil mist filter
M Series

Waste reduction and power saving

Multi-fit valves are direct-acting solenoid valves that are compatible with a variety of fluids and have improved reliability, ease of use, and ease of selection. We contribute to carbon neutrality by reducing waste through longer life and reducing CO₂ emissions through power savings.

Direct acting 2, 3-port solenoid valve (multi-fit valve)
FFB / FFG Series

Directional control valve reliability

To extend the life of equipment, the directional control valves that drive the actuators must also be reliable. CKD has also optimized the sliding parts of the directional control valve to achieve stable operation.

Pilot operated 3, 5-port solenoid valve
4G Series

Measures against condensation

When driving a small actuator, air is not completely exhausted from the valve, and the same air is used repeatedly, causing drainage. A quick exhaust valve that can be easily installed is effective as a countermeasure.

Quick exhaust valve
QEL Series

Reducing CO₂ emissions through long-life products in the rechargeable battery and food manufacturing processes

Long-life cylinder compatible with rechargeable batteries

P4-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Durability count of 10 million cycles or more

According to our specified conditions

Environmentally resistant cylinders for food manufacturing processes

FP1 - G-HP1 Series

Significant reduction in # of frequent stops

Significant reduction in # of replacements

Improved environmental resistance

Durability count of 5 million cycles or more

According to our specified conditions

FP Food Process™

The goods and/or their replicas, the technology and/or software found in this catalog are subject to complementary export regulations by Foreign Exchange and Foreign Trade Law of Japan. The law requires a license from Ministry of Economy, Trade and Industry to export them.

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