

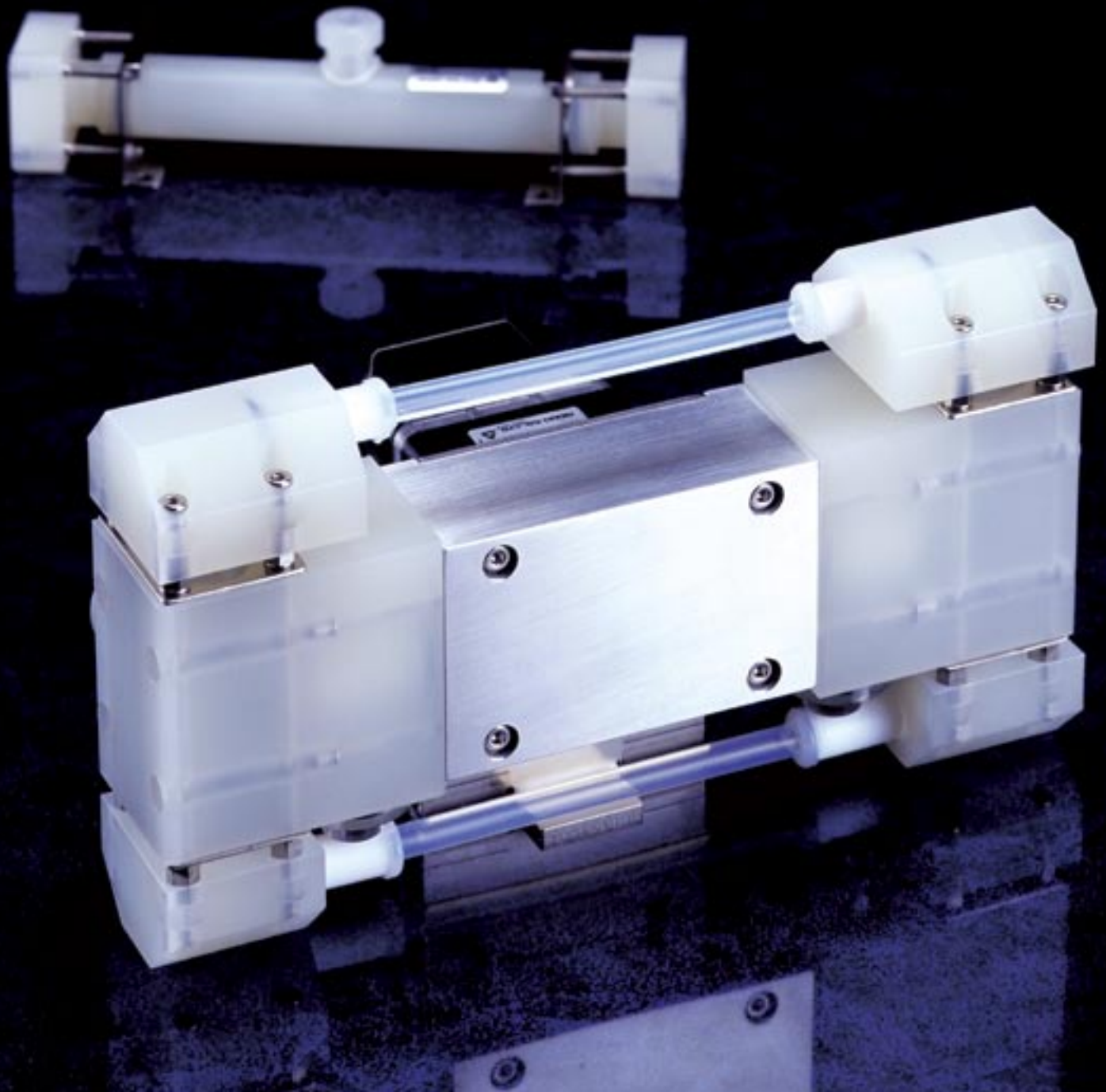
CMP slurry pumps **CSP** series

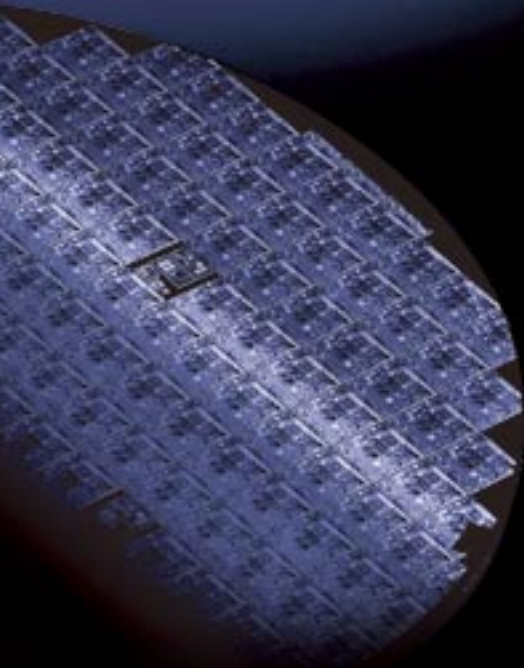


CMP slurry liquid transfer by use of a pump with a long working life

The CSP series is comprised of pumps utilizing a new structure developed especially for CMP polishing liquid. Its unique tube-phragm structure has solved "quick abrasion of parts and clogging of slurry" problems of conventional tubing pumps and diaphragm pumps.

It is possible to transfer undiluted solutions of not only silica, but also alumina, with stability for extended periods.





Tube-phragm structure ensures long life

The CSP pump operates while substantially uniform pressure is applied by an incompressible fluid to the outer periphery of the tube. This means no stress is imparted to the tube since no frictional parts are included within. Compared to a tubing-type pump, constructed to mechanically squeeze the tube, the tube-phragm structure ensures a far longer life.

Elimination of dust and staying of slurry

Having no components subject to mechanical friction, particulate is not generated from this pump and damage to slurry is minimized. Therefore, secondary aggregation need not be feared. As only minimal amounts of slurry remain inside the pump, cleaning it is easy.

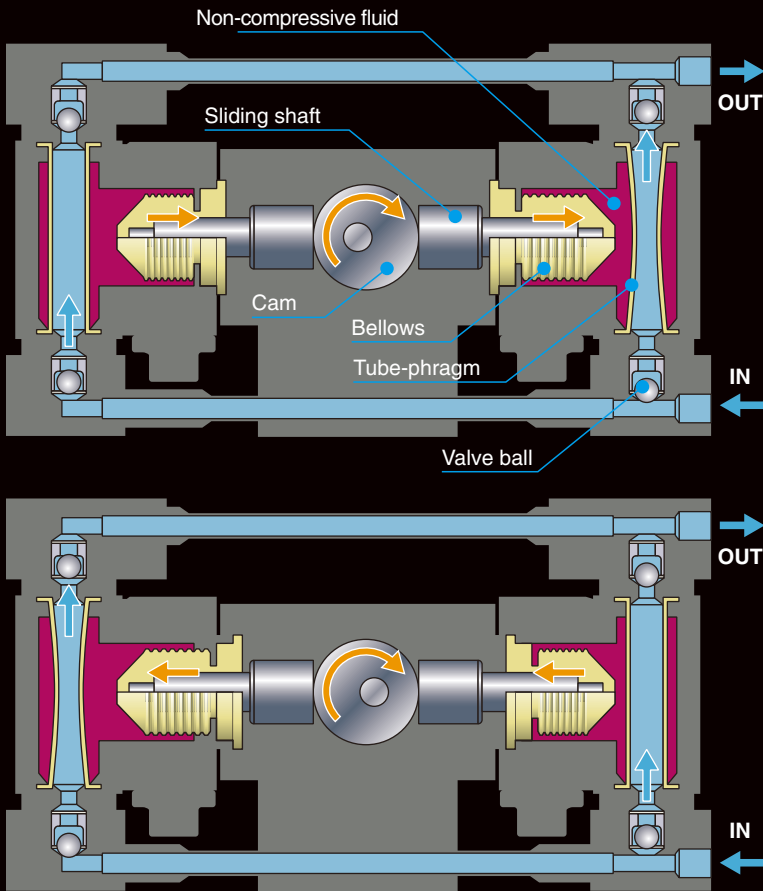
Metering transfer

Revolutions of a DC brushless motor are converted to reciprocating movement by a yoke cam mechanism to cause the tube-phragm to operate reliably. An exclusive motor driver keeps rpm at a constant level even when load on the discharge side changes.

Compact size

The pump can be installed in a limited space. Mounting it on existing equipment is also possible.

Operating principle of pump



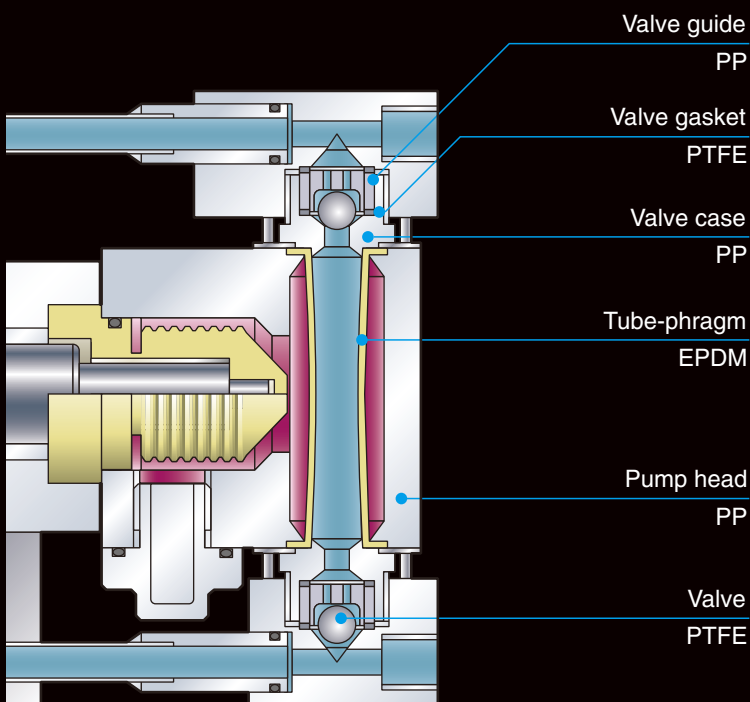
STEP 1. DC brushless motor revolutions are converted to reciprocations via yoke cam.

STEP 2. Reciprocating motions cause the bellows attached to the sliding shaft to change their capacity.

STEP 3. The change of the bellows capacity is transmitted to the tube-phragm through incompressible fluid. The checking function of the built-in valves cause pumping.

The pump is a double-acting type, two tube-phragms operating alternately.

Construction and materials



Pump specifications

Max. discharge capacity *	500 mL/min
Max. discharge pressure	0.2 MPa
Max. stroke rate	210 spm
Liquid temperature range	0 - 40°C (no condensation)
Connection size	Rc1/4
Structure	Double-acting tube-phragm
Driving system	DC brushless motor
Rated output of motor	30W
Motor cable	Cabtyre cable ø8 x 500mm
Mass	2.8 kg

* The maximum discharge is with clean water at 20°C.

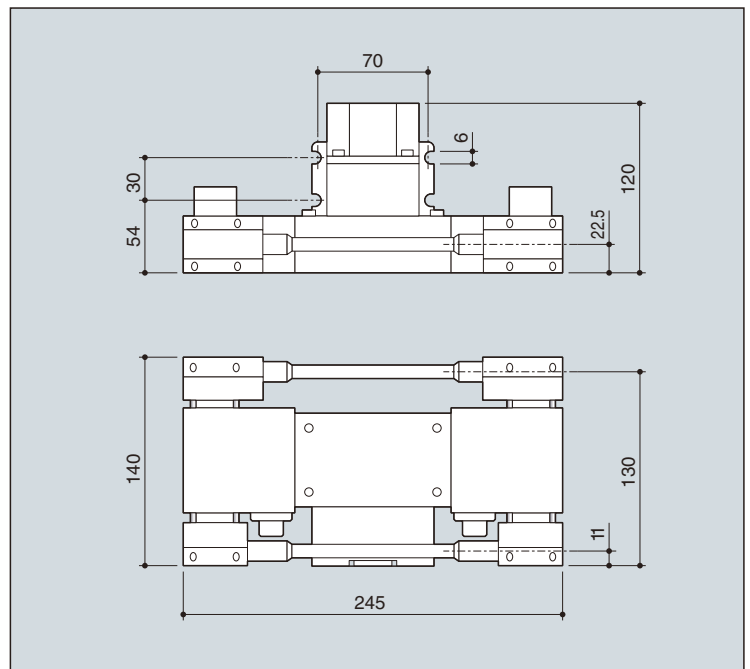
Identification

CSP - 05 E D - P - S01

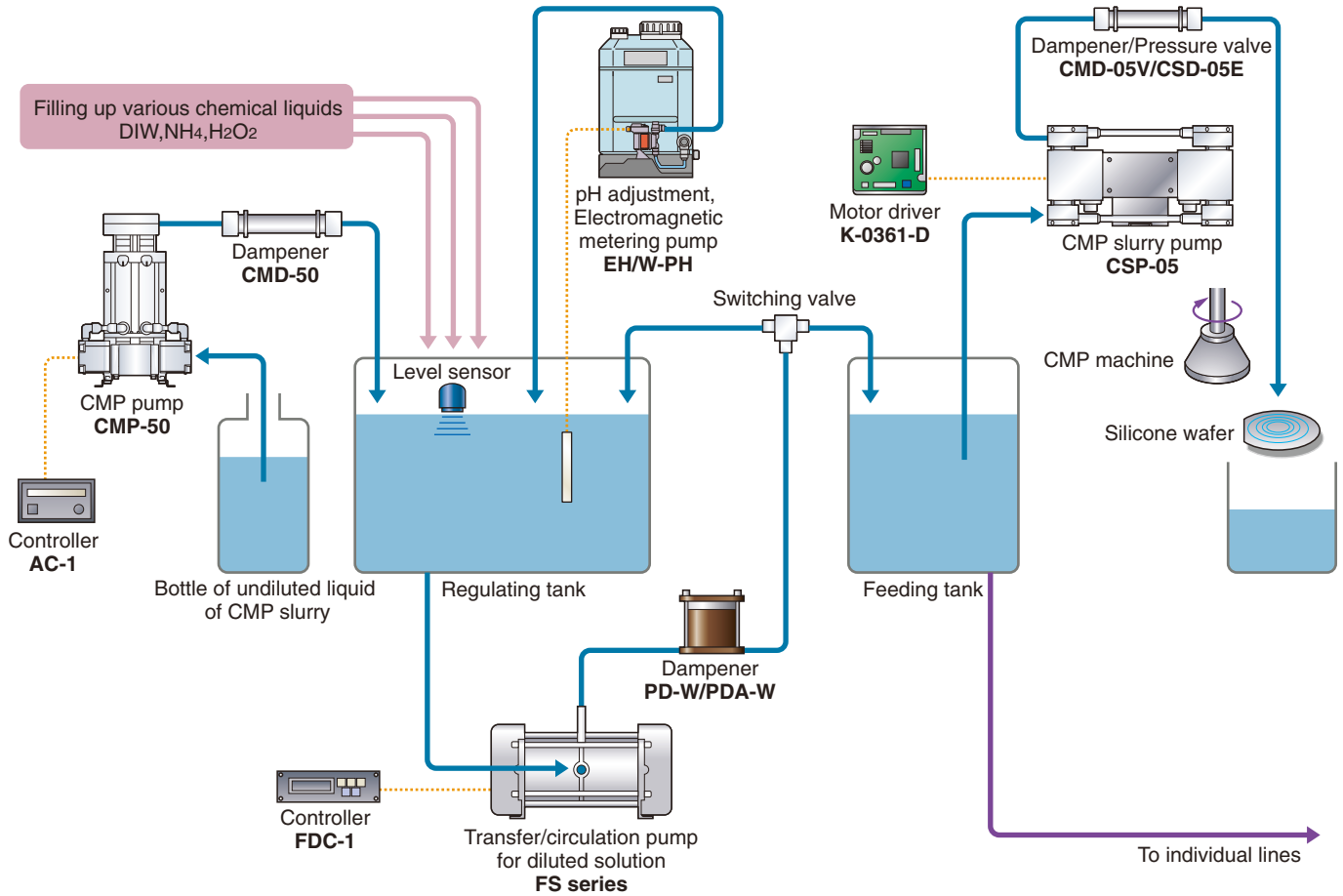
1 2 3 4 5

1 Max. discharge capacity	05 : 500mL/min
2 Material of tube-phragm	E : EPDM
3 Driving source	D : DC brushless motor
4 Tube-phragm leak detection sensor	P : With sensor L : Without sensor
5 Special specification	S01, S02, S03...

Dimensions in mm



An example of installation



Note 1: If you need information about CMP-50 and CMD-50, please contact us.
Note 2: For details of the FS series and EH/W-PH, please refer to the respective catalogs.

Standard Accessory Motor driver K-0361-D



Specifications

Power source input	DC24V10% 3.5A
Method of setting rpm	Internal rate setting device External rpm setting device (20k) External DC voltage (DC0 - 5V)
Signal input	C-MOS negative logic input below DC5V 10 mA H: 4 - 5V L: 0 - 0.5V START/STOP, RUN/BRAKE, INT/EXT, ALARM-RESET
Signal output	Open collector (sink output) below DC26.4V, below 10mA SPEED, ALARM
Protective function	overload protection open-phase protection over-voltage protection under-voltage protection over-speed protection
Mass	0.1kg

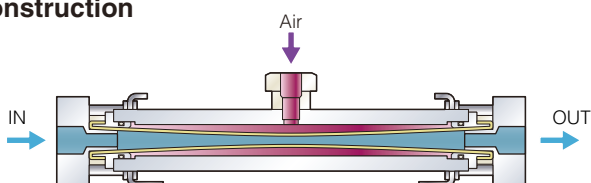
Optional Items

Dampener CMD-05



- Designed for use only with the CSP pump. Pulsation can be held to a minimum level by adjusting the feed air pressure.
- The tube-phragm structure prevents slurry from accumulating / conglomerating.
- Can be installed either vertically or horizontally.

Construction

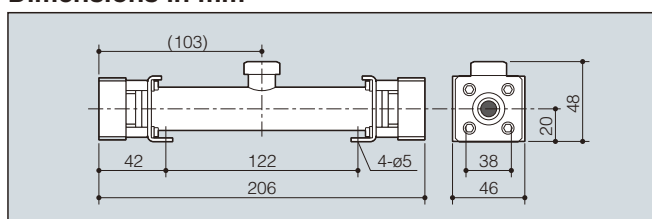


Specifications

Model	CMD-05V
Range of pulsation flow rates	10%FS
Liquid temperature range	0 – 40°C (no condensation)
Max. supplied air pressure	0.25MPa
Connection size	Rc1/4
Supply air connection size	Rc1/8
Wet end materials	Body: PP Tubephragm: PVC

Note: The range of pulsation flow rates change depending on conditions of use. For details, please contact.

Dimensions in mm

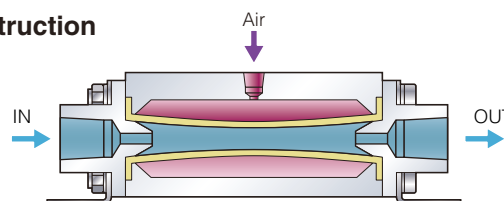


Pressure valve CSD-05



- A pressure valve (backpressure valve) CSD-05 made especially for the CSP pump.
- It is used when the load on the suction side is larger than on the discharge side as seen in the case involving pulling out from the pressure line and prevents siphoning and overfeeding (overfeeding phenomenon).
- No liquid remains on account of the tube-phragm structure.

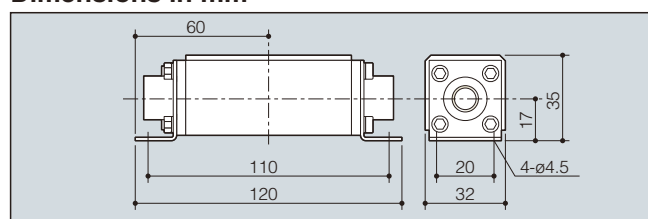
Construction



Specifications

Model	CSD-05E
Max. discharge capacity	500mL/min
Max. pressuring capacity	0.2MPa
Max. supplied air pressure	0.40MPa
Connection size	Rc1/4
Supply air connection size	M5
Wet end materials	Body: PP Tubephragm: EPDM

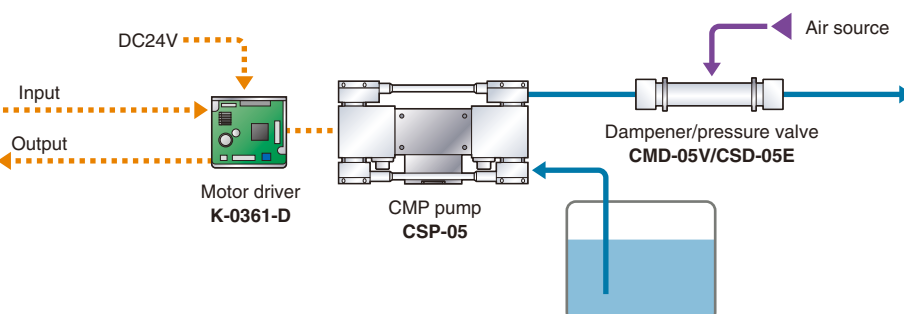
Dimensions in mm



An example of installation

- START/STOP
- RUN/BRAKE
- Switching of external / internal velocity settings
- Alarm setting

- Motor rpm
- Alarm





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IWAKI CO.,LTD. 6-6 Kanda-Sudacho 2-chome Chiyoda-ku Tokyo 101-8558 Japan TEL : (81)3 3254 2935 FAX : 3 3252 8892

EUROPE / U.S.A.

European office : IWAKI Europe GmbH	TEL : (49)2154 9254 0	FAX : 2154 9254 48
Austria : IWAKI (Austria) GmbH	TEL : (43)2236 33469	FAX : 2236 33469
Belgium : IWAKI Belgium N.V.	TEL : (32)13 67 02 00	FAX : 13 67 20 30
Denmark : IWAKI Nordic A/S	TEL : (45)48 24 2345	FAX : 48 24 2346
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Shanghai : IWAKI Pumps (Shanghai) Co., Ltd.	TEL : (86)21 6272 7502	FAX : 21 6272 6929
Beijing : IWAKI Pumps Co., Ltd. (Beijing office)	TEL : (86)10 6442 7713	FAX : 10 6442 7712
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Indonesia : IWAKI Singapore (Indonesia Branch)	TEL : (62)21 6906606	FAX : 21 6906612
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()Country codes



Caution for safety use: Before use of pump, read instruction manual carefully to use the product correctly.

Actual pumps may differ from the photos. Specifications and dimensions are subject to change without prior notice. For further details please contact us.