IWAKI

Magnetic drive pumps

NEW **MDW-F**



Adoption of flange connection motors

World's largest process magnetic drive pump

Patent

JAPAN / U.S.A. / EU / CHINA / TAIWAN

The Heart of Industry

Adoption of flange connection motors that do not require centering
Improved ease of assembly and maintainability

A new lineup has emerged in the world-largest fluororesin process magnetic drive pump MDW series. Previously, the product was a coupling-connection type that requires centering, but a flange-connection type that does not require centering was adopted. This has improved ease of assembly and maintainability.

Application example

Chemical transfer between supply tanks and through chemical process equipment. Chemical recirculation for filtration and heat exchange applications. Scrubber liquid recirculation. Replacements for conventional sealed pumps.

The MDW series are the largest class fluoroplastic magnetic drive pumps in the world, offering high efficiency and durability for chemical process applications.
The lineup is further enhanced with the addition of a flange connection type, and various chemical specifications are also available.



MDW80-F (Flange motor type)



MDW100 (Foot mounted flange motor type)

High discharge capacity, High head and high efficiency

The heavy-duty MDW is capable of a maximum discharge capacity of 5,000 L/min and max. discharge head of 98m, enabling applications in previously unexplored areas with a wide range of liquid specific gravities.

ISO compliant

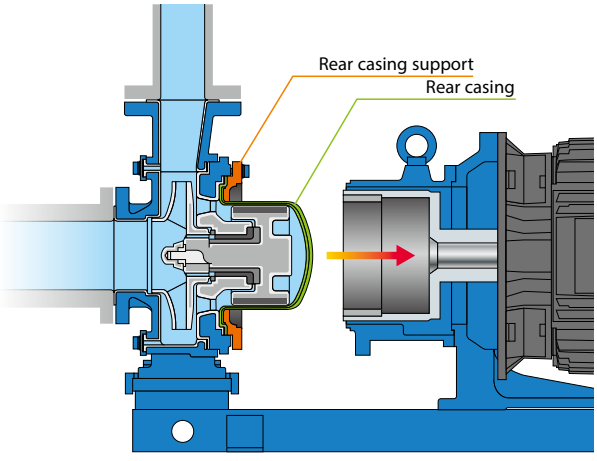
The MDW is dimensionally compliant with the international standard (ISO2858, 3661) and is interchangeable with conventional sealed centrifugal pumps.

Highly chemically resistant

Fluoroplastic and fine ceramic wetted parts offer high resistance to virtually every industrial chemical, irrespective of concentration.

Back pullout system

The back pullout system allows easy maintenance and inspection without removing pipework. Integrated components and a sealed rear casing support structure enable motor removal safely without chemical leakage.



Robust structure



Use of the high strength ductile cast iron external armour is mandatory for heavy duty chemical process applications. High casing pressure resistance is achieved with a unique rear casing design preventing stress concentration and incorporating a triple-layer structure (PAT). A special metal shaft is used on the MDW to withstand high radial forces and allow continuous extended operation even under harsh service conditions.

Construction and materials

Gasket
PTFE

Impeller
PFA (MDW50)
CFRETFE (MDW80/100)

Front casing
PFA (MDW50)
ETFE (MDW80/100)

Bearing
SiC

O ring
Kalrez®
FKM
EPDM

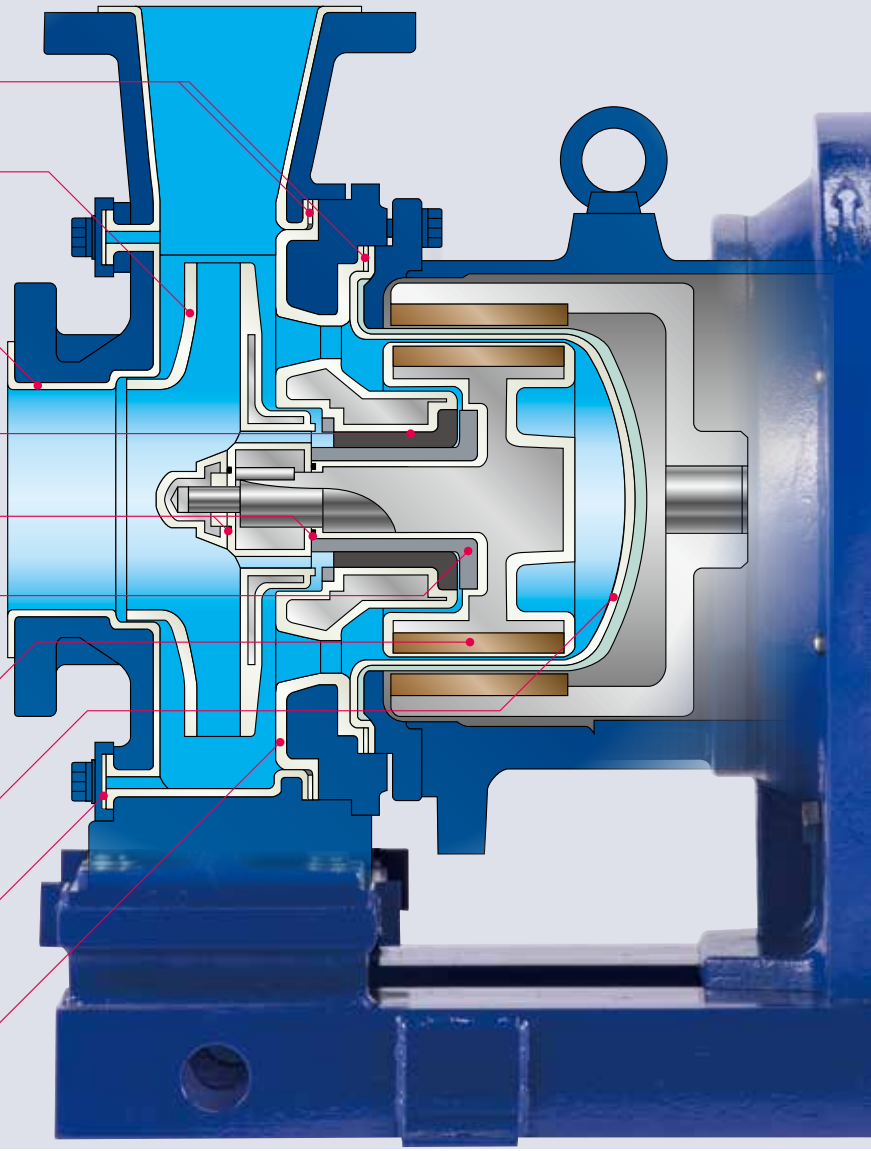
Sleeve
SiC

Magnet capsule
PFA
CFRETFE

Rear casing
PFA

Gasket
PTFE

Split plate
PFA



Pump identification

MDW **50** - **260** **P** **K** **Z** **F** **450** **I** - **E** **2**
1 2 3 4 5 6 7 8 9 10

1 Pump diameter · Motor output

Model	Pump diameter (Suction×Discharge) [mm]	Motor output [kW]	
		2P	4P
50	80×50	22, 30, 37, 45, 55, 75	11, 15, 18.5, 22, 37
80	125×80	37, 45, 55, 75	
100	125×100		

2 Nominal impeller size
170 to **260** (mm)

3 Wet end main material
E : ETFE+PFA
P : PFA

4 Material of Bearing / Sleeve
K : SiC/SiC

5 Material of O-ring
Z : Kalrez®
V : FKM
E : EPDM

6 Type of motor
F : Flange motor / Foot mounted flange motor (Flange motor type)
C : Foot mounted motor (Coupling type)

7 Motor output
110 : 11kW, **150** : 15kW, **185** : 18.5kW, **220** : 22kW, **300** : 30kW,
370 : 37kW, **450** : 45kW, **550** : 55kW, **750** : 75kW

8 Pump standard
I : ISO flange + IEC motor

9 Special version

	With or without drain / air release	Product form	Special version
A	Without drain / air release	Pump body + Base set	Standard
S			Special version
D	With drain / air release		Standard
X			Special version
B	Without drain / air release	Pump body set Without base	Standard
Y			Special version
E	With drain / air release		Standard
Z			Special version

10 Motor poles
2 : 2P
4 : 4P



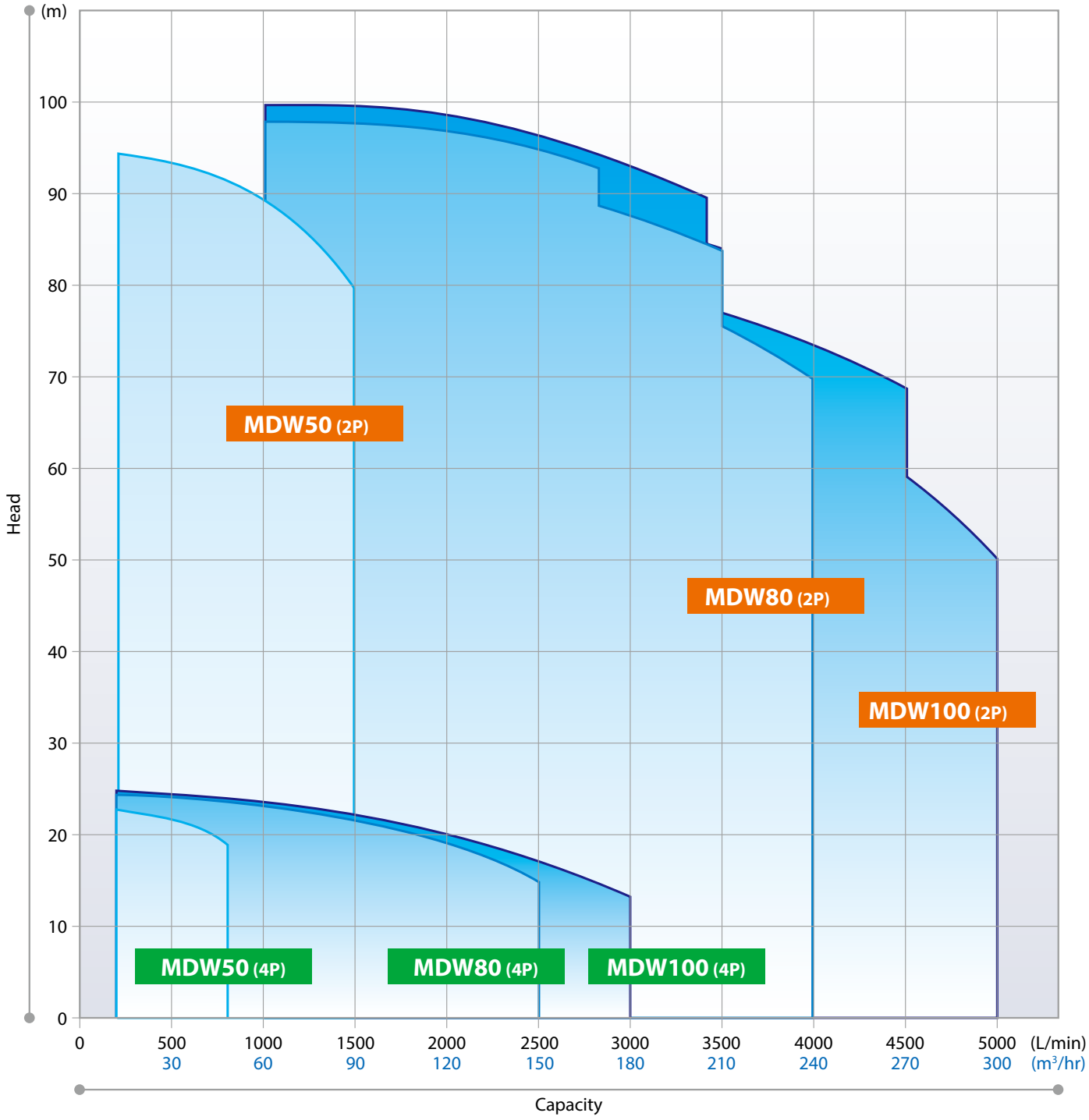
Specification

Model	Suction × Discharge (mm)	Nominal impeller size	Capacity (L/min)	Capacity (m^3/hr)	Head (m)	Motor output (kW)	
MDW50	80×50	250	833	50	83	2P	22, 30, 37, 45, 55, 75
		260	417	25	21.5	4P	11, 15, 18.5, 22, 30, 37
MDW80	125×80	250	2667	160	90	2P	37, 45, 55, 75
		255	1333	80	23	4P	11, 15, 18.5, 22, 30, 37
MDW100	125×100	200	3333	200	62	2P	37, 45, 55, 75
		235	1667	100	21.5	4P	11, 15, 18.5, 22, 30, 37

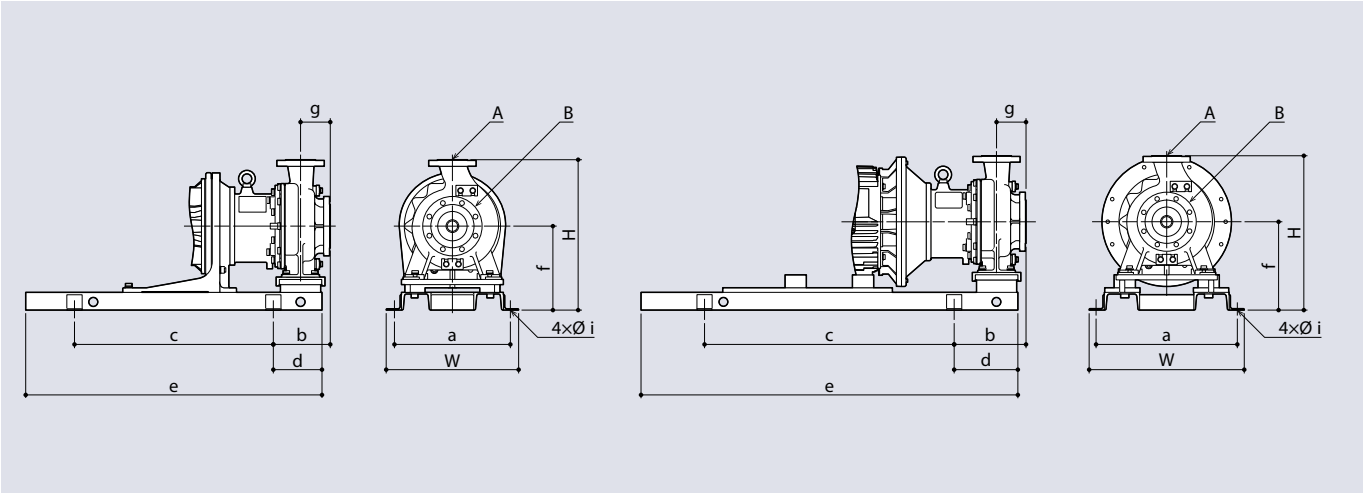
Common specification

Temperature range of liquid handled	ETFE type : -10 to 105°C, PFA type : -10 to 120°C (In the case of low-temperature specifications, please be careful of dew condensation on the pump.)
Allowable slurry	Please contact us for details.
Maximum operating pressure	1.6MPa
Standard paint color	Ultramarine blue RAL5002

Performance curves



Dimensions (mm)



MDW50

Motor output kW		W	H	a	b	c	d	e	f	g	i	A	B	Mass (Less motor) kg
2P	22	560	580	490	255	840	205	1250	355	125	23	50	80	290
	30	610		550	280	940	230	1400			27			295
	37													275
	45													
	55	660	600	600	320	1060	270	1600	375					290
	75	730		670	350	1200	300	1800						305
4P	11	560	580	490	255	840	205	1250	355		23			290
	15													
	18.5													
	22													
	30	610		550	280	940	230	1400			27			295
	37													

MDW80

Motor output kW		W	H	a	b	c	d	e	f	g	i	A	B	Mass (Less motor) kg
2P	37	610	635	550	265	940	230	1400	355	125	27	80	125	280
	45													
	55	660	655	600	305	1060	270	1600	375					295
	75	730		670	335	1200	300	1800						310
4P	11	560	635	490	240	840	205	1250	355		23			295
	15													
	18.5													
	22	610		550	265	940	230	1400			27			300
	30													
	37													

MDW100

Motor output kW		W	H	a	b	c	d	e	f	g	i	A	B	Mass (Less motor) kg
2P	37	610	635	550	265	940	230	1400	355	125	27	100	125	285
	45													
	55	660	655	600	305	1060	270	1600	375					300
	75	730		670	335	1200	300	1800						315
4P	11	560	635	490	240	840	205	1250	355		23			300
	15													
	18.5													
	22	610		550	265	940	230	1400			27			305
	30													
	37													

Option

Pump protector DRN



Detects unusual pump operating conditions including dry-running and overload

The DRN model protects equipment (including pumps) from damage! Minimizes production downtime. Identifies possible causes of alarms so they can be investigated and addressed.

Multiple Input

Two analog, one digital, one temperature input and one current input

Logging capability

Data log feature for preventative maintenance scheduling

Easy operation

Equipped with EASY setup mode to remember the operation status and set the lower/upper limit values, as well as AUTO setup mode

Communication

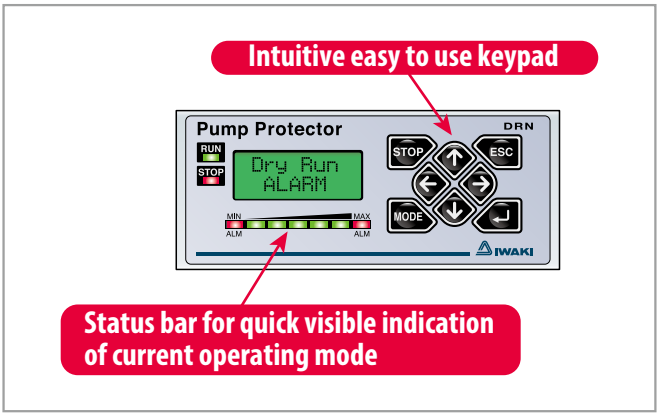
RS485 external communication capability

Bar graph

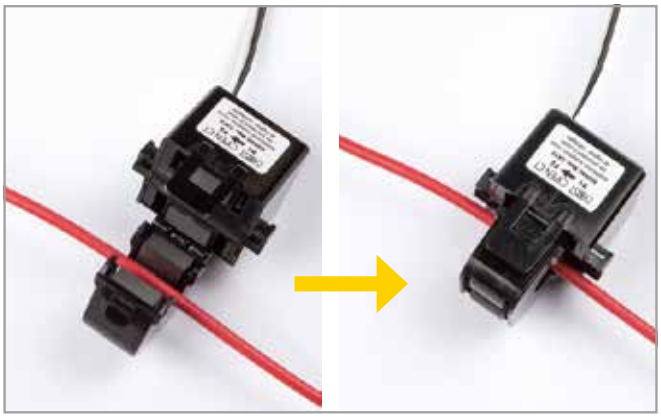
Visible indication of current operating status (Refer to the figure below)

Clamp-type current sensor for ease of installation

No modification of motor leads necessary.



Normal operation : Green Signal
Abnormal operation : Red Signal



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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.

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