

## SHENZHEN KEWO ELECTRIC TECHNOLOGY CO., LTD

### About us



*KEWO is a Chinese famous manufacturer of AC drives, solar pump inverter, also focus on automation solution providing and renewable energy technologies offering. The company employ about 200 people and set up service centers in approximately 25 provinces in China.*

**KEWO AC DRIVES,**

**VARIABLE FREQUENCY DRIVE,**

**FREQUENCY INVERTER**



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## Company introduction:

**KEWO ELECTRIC TECHNOLOGY CO., LTD.** ( hereinafter called KEWO ) is a professional manufacturer of kinds of AC drives, variable frequency inverter, soft start, and solar pump inverter, etc. We are not only focus on designing, manufacturing, sales and after sales service for above mentioned products, but also providing custom made automation solution and renewable energy technologies.

There are more than 150 staffs working in our factor, 60% of them are engineers. Thanks to our great R&D team hardworking and innovation, we mastered core and leading vector control technology for PMSM and IM.

We also introduced and absorbed latest servo motor control and motor control technology from abroad, that help us keep top position among Chinese manufactures. We have established 2 modernization production lines, digital quality control system, code bar tracking system and EPR management system, etc. And every piece of KEWO products have been tested with full load to ensure 100% good quality. Quality begins and ends with each person in our company.

KEWO products is comprised of high level AC drives, variable speed drive, frequency inverter, solar pump drive with DC and AC input, etc. These products are widely using in industrial automation, cement, textile, metallurgy, HVAC, oil & gas, water treatment, chemical , machine tools, hoisting, agriculture, farming, irrigation...



KEWO factory



Reception room



Production line

## KEWO Products Range: (VSD, Frequency Inverter, Servo drive, soft starter, solar pump Inverter)



AD100 (VFD)



AD350(VFD)



AD800( Vector Control Inverter)



Sealed VFD



AD850Z/T( Servo Drive)



Solar Pump Inverter



Soft Starters

## KEWO AD DRIVES BRIEF INTRODUCTION

PRODUCTS	SPECIFICATION	PICTURES	BRIEF INTRODUCTION
AD800 Series High Performance Vector Control Drive/ <b>Variable Speed Drive</b>	1Ph, 220V, 0.4kw to 2.2kw. 3Ph, 220V, 0.75kw to 75kw 3Ph, 380V/660V/1140V, 0.75 to 630kw.		Drive for PMSM and IM Accuracy speed and torque control for motor, multiple functions, good protection; Sensorless vector control, sensor vector control with PG, VF control, 180% rated starting torque, big allowance IGBT module ,
AD100 Mini Economic AC Drive	1Phase, 220V, 0.4 to 1.5kw		Adopt software platform as same as AD800, easy using and powerful function Mini and Economic type, Using IPM of iGBT
AD350 Mini Vector Control Drive	1 Ph 220V,0.4 to 2.2kw, 3 Ph,380V, 0.75 to 3.7kw		Mini drive with compact design Vector control and VF using the same software platform as AD800; IGBT module to ensure good quality, rich functions
Ad800S Frequency Inverter For PMSM (servo drive)	1Ph, 220V, 0.4kw to 2.2kw. 3Ph, 220V, 0.75kw to 75kw 3Ph, 380V/660V/1140V, 0.75 to 630kw.		Enhanced AD800 version, special for PMSM servo motor with sensorless or sensor control, Multiple protection function Rich functions, and flexible using PG card built in controller board
AS850 Z Servo Drive For PMSM Of IMM.	3 phase, 380V±15%, 5.5kw to 110kw		Driving f or permanent magnet synchronous motor (PMSM) for energy saving. High energy saving, high power factor, quick response and high accuracy control, etc.
AS850T Spindle Servo Drive For PMSM And IM	3 phase, 380V±15%, 2.2kw to 55kw		Spindle servo drive for CNC, machining center, packing, textile, etc. high accuracy speed, torque and position control through close loop servo control
SD800 Seal Frequency Inverter (IP54)	220V (single-phase power) 0.4-2.2kW 380V (three-phase power) 0.75-30kW		sealed frequency inverter is enhanced version of AD800 series frequency inverter, built in with IP54 protection grade. With excellent in anti-dust, water proof, anti-grease and anti-corrosion properties

## AS850-Z Hybrid Servo Drive For PMSM Of Injection Molding Machine

AS850Z series servo drive for permanent magnet synchronous motor (PMSM), is KEWO own developed hydraulic electric servo drive system for injection molding machine energy saving. It has following advantage, high energy saving, high power factor, quick response and high accuracy control, etc. AS850Z has powerful overload capability even under low speed, 180% rated torque for 30s under 0 speed is possible to ensure good pressure keeping ability.

**Output frequency range:** 0 to 400Hz.

**Input voltage:** 3 phase 380V±15%, 2.2kw to 90kw

**Pressure signal reference:** external analog 0-10V, 0-1A.

**Protection function:** Input phase missing, input under voltage, over voltage, over current, over load, over heat, external disturbing .

**Cooling method:** force cooling

**Mount:** Wall mount

### Function features

**Energy saving:** up to 60% energy saving compare to traditional fixed pump system. 75% is possible be achieved according to difference injection condition.

**Lower oil temperature:** reduce 5-10 degrees

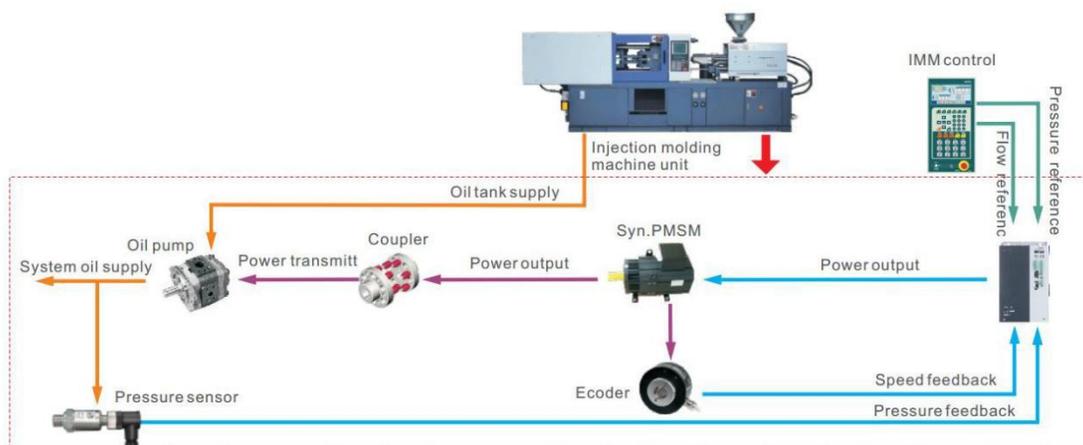
**High repeated accuracy:** To achieve high accuracy flow and pressure control

**Long pressure holding time:** It is favorable for big wall thickness.

**Quick response:** frequency response up to 50ms.

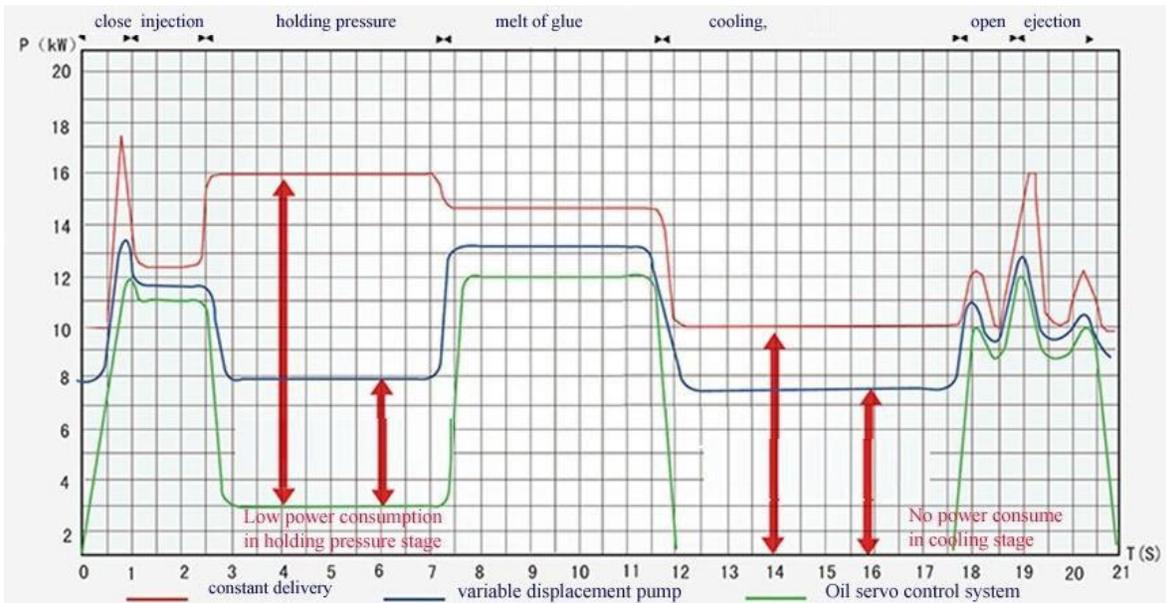
#### Enhanced features:

1. Design the signal correction algorithm and match to work high performance under low speed characteristic to solve the creep problem of IMM. Because his given signal reference is nonlinearity characteristic.
2. Due to switching frequently in flow control mode, so we adopt fuzzy control to realize smooth switch of flow and pressure control.
3. Adopt flow control with pressure compensation to eliminate effect of flow estimate accuracy.
4. Adopt noise control method to reduce the fluctuation of output pressure of oil pump.
5. Monitoring temperature of motor and drive in whole journey, parameters adjusting in real time



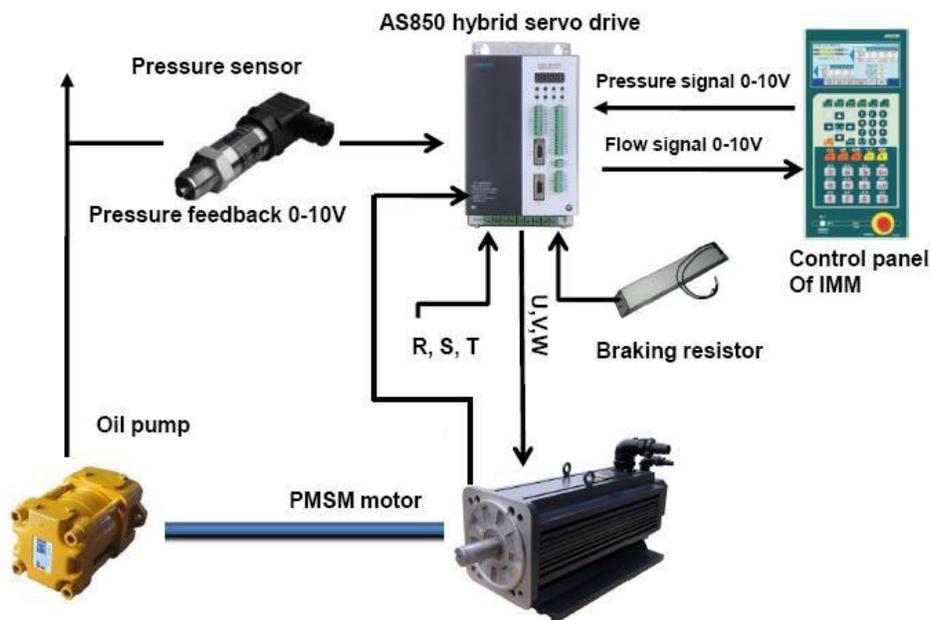
System connection for energy saving with hybrid servo drive

### Energy saving comparison diagram

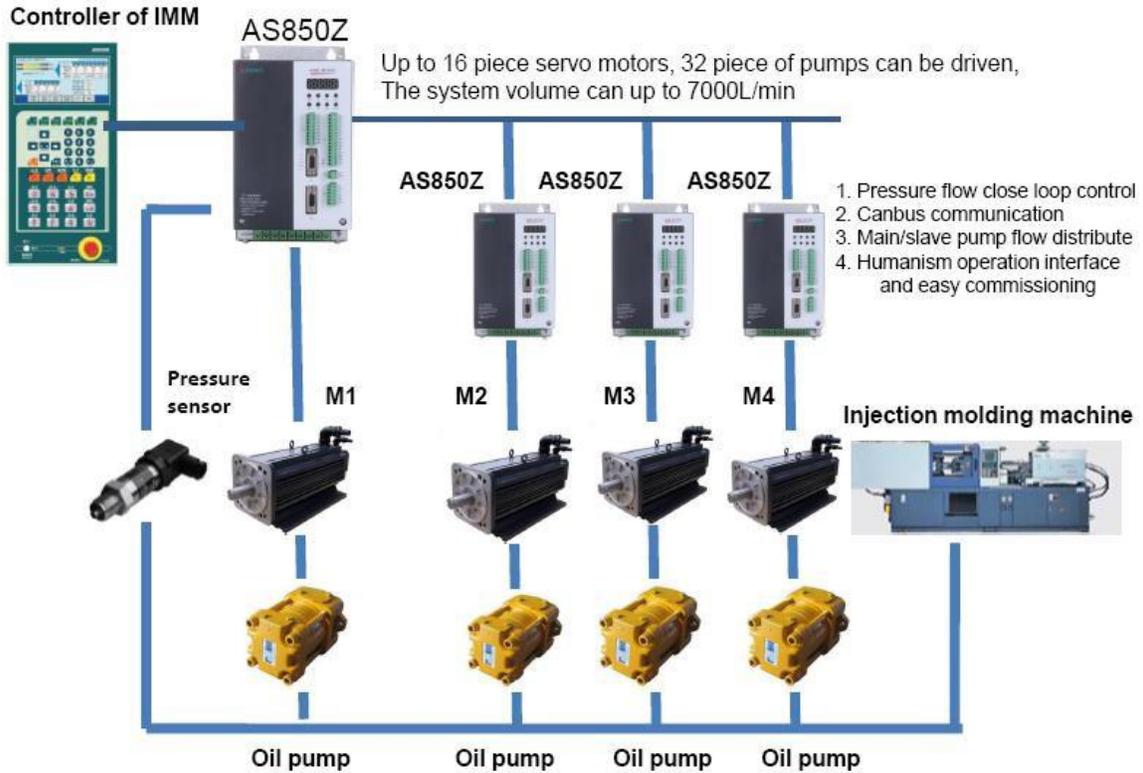


The injection molding machine power consume take up 75% of system total in traditional constant flow of IMM. It need difference flow and pressure during difference working stage of IMM such as mold close, injection, pressure holding, molding open. When the required over the setting pressure and flow, the flow and pressure will be adjusted by relief valve or proportional valve. this process call high pressure throttling. Up to 40-75% energy wasting during this stage.

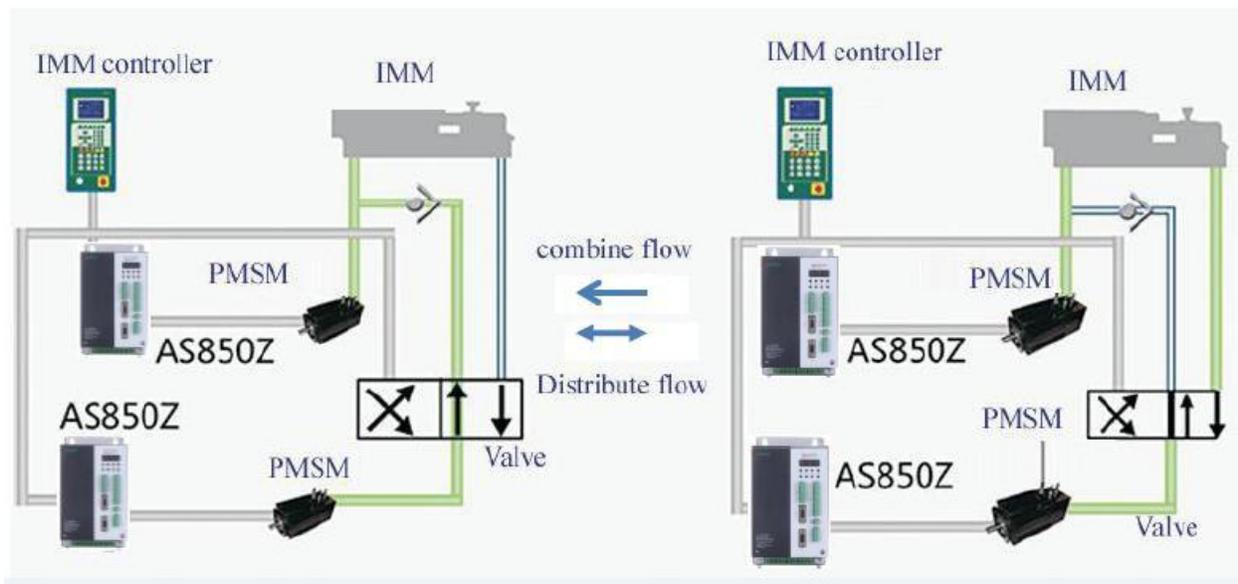
### System connection diagram



### Multiple pumps combine flow control diagram

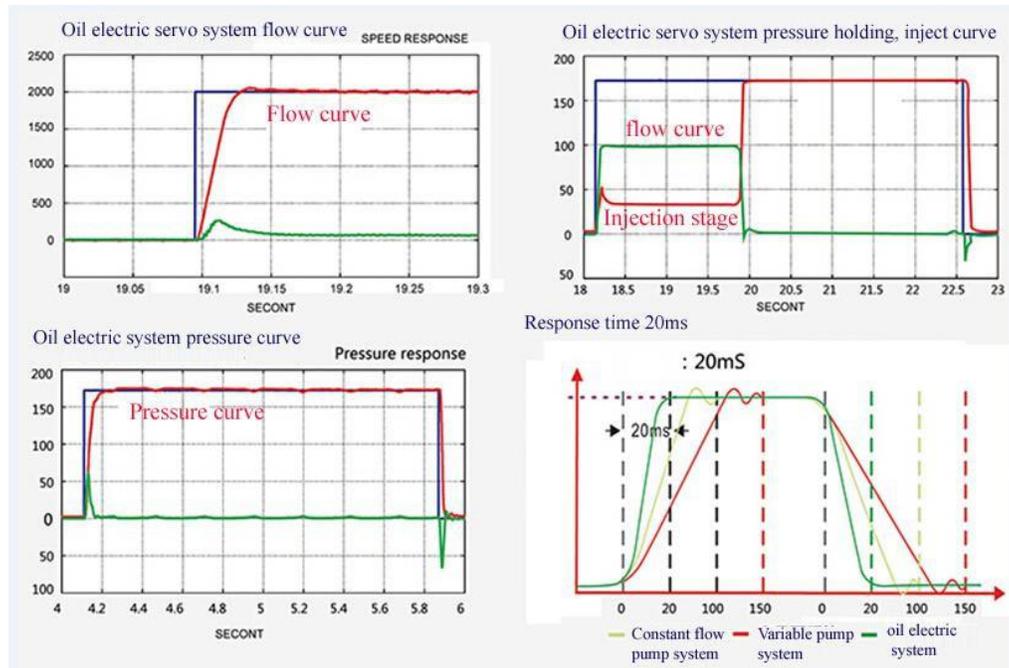


### Multiple pumps compound control compound control



## Oil servo drive system performance.

### System curve of Kewo AD850Z servo drive in IMM application



### Technical data

	Items	Description
Input	Rated voltage range	3 phase 380V±15%
	rated frequency	50/60Hz
Output	rated voltage range	output 0 to 380V
	rated frequency	0.00 to 400.00Hz
mounting	wall mounting with IP20	
Cooling method	force cooling	
Encoder	Rotary transformer	
	Pressure reference	External analog signal (0-10V)
	Flow reference	External analog signal (0-10V)
	pressure feedback	External analgo ( 0-10V or 4-20mA)
	Control input	9 channel insulation input
	control output	3 channel insulation input
	analog output	1 channel output
Protection function	Phase missing input, under voltage input, over voltage input, over current, overload of drive, overheat of motor, external interference encoder fault.	
Display	current output display, current rotation, current output current, output voltage, fault alarm, operation parameters, running status.	

	using place	Indoor, no sunlight exposure, no dusty, corrosive atmosphere, no flammable gas, no water dip and not salt.
	Environment temperature	"-10 °C to 50°C
	Environment humidity	90% below( no condensation)
	shock intensive	0.5g( acceleration) below
	altitude	1000 below.
	Items	Description
Input	Rated voltage range	3 phase 380V±15%
	rated frequency	50/60Hz
Output	rated voltafe range	output 0 to 380V
	rated frequency	0.00 to 400.00Hz
mounting	wall mounting with IP20	
Cool method	force cooling, fans control is available	
Encoder	Rotary transformer	
	Pressure reference	External analog signal (0-10V)
	Flow reference	External analog signal (0-10V)
	pressure feedback	External analog ( 0-10V or 4-20mA)
	Control input	9 channel insulation input
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	altitude	1000 below.

### Model selection

Servo drive model	Input voltage	Rated output power (KW)	rated input power (A)	Rated output current (A)	braking resistor power selecting	braking resistor ( $\Omega$ )	Braking unit
AS850Z4T017	3 phase 380V	7.5	20.5	17	1000	>90	built in
AS850Z4T025		11	26	25	1000	>40	
AS850Z4T032		15	35	32	1000	>32	
AS850Z4T037		18.5	38.5	37	2500	>32	
AS850Z4T45		22	46.5	45	2500	>16	external connect
AS850Z4T60		30	62	60	2500	>16	
AS850Z4T75		37	76	75	5000	>8	
AS850Z4T91		45	92	91	5000	>8	
AS850Z4T112		55	113	110	5000	>8	
AS850Z4T150		75	157	150	5000	>8	
AS850Z4T175		93	180	175	5000*2	>8*2	
AS850Z4T210		110	214	210	5000*2	>8*2	
AS850Z4T250		132	256	250	5000*2	>8*2	
AS850Z4T300	160	307	300	5000*2	>8*2		

### Application:

1. Injection molding machine
2. pressure die casting machine
3. brick machine
4. shoes machinery
5. Pressing machine
6. Aluminum extrusion machine
7. Hydraulic, CNC punching machine
8. Civil engineering machine
9. Other hydraulic machinery

