

INVT MH500 series Hydraulic Servo System-Injection Molding Machine Solution

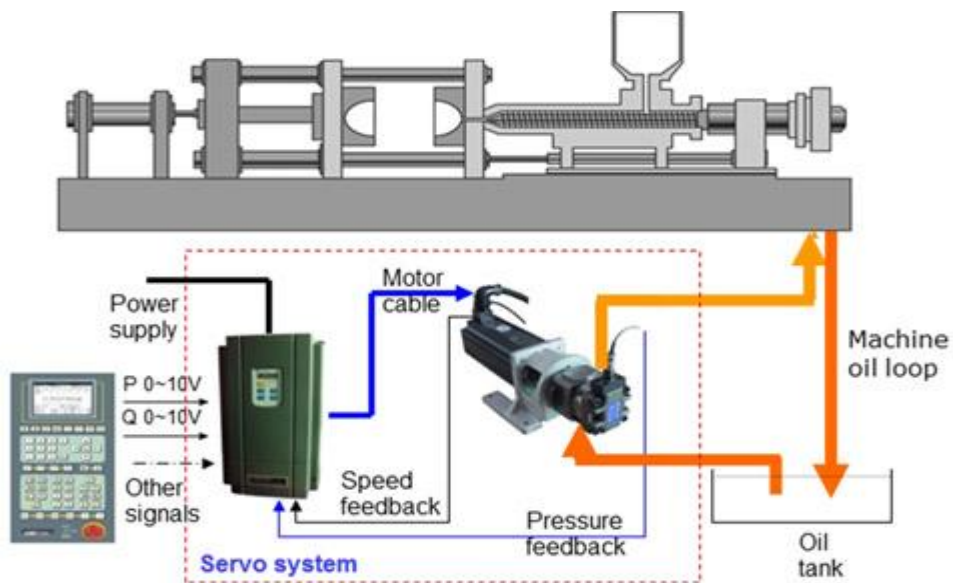


Previous



After-retrofit

Servo Hydraulic System Constitute



1) Single pump servo system

Driver + Motor + Pump + other connection Parts

S/n	Standard Model No.	S/n	Standard Model No.	S/n	Optional Model No.
1	servo driver	7	pump delivery port	13	reactance
2	servo motor	8	pump suction port	14	filter
3	gear pump	9	pressure sensor	15	magnet ring
4	breaking resistor	10	power cable	16	analog switch box
5	bracket	11	resolver cable	17	HMI
6	coupling	12	fan cable	18	PQ valve shell

2)Multi-pumps

CAN bus to communicate with drivers.

Efficient flow Assignments for Master&slave driver.

Be able to drive 16 sets of pump together . System Max flow could up to 4000L/min

3)Energy-saving effect of servo -hydraulic system

Servo Hydraulic system application in Plastic Machinery industry,The contrast according to injection molding machine tonnage.

Competition between quantitative pump system & Hydraulic servo

Machine size	Conventional Induction Motor power rate	Conventional system Energy consumption	Energy consumption after servo retrofit	Annually power saving	Annual money saving RMB	Exchange to USD
T	kw	kw.h	kw.h	kw.h/year	RMB/year	\$/year
58T	7.5	3.375	2.025	17739	¥14,191	\$2,365
90T	11	4.95	2.97	26017	¥20,814	\$3,469
120T	13	5.85	3.51	30748	¥24,598	\$4,100
160T	15	6.75	4.05	35478	¥28,382	\$4,730
200T	18.5	8.325	4.995	43756	¥35,005	\$5,834
250T	22	9.9	5.94	52034	¥41,628	\$6,938
300T	30	135	8.1	70956	¥56,765	\$9,461
360T	37	16.65	9.99	87512	¥70,010	\$11,668
450T	45	20.25	12.15	106434	¥85,147	\$14,191
530T	55	24.75	14.85	130086	¥104,069	\$17,345
650T	60	27	16.2	141912	¥113,530	\$18,922
800T	74	33.3	19.98	175025	¥140,020	\$23,337
900T	82	36.9	22.14	193946	¥155,157	\$25,860
1000T	90	40.5	24.3	212868	¥170,294	\$28,382
1250T	110	49.5	29.7	260172	¥208,138	\$34,690
1500T	120	54	32.4	283824	¥227,059	\$37,843

Calculation:

24 hours a day attendance, 365 days one year.

Electricity bill 0.8 yuan / kw.h.

Energy saving around 60%

4)Successful retrofit case 1

Company: Shenzhen Broadway (Hong Kong)

Project: Injection Molding Machine Servo Retrofit

Product: 42-inch LCD TV Shell

Mold amount: 6

Energy saving: **56.3%**

Annually benefits: **\$164433**



5)Servo hydraulic system competitive advantages

Quick response action ==> Shorten the molding cycle

High repeatability ==> Improve yields, raw material savings

Energy conservation ==> Lower production cost ,normally the energy saving rate up to 50%

Water conservation ==> Lower costs, less pollution

Reduce electricity consumption ==> Control ladder electricity price

Low noise ==> Enhance operating environment

Oil temperature steady ==> Extend machine life

National energy subsidies ==> Receive government financial support