Yizumi new series machine improvement presentation

- H-Series machine introduction
- yizumi close-loop design introduction
- yizumi servo motor technology introduction
- yizumi automation cell introduction

YIZUMI伊之密

让中国装备技术与世界同步
We Walk Alongside The World

H-series DCM

Yizumi have improve not only at machine performance，also go a further step to improve machine humanization，safety, reliability and efficiency。

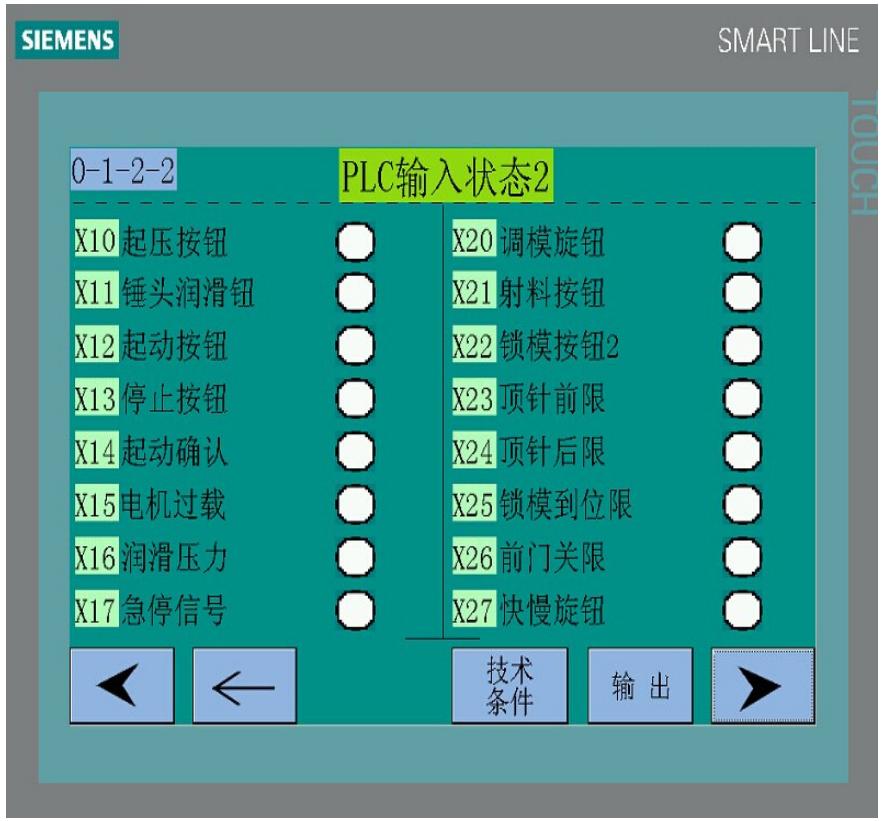
1.HUMANIZATION

10inch colorful touch screen, keep page information more clear, screen page more simple and operate convenient

Standard

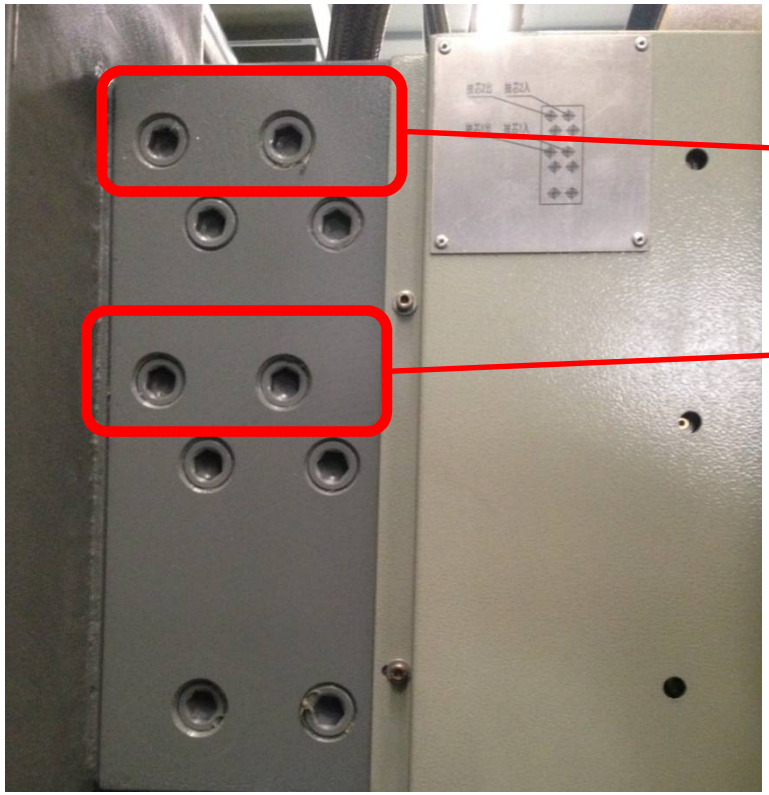
H-series

Added operate tips and daily maintenance instruction：

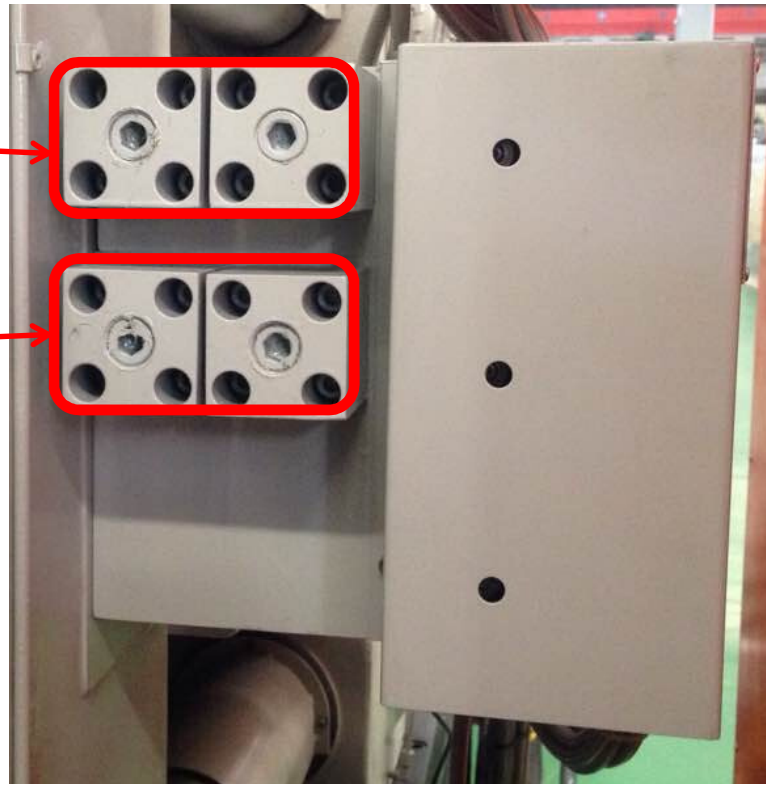


Added operate tips and daily maintenance instruction：

standard

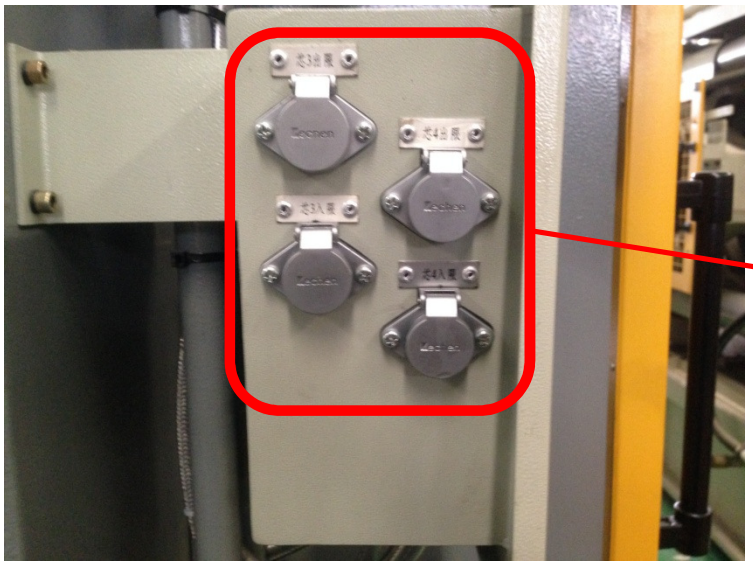


H-series



Operate space bigger，core port optimal，

Standard

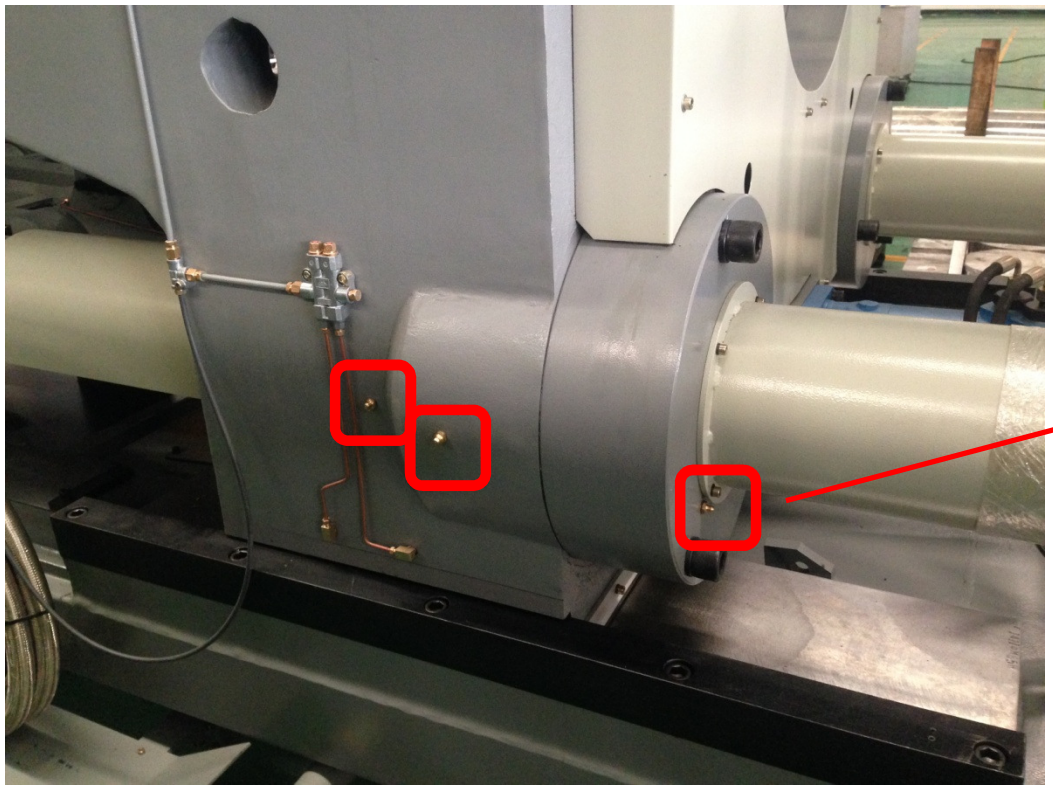


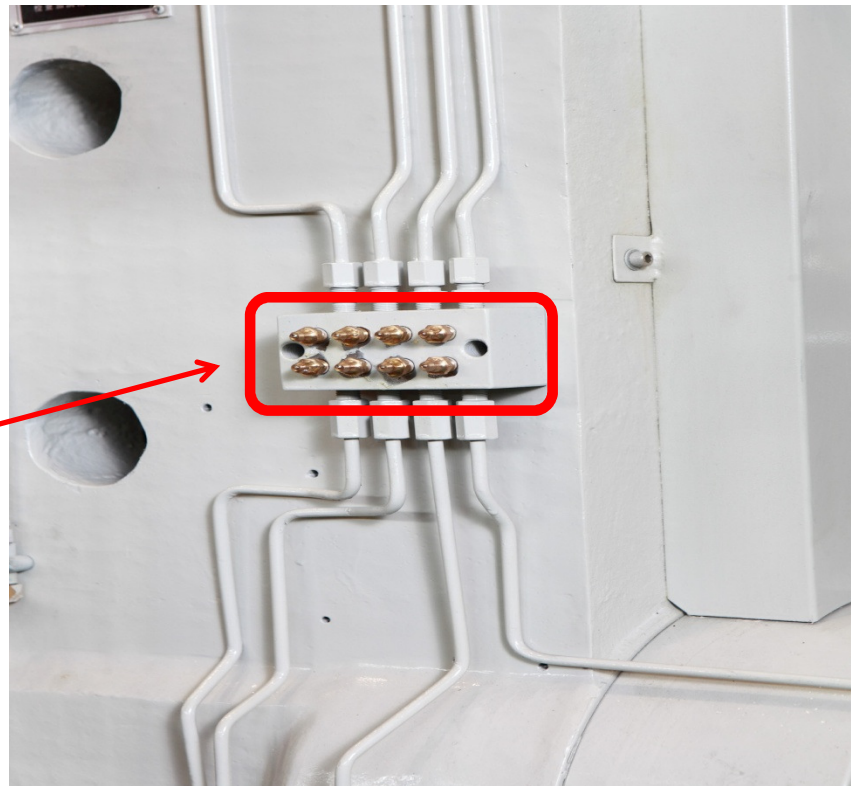
H-series

Plug connector changed to prevent water enter into 。

Standard

H-series

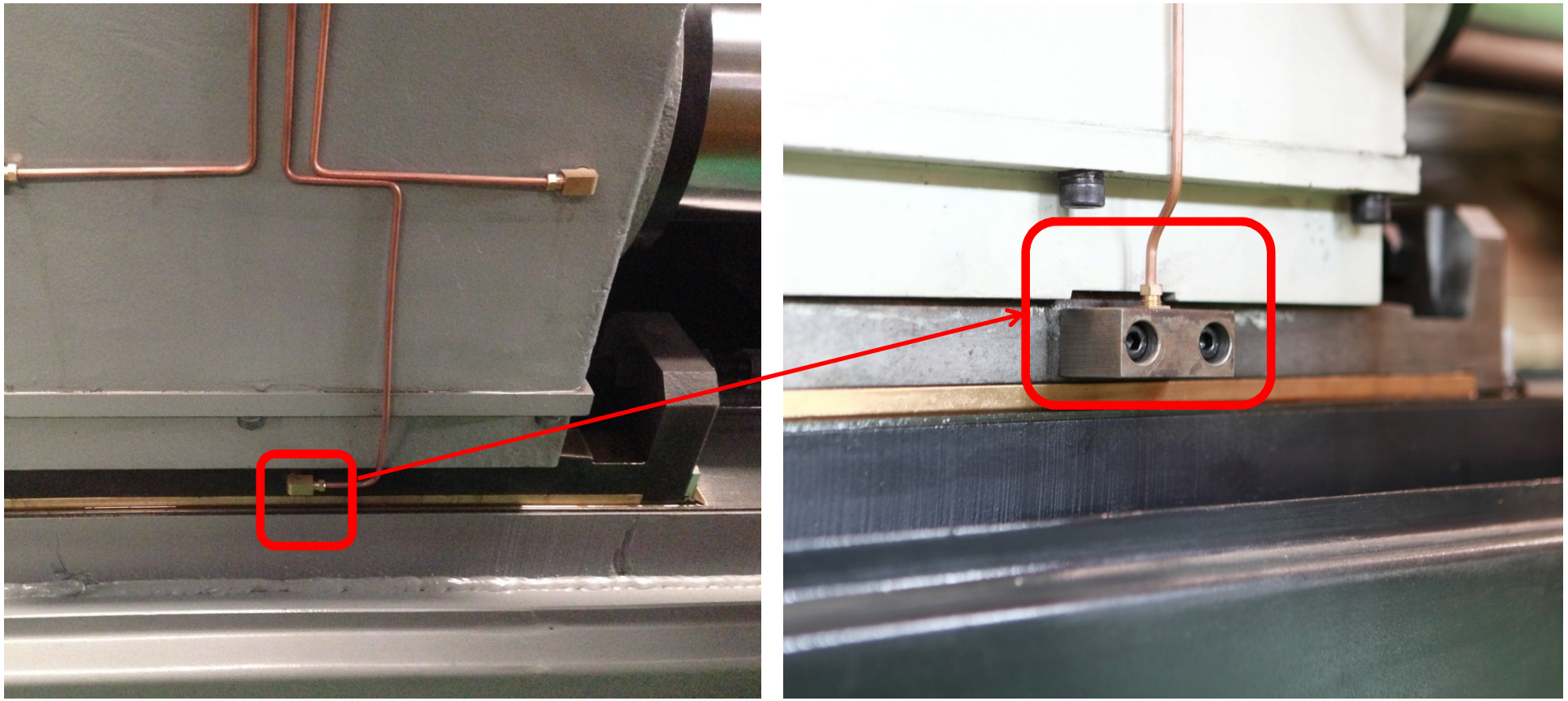




Integrated all separate grease nipple ， make operate easily

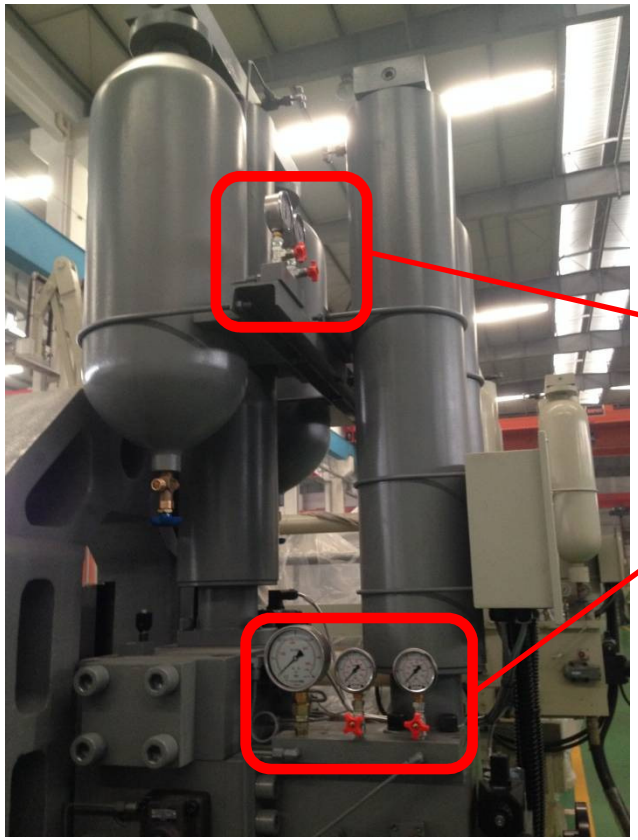
standard

H-series

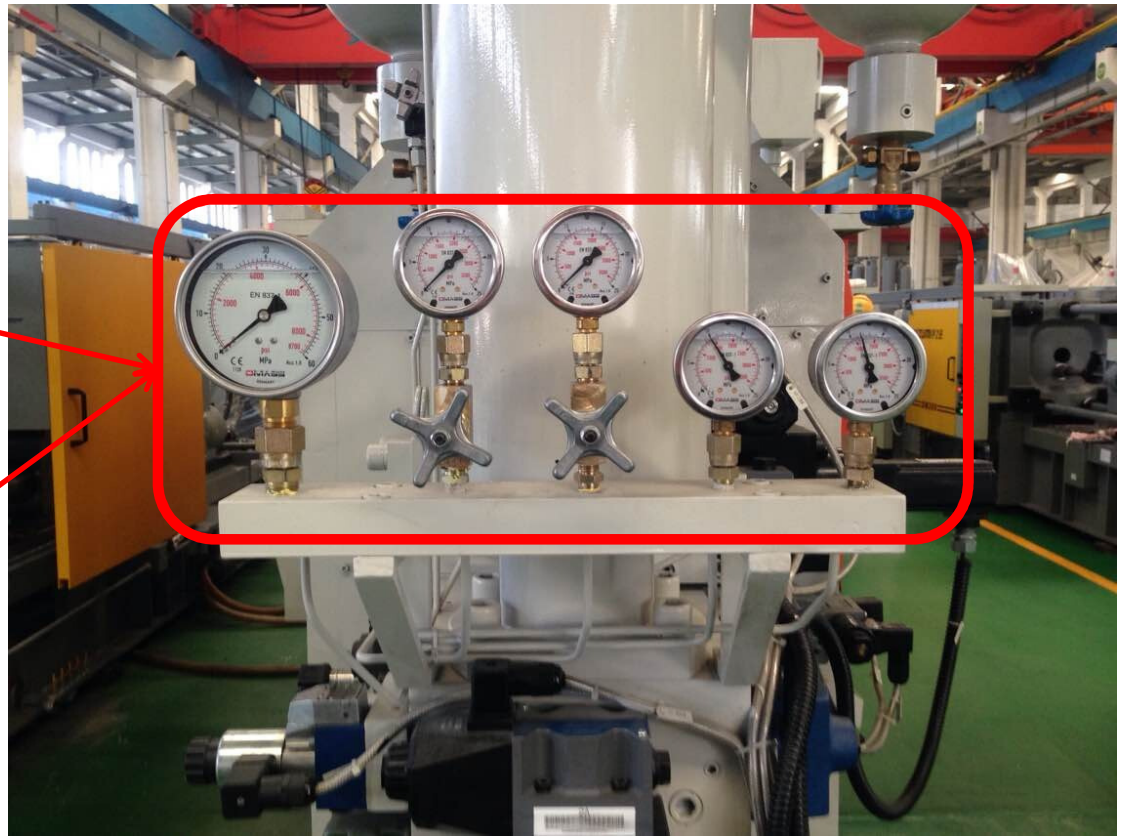


Anti-collision design for lubricate connector。

Standard

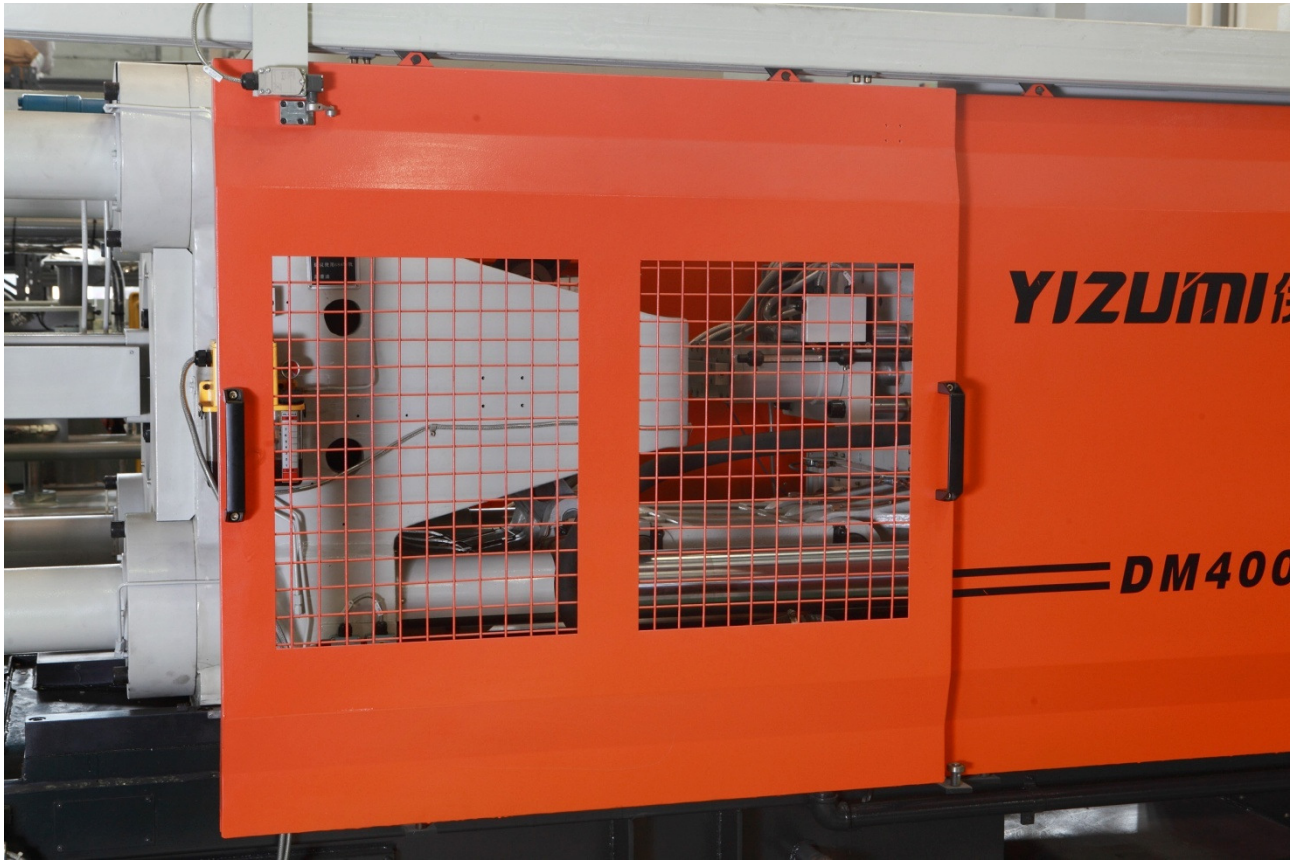


H-series

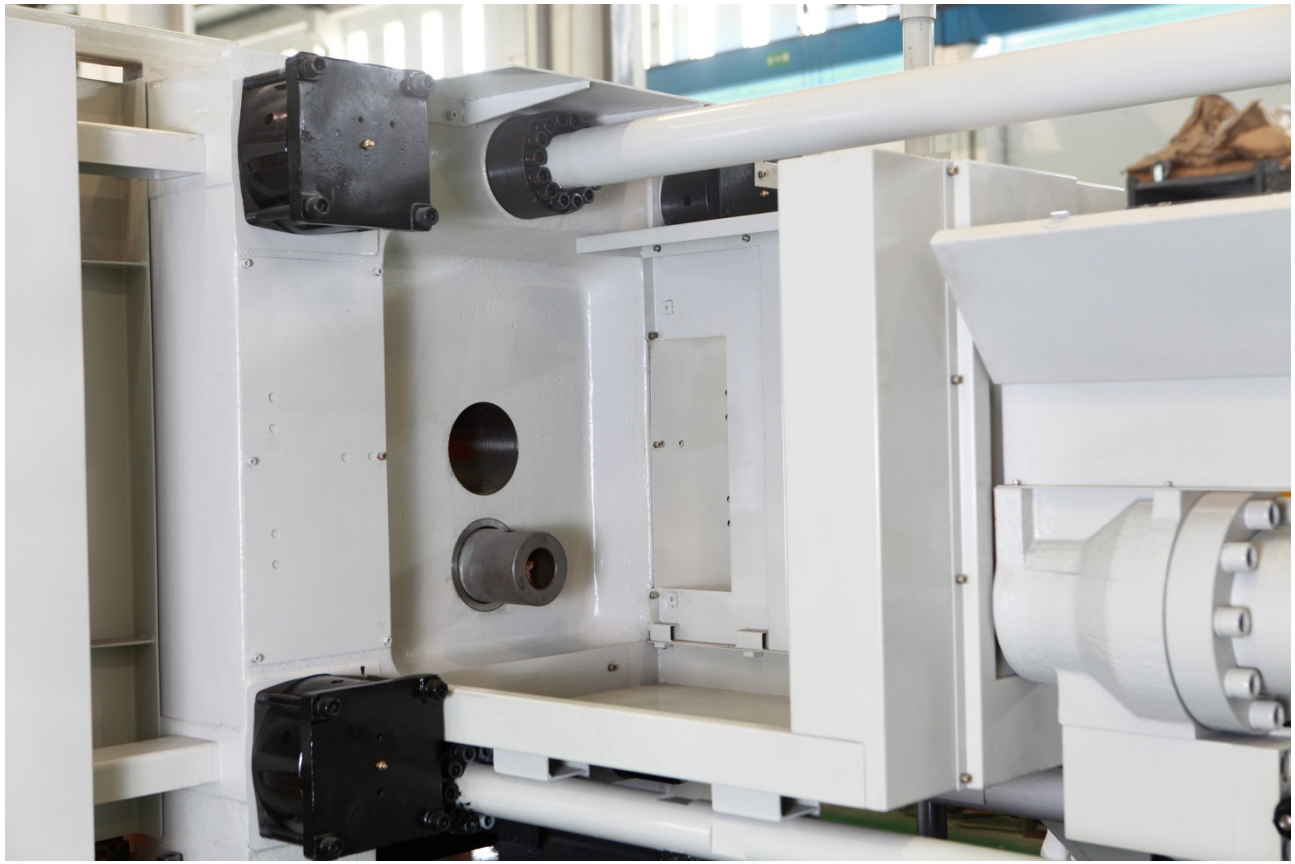


Put all pressure gauge together for observe and check easily。

2.SAFETY

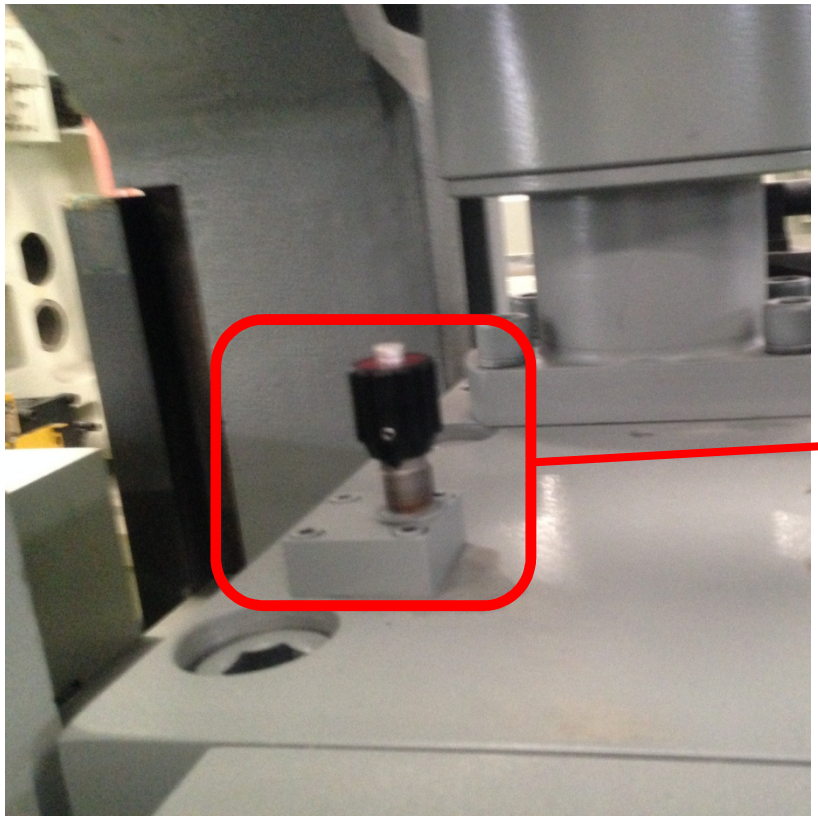


Toggle cover added to prevent hand enter into for safety 。

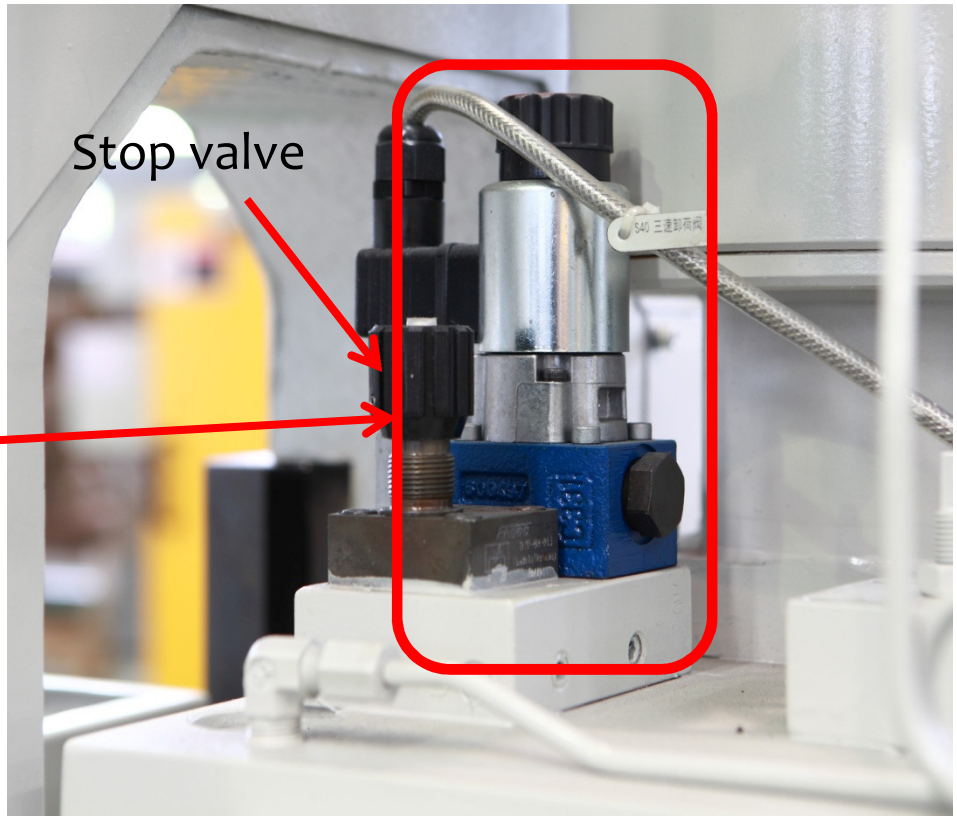


To prevent alloy return to make harm to sb when plunger tip worn. Added cover for shot area for more safety。

Standard Machine

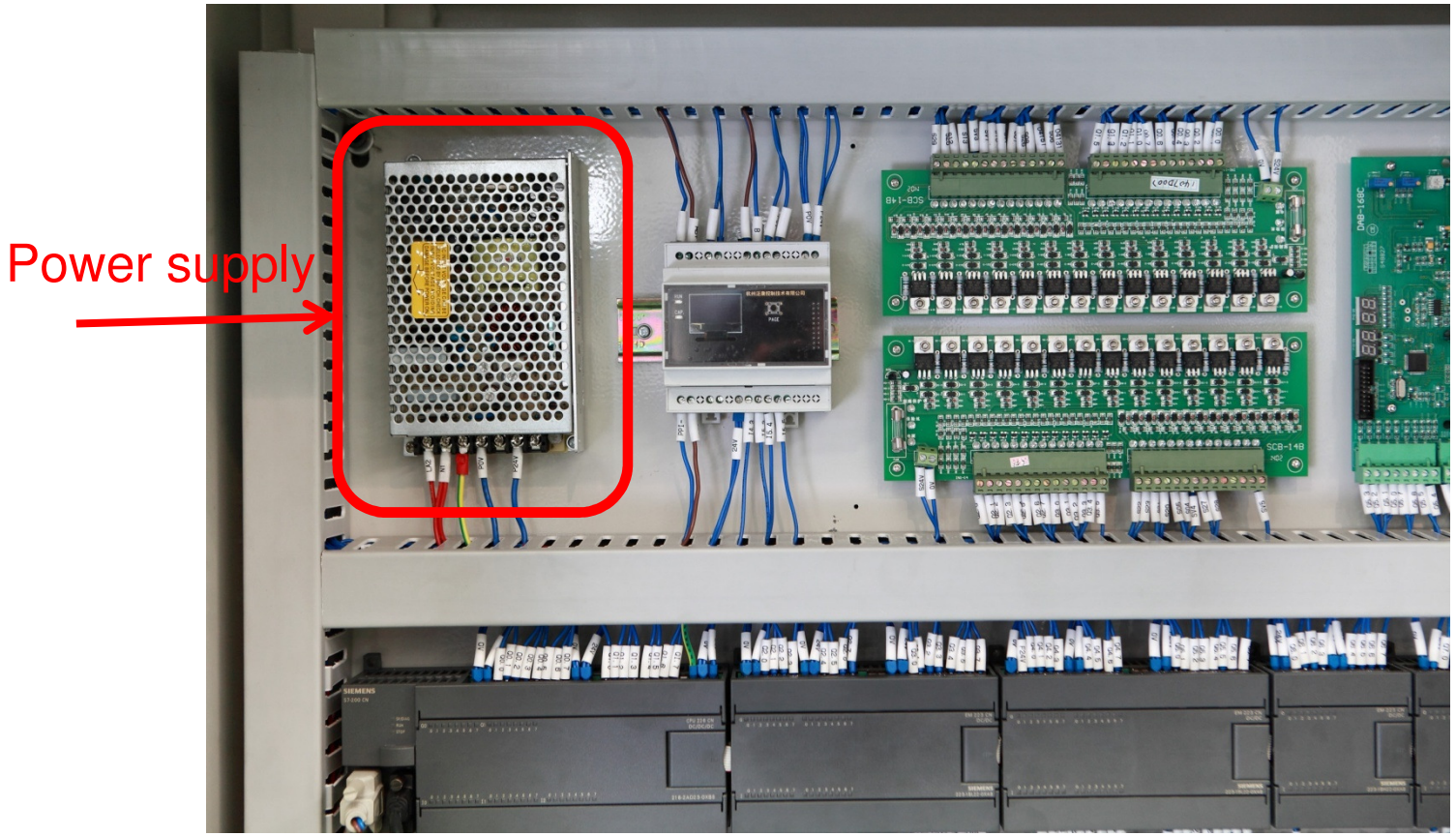


New series Machine



Auto drain valve added for pressure release when machine stop for safety。

3.RELIABILITY



Independent power supply for all analog signal for prevent electrical interference

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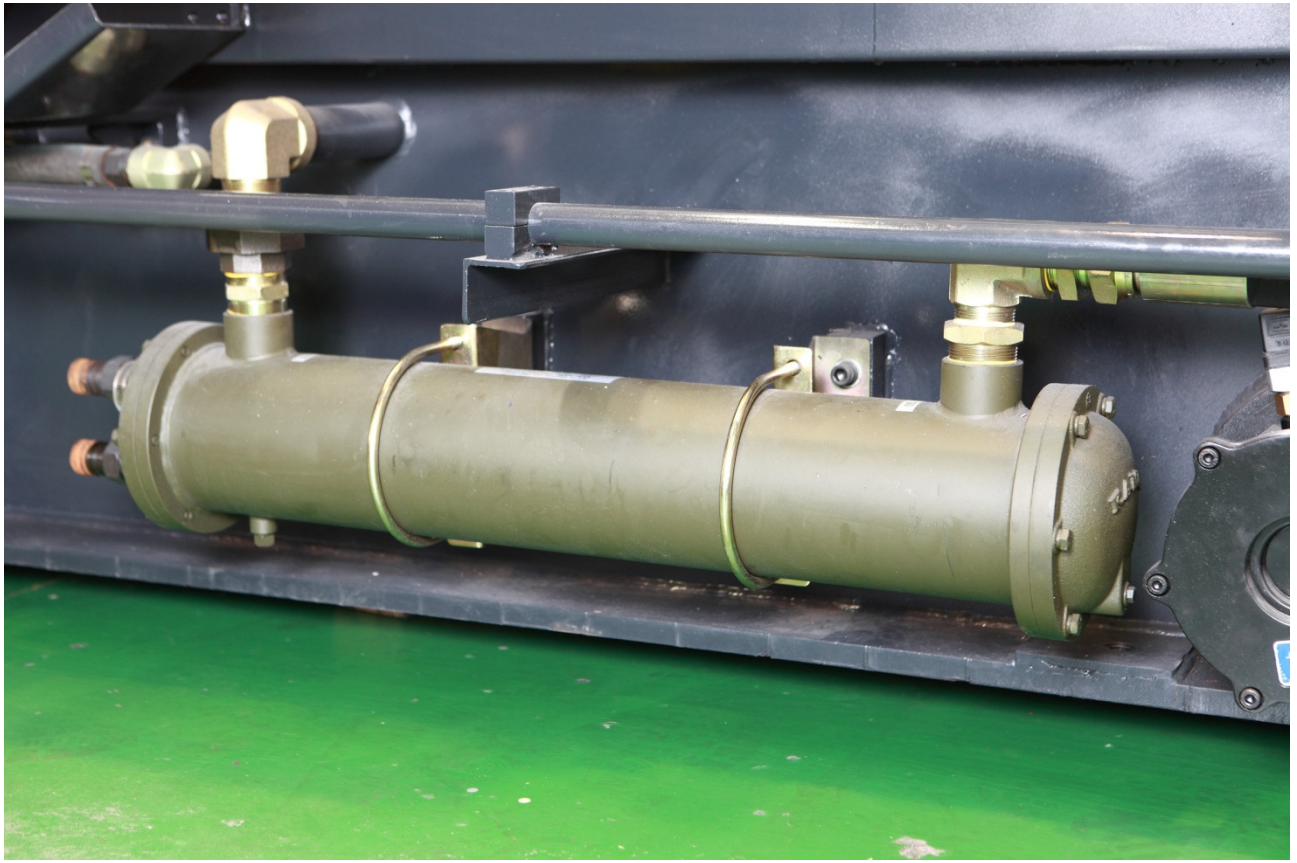
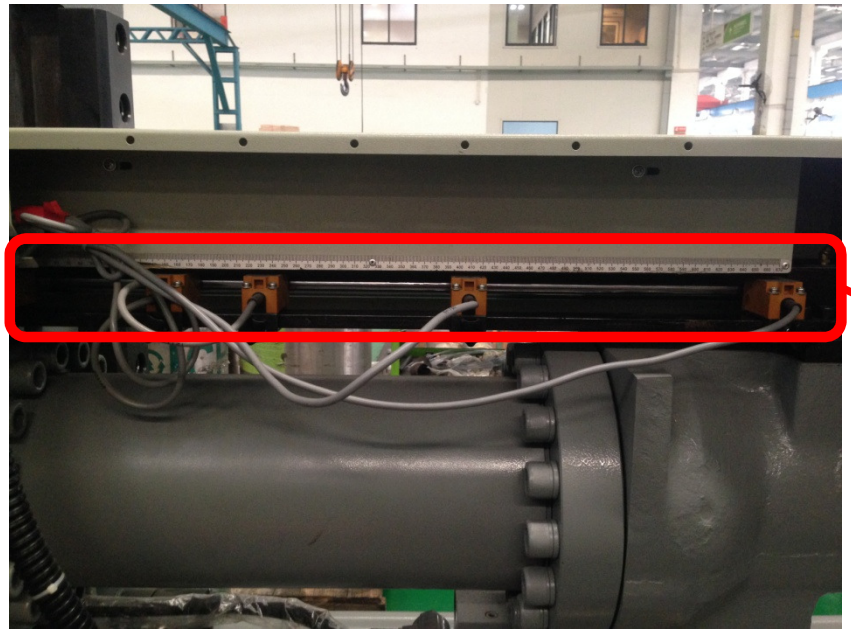
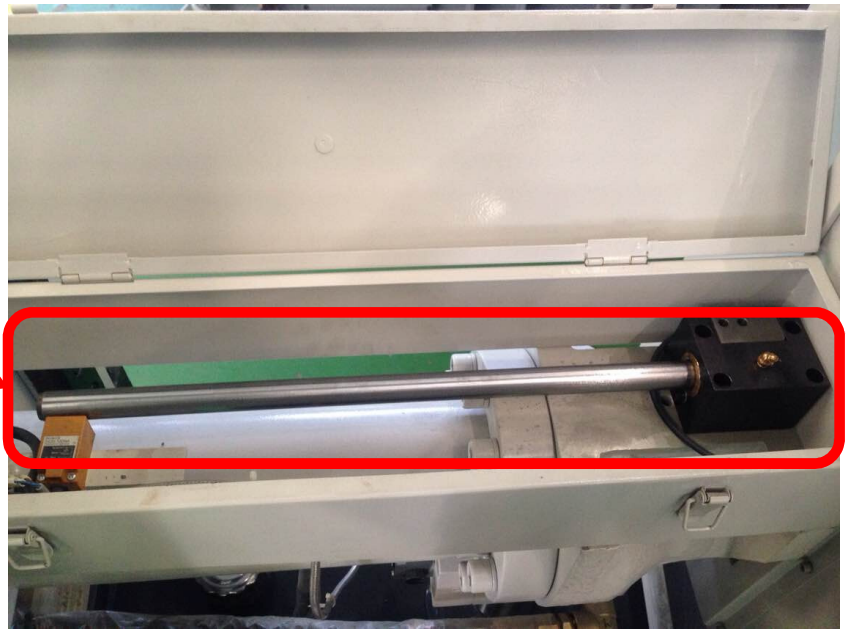


Equipped one more class bigger cooler for cooling oil better。

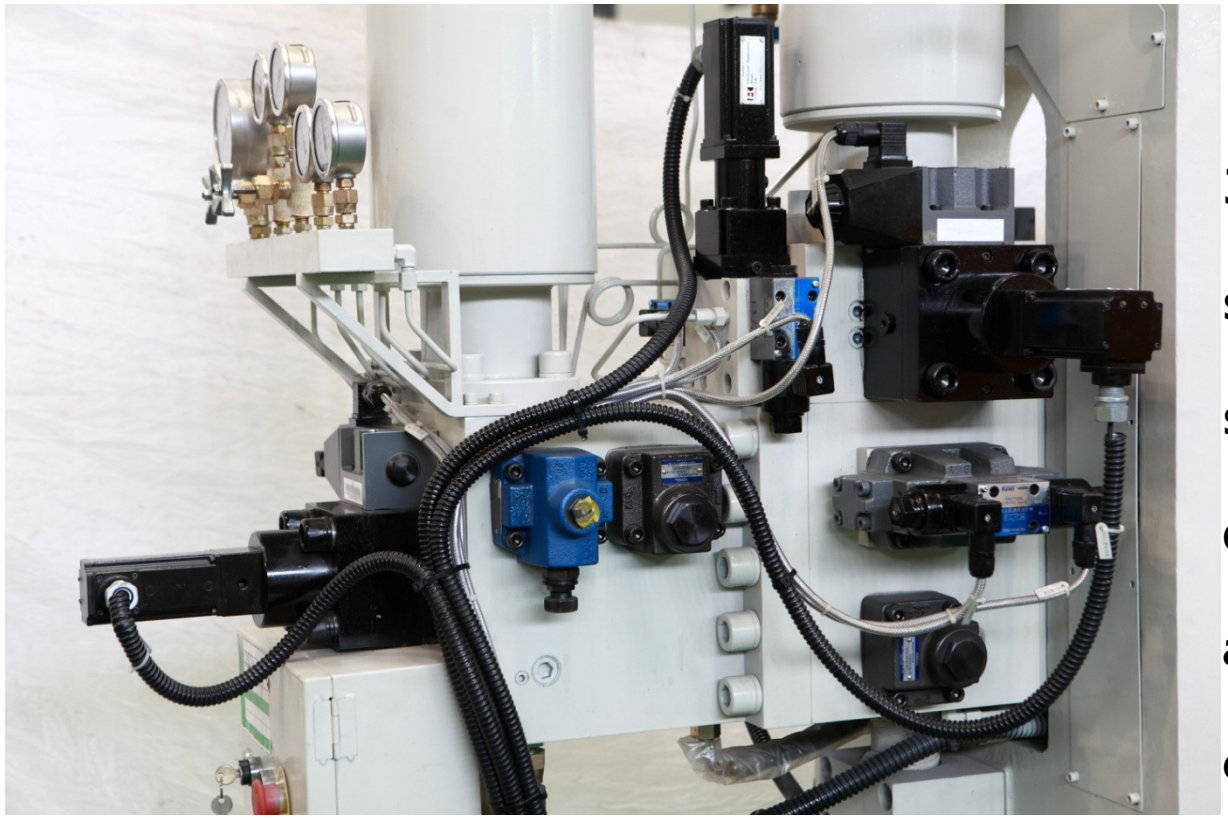
standard



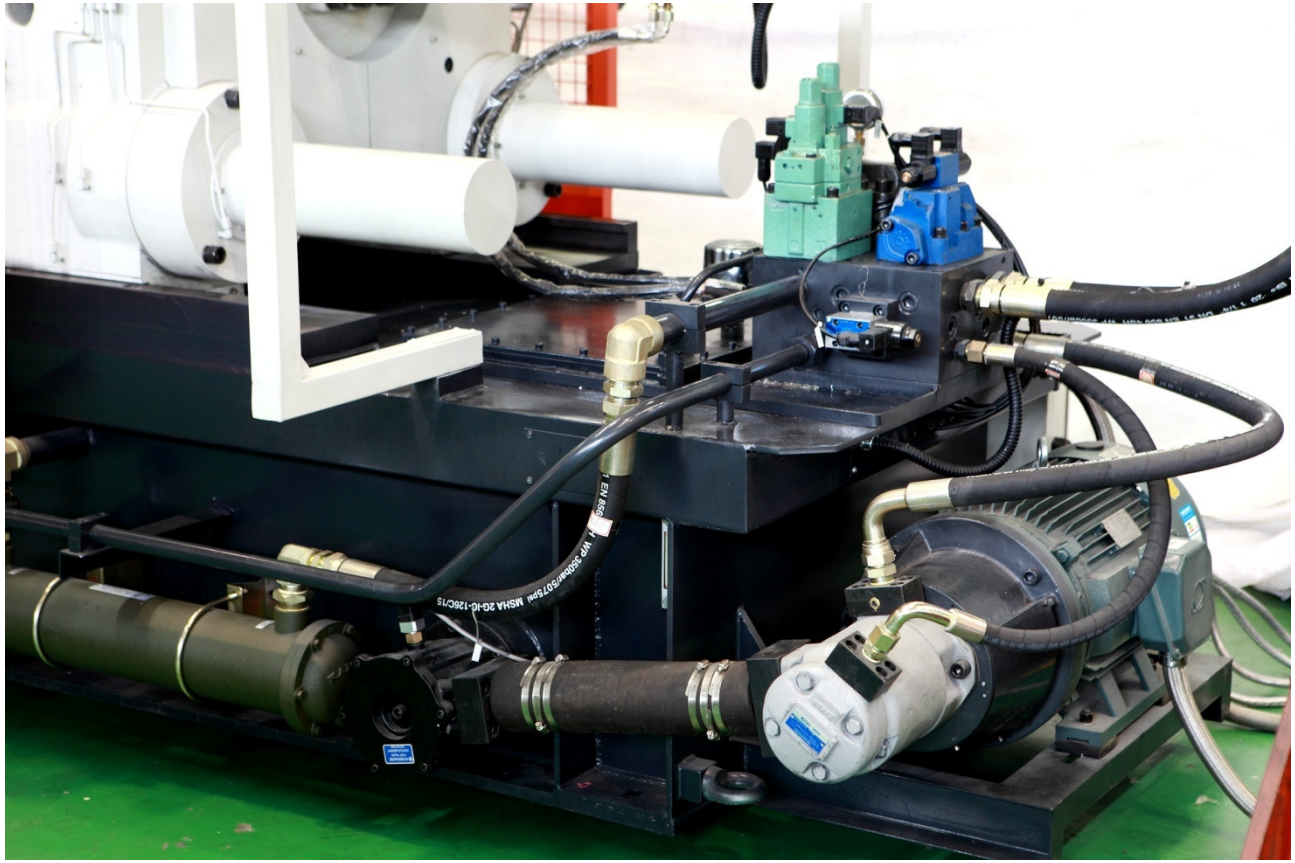
H-series



Position sensor for shot position control for more precise。



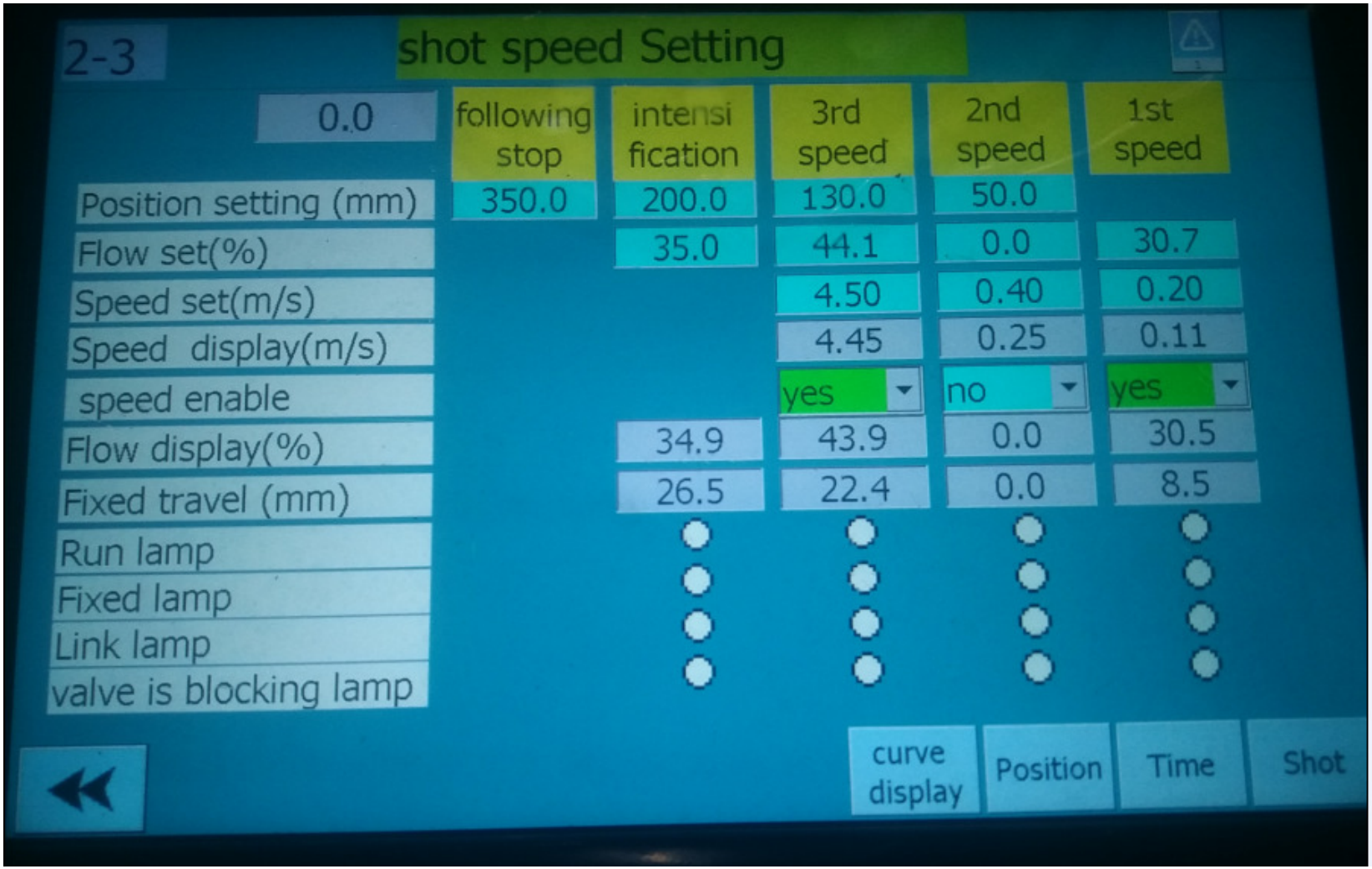
3 phase shot include slow shot control by motor,can set speed at screen directly,and adjusted automatically to realize close-loop control。



Modified hyd-sys to make dry cycle time & efficiency improve above 15%。

CLOOSE-LOOP

Speed setting page



It is uesd for control the slow shot

It is used for control fast shot

It is used for control the opening of intensification

Working step ：

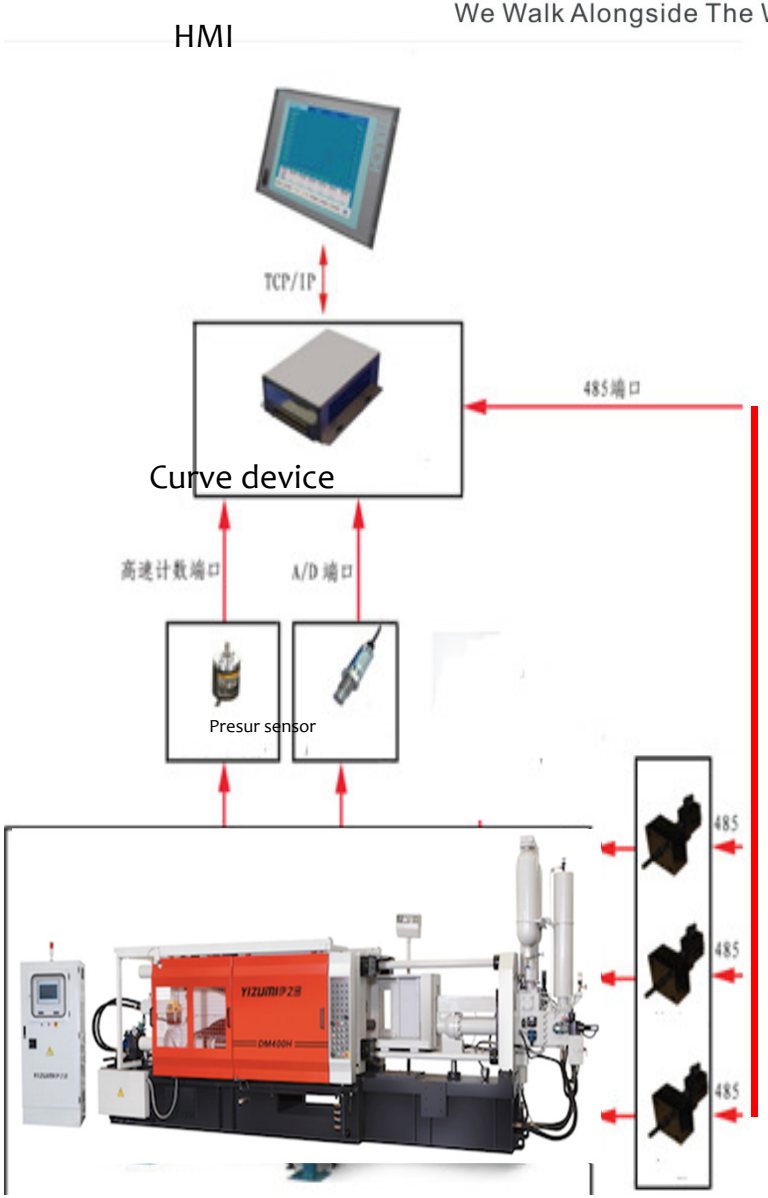
1 .set the speed at HMI

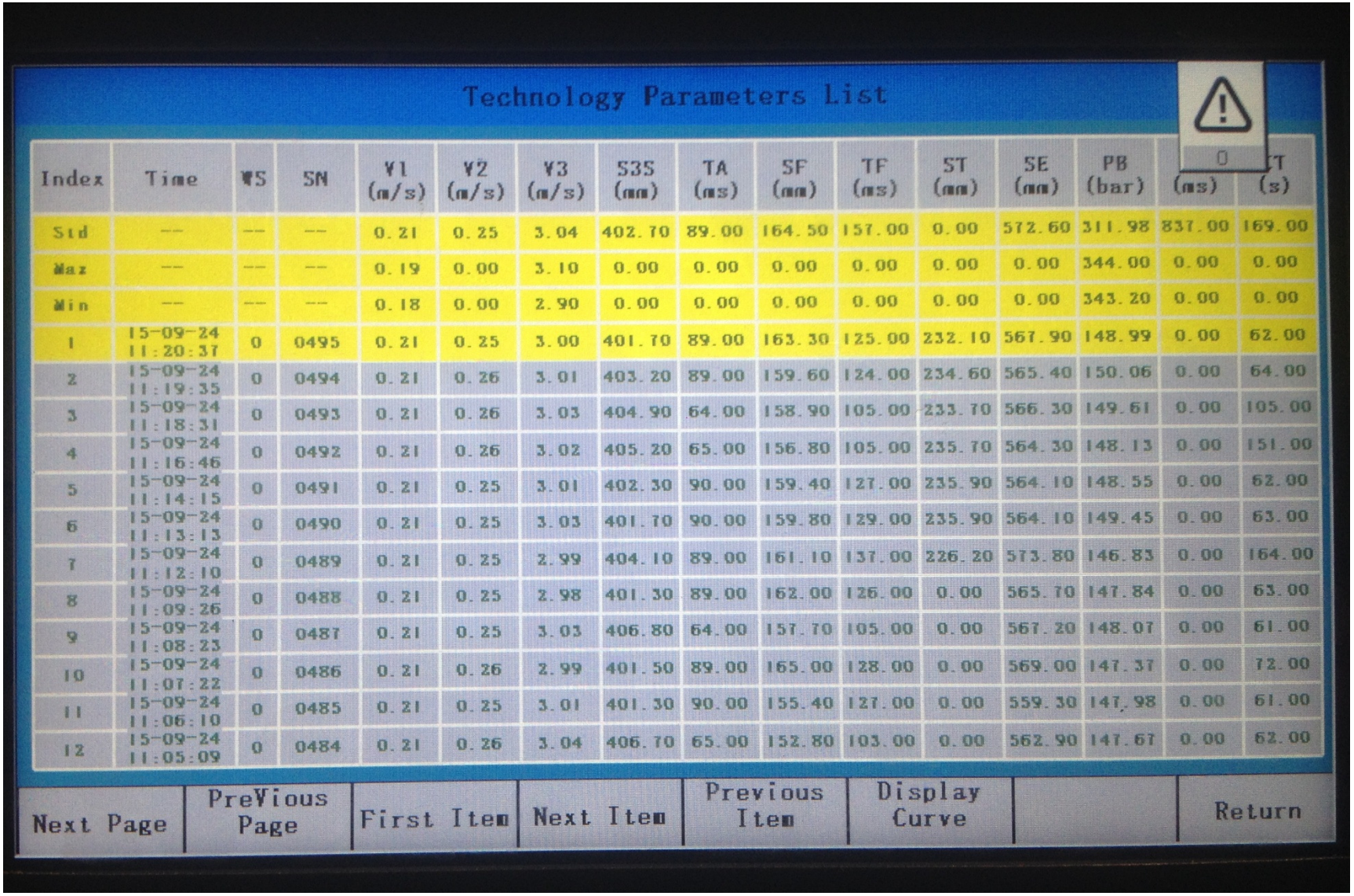
2. The curve device collect the information via position sensor after one shot

3. The curve device calculate out the speed and display it at HMI

4.These 2 speed data compare ,then the motor start to rotate automatically

5.Repeat step 2,3&4 till the speed reach to the setting value





Technology Parameters List

Index	Time	WS	SN	V1 (m/s)	V2 (m/s)	V3 (m/s)	S3S (mm)	TA (ms)	SF (mm)	TF (ms)	ST (mm)	SE (mm)	PB (bar)	(ms)	T (s)
Std	--	--	--	0.21	0.25	3.04	402.70	89.00	164.50	157.00	0.00	572.60	311.98	837.00	169.00
Max	--	--	--	0.19	0.00	3.10	0.00	0.00	0.00	0.00	0.00	0.00	344.00	0.00	0.00
Min	--	--	--	0.18	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	343.20	0.00	0.00
1	15-09-24 11:20:37	0	0495	0.21	0.25	3.00	401.70	89.00	163.30	125.00	232.10	567.90	148.99	0.00	62.00
2	15-09-24 11:19:35	0	0494	0.21	0.26	3.01	403.20	89.00	159.60	124.00	234.60	565.40	150.06	0.00	64.00
3	15-09-24 11:18:31	0	0493	0.21	0.26	3.03	404.90	64.00	158.90	105.00	233.70	566.30	149.61	0.00	105.00
4	15-09-24 11:16:46	0	0492	0.21	0.26	3.02	405.20	65.00	156.80	105.00	235.70	564.30	148.13	0.00	151.00
5	15-09-24 11:14:15	0	0491	0.21	0.25	3.01	402.30	90.00	159.40	127.00	235.90	564.10	148.55	0.00	62.00
6	15-09-24 11:13:13	0	0490	0.21	0.25	3.03	401.70	90.00	159.80	129.00	235.90	564.10	149.45	0.00	63.00
7	15-09-24 11:12:10	0	0489	0.21	0.25	2.99	404.10	89.00	161.10	137.00	226.20	573.80	146.83	0.00	164.00
8	15-09-24 11:09:26	0	0488	0.21	0.25	2.98	401.30	89.00	162.00	126.00	0.00	565.70	147.84	0.00	63.00
9	15-09-24 11:08:23	0	0487	0.21	0.25	3.03	406.80	64.00	157.70	105.00	0.00	567.20	148.07	0.00	61.00
10	15-09-24 11:07:22	0	0486	0.21	0.26	2.99	401.50	89.00	165.00	128.00	0.00	569.00	147.37	0.00	72.00
11	15-09-24 11:06:10	0	0485	0.21	0.25	3.01	401.30	90.00	155.40	127.00	0.00	559.30	147.98	0.00	61.00
12	15-09-24 11:05:09	0	0484	0.21	0.26	3.04	406.70	65.00	152.80	103.00	0.00	562.90	147.67	0.00	62.00

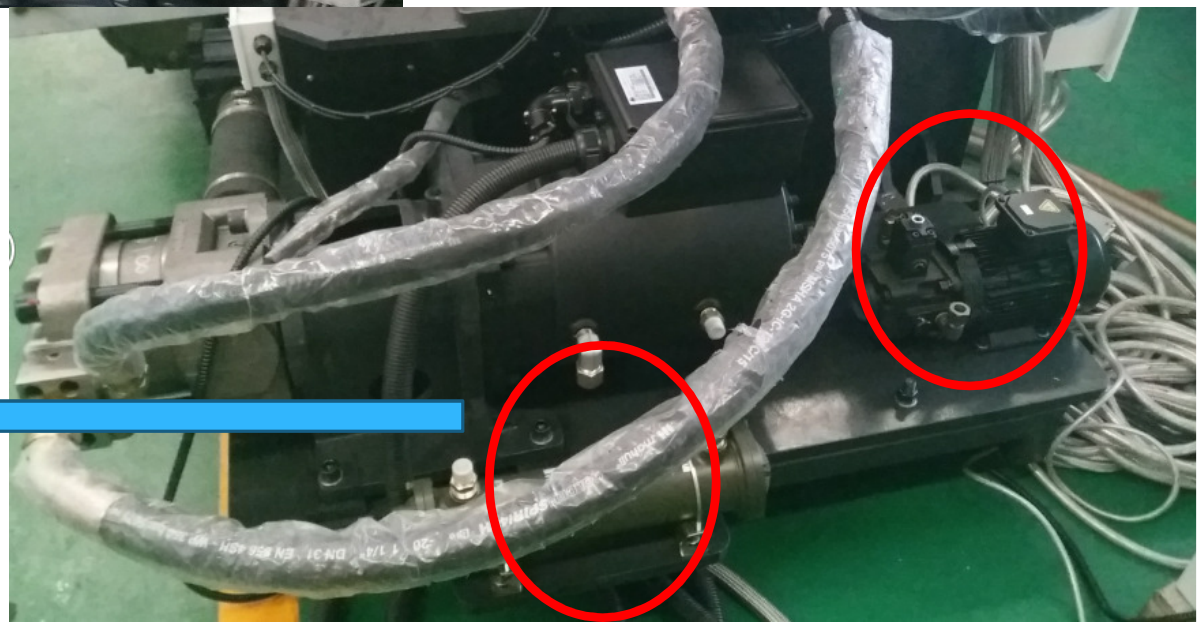
Next Page | Previous Page | First Item | Next Item | Previous Item | Display Curve | | Return

SERVO MOTOR

overview

Fan cooler for motor

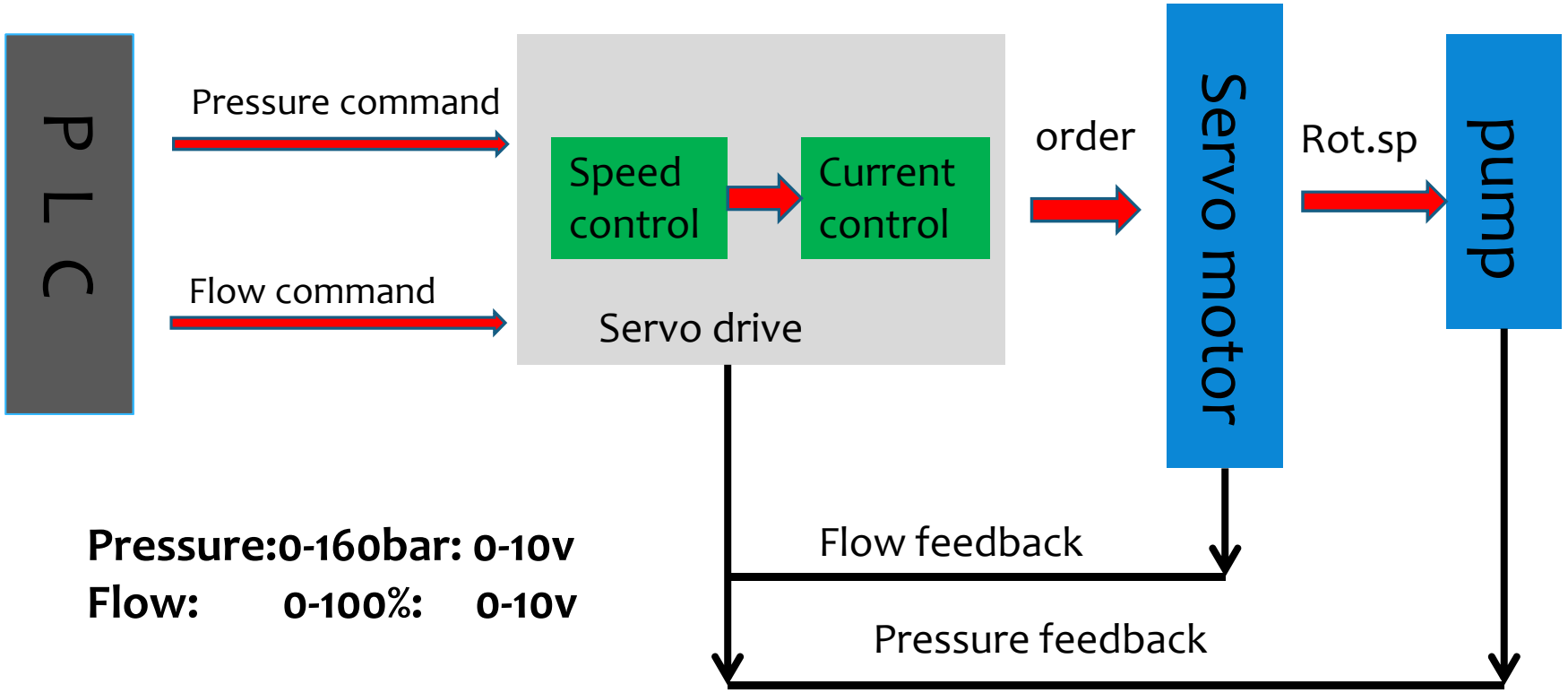
Independent oil pump and cooler for motor and drive cooling,this type is already use in many countries like Mexico,Romania,Argentina,Brazil



Servo drive

Drive manifold: oil circulating inside it for cooling the drive

Servo principle:



Pressure:0-160bar: 0-10v
Flow: 0-100%: 0-10v

		Induction motor	Servo motor
Power consumption data	Power consumption 1st hour under auto running	16	10.4
	Power consumption 2nd hour under auto running	16	10.4
	Total power under 2 hour	32	20.8
	Power consumption per cycle	0.122	0.067
Electrical parameter	Maximum current when load(A)	85.5	50.7
	minimum current when load(A)	19.7	1.5
	T =29.6 Oil temp from 29.6 to 50(H)		4
	T=29.4,oil temp from 29.4 to 50	1	
	Cycle times 1st hour(s)	131	155
	Cycle times 2nd hour(s)	131	155
	Average time per cycle(s)	27.48	23.2
	Liner transducer interference (yes/no)	no	no
	Pressure sensor interference (yes/no)	no	no

Taken DM400 as an example , can summarize as following:

1. Power saving per hour 16-10.4 =5.6 KW*H
   Power saving rate per cycle: (0.122-0.067)/0.122=45%

2. Temp increase time reduce compare to induction motor

3. production efficiency improve (155-131)/131=18.3%

4. current data is so small when unload

5. analog signal no interference , no problem occur

Benefit that bring to customer

1. 3 shift per day,420 pcs per shift ,22hour per day,26 working days, production output is 420*3=1260 pcs

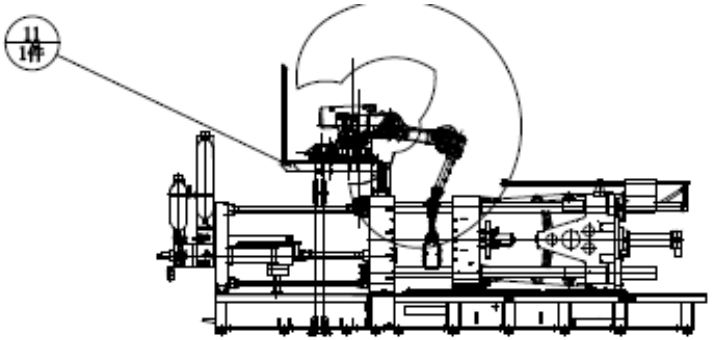
2. Casting pcs increase per year:1260*26*12*0.18=70761 pcs

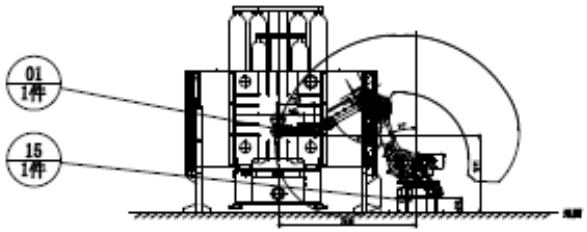
3. Power saving, yizumi DM400 motor capacity=22KW, working capacity taken as 40%.
power saving per year:22*40%*45%*22*26*12=27180 KW*H
Cost saving: 27180* 8=217440 INR

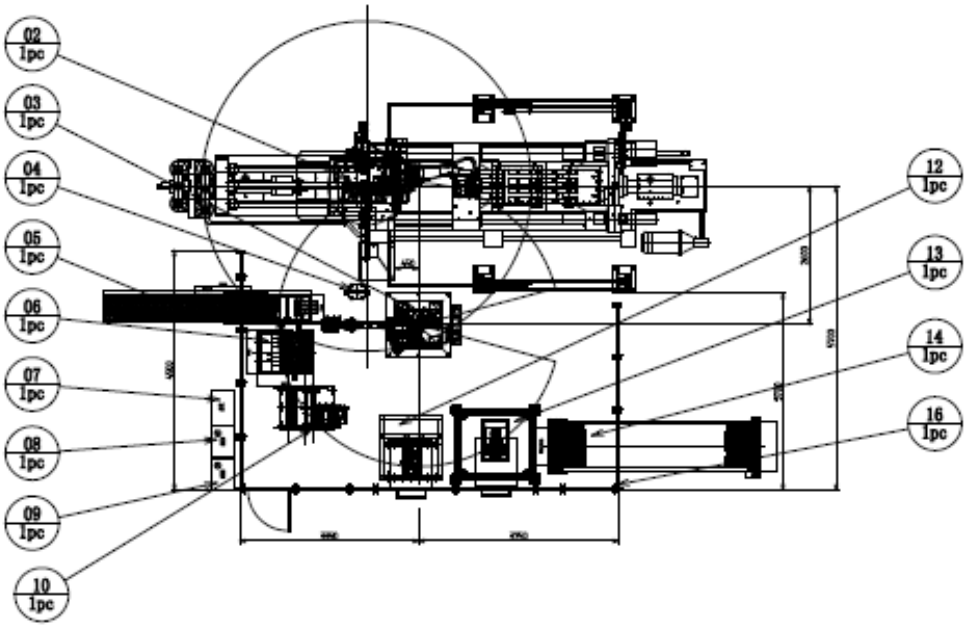
Advantage conclude:

1. Energy saving rate improve
2. response speed fast: 0-100% pressure shift within 30ms
3. hyd-oil temp decrease: can reduce 30% water amount, also cooler can not use at cold area
4. improve working environment: decrease noise
5. increase the casting quantity
6. power saving

Automation cell







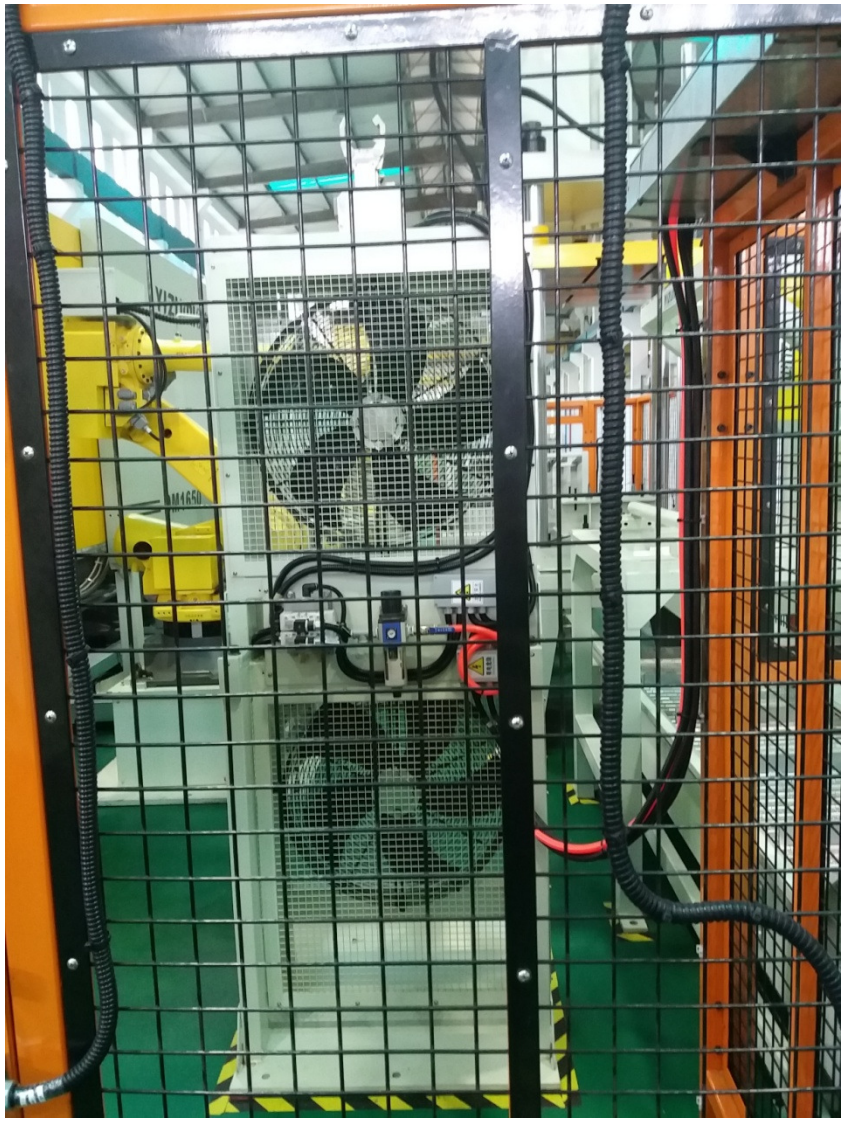
working flow:
insert part offer→robot pur it for preheating→take the heated part→put it to mould→DCM die close→product taking out→put to fan cooling→air bag remove→biscuit cut →product slide to convoyer

N.o	item	remark
1	gripple (biscuit&insert part)	伊之密 (YIZUMI)
2	robot for spray R-2000iC/165R(FANUC	发那科 (FANUC)
3	extractor robot R-2000iC/165F(FANUC	发那科 (FANUC)
4	product detect sensor	伊之密 (YIZUMI)
5	insert part offer device	伊之密 (YIZUMI)
6	preheating device for insert part	伊之密 (YIZUMI)
7	I/P cabinet	伊之密 (YIZUMI)
8	cabinet for sprayer robot	发那科 (FANUC)
9	cabinet for extractor robot	发那科 (FANUC)
10	fan cooling device	伊之密 (YIZUMI)
11	frame for sprayer robot	伊之密 (YIZUMI)
12	air bag remove device	伊之密 (YIZUMI)
13	triming machine	伊之密 (YIZUMI)
14	product convoyer	伊之密 (YIZUMI)
15	frame for extractor robot	伊之密 (YIZUMI)
16	safety fence	伊之密 (YIZUMI)

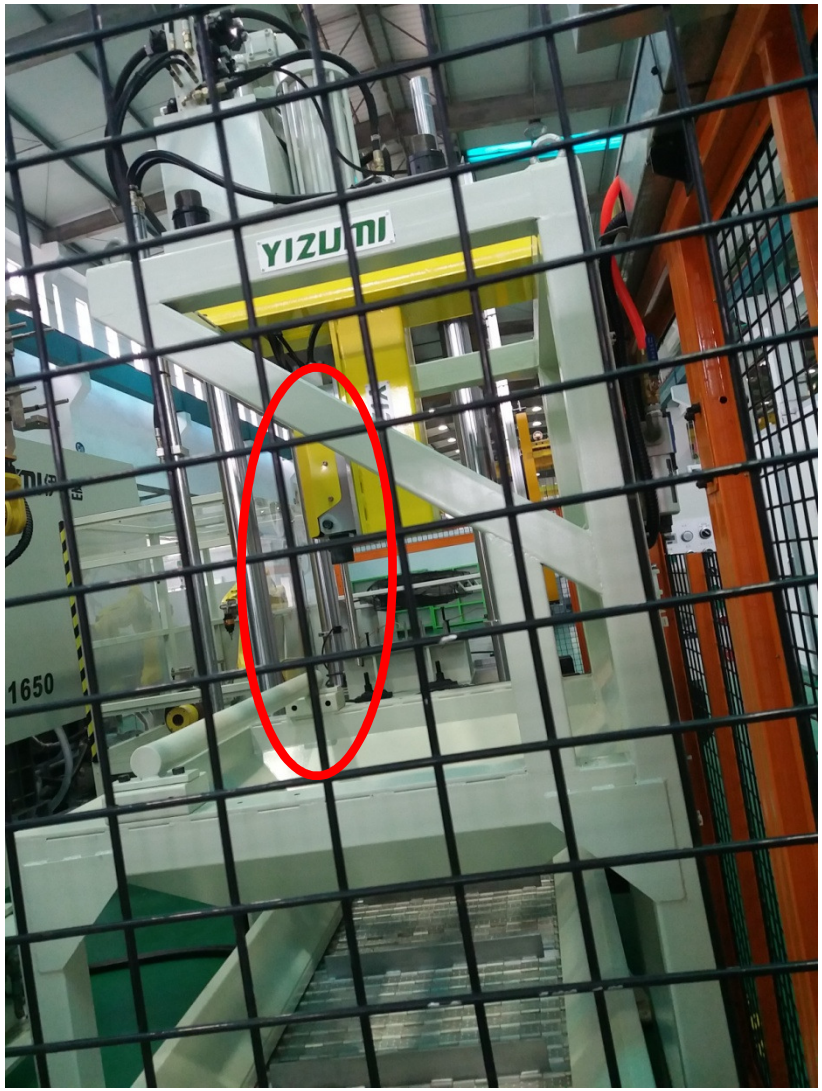
A corner for automation cell

Product cooler:
1: fan type : can not cause the innerstress ,but time a little longer

2. Water tank cooling: can cause the innerstress for product, cooling time is short



One piston rod there, it will beat casting edge when robot
Put the casting there,the wasted material will slip to convoyer



Trimming press,cut the casting biscuit and runner

There is one slip device connect between trimming and convoyer, the casting will slip to convoyer after trim

The end