An integration supplier for plastic machinery industry

A pioneer of plastic processing industry "Industry 4.0"

Since 1984, Techmation has been established in Taiwan. It continuously focused on the field of plastic machinery automation, providing high quality automation system solutions for middle to high-end plastic machinery manufacturers, becoming an important system integration supplier for plastic machinery automation industry.

Techmation has listed as A Shares in Shanghai Stock Exchange on 3rd March, 2015. Techmation takes this as an excellent opportunity to move forward, and obedience to the business philosophy: "To be always true in word and resolute in deed. Have integrity and be honest, innovation continuously." Based on the best technology and experience in this field, and follow up company's long-term strategy, Techmation boosts profound integrate between the plastic processing industry and informatization, at the same time actively layout scheme of industrial robots, for automatic system integration etc., realizing the wisdom manufacture of the plastic processing industry. In the meantime, with the aid of the capital market development platform, Techmation expects to become the most innovative in the industry and the core enterprise in market competitiveness, promoting the development of industry and industrial upgrading, and assisting to forward to "Industry 4.0" and " made in China 2025".

Definite in challenging the hard time, whatever can I do.
Determination can conquer everything once the time changes, human decide the success.

Innovation in Motion

1984

Techmation Taiwan was established in 1984. It is the first company to develop a Chinese character display computer controller for injection molding machine in Asia.

1987

Started to promote the controller with Chinese language to China market. It's the first one to launch such controller with Chinses language.

1990

Started to use single board with double CPU into controller, separated from the motion control and HMI.

1993

Set up a service center in Ningbo.

2000

Started to use Linux HMI technology as the network operational system. And using embedded LINUX Human-Machine Interface technology.

2001

Ningbo Techmation was found. Achieving a major breakthrough in the industry layout.

2004

Techmation Shanghai was found.

2006

Started researching and developing HYB energy-saving hydraulic servo control system.

2007

Launched full-electric motor driving and control for injection molding machine.

2008

Launched new control system PILOT series, upgrading the host, adopting HMI customization with a wide range of resolution, support USB/SD card.

2009

Started researching and developing HYB3 hybrid power system for injection molding machine. Provided 3G application function. And also with A-GPS positioning for long-distance maintainance.

2010

Corporation reorganization: Define Ningbo Techmation as the evelopment majority, Techmation Taiwan and Techmation Shanghai as its subsidiaries. Actively play their respective advantages and optimize the function of subsidiaries and service sites.

Homemade driver Austone series officially launched. Continue researching and developing the controllers for three-axis or fiveaxis type motion equipments. Providing multifunction products for customization.

2011

Ningbo Techmation Co., Ltd. was registered in Ningbo as a public share company.
Developed control modules for peripheral equipments used in injection molding machines. Techmation Software Company was founded to further offer the software development and service function.

2012

Servo hydraulic energy saving system becomes more mature with best performance and diverse application. Successfully develop collecting distributing control system and more complicated motion control technology for plastic injection molding machines, and also integrating industry communication technology.

2013

Launched high-end PLC controllers for replacing imports gradually.
Launch new generation distributed control system-SANDAL, which applies for oilelectric hybrid HYB3 solution and full-electrodynamic HYB5 solution.

2014

Launched the intelligent HYB+ servo hydraulic energy-saving solution, which achieves advanced accurate mold-position function via full digital communication.

2015

Techmation has listed as A Shares in Shanghai Stock Exchange on 3rd March, 2015.
The share stock code: 603015.

2016

We create a platform of products and technology for Plastic processing industry moving forward "industry 4.0".

CONTENTS

Leading the development of rubber and plastic industry with the most forward-looking vision

Innovation in Motion

Integrated automation and control system

Overview

1.High speed DSP(Digital Signal Processor)chip with reinforced computing ability;
2.Single board design, easy maintain and installation;
3.With protection device such as utput short circuit, over voltage, over current, watchdog hardware, good hardware protection, safe and reliable;
4.Adopting specified control modules, improved functions;
5.Adopting distributed control system, structure more flexible; (Only for TECH580/TECH530)
6.Adopting CANBus, EtherCAT digital communication method, realize fully digital control. (Only for TECH580/TECH530)

Advantages

1.With various specifications and models, providing more cost-effective for selection;
2.Applicable to all kinds of injection molding machines(covering fully electrical servo motor drives, hydraulic-electric sevo comibination hybrid, etc. high end models), and extruder, bottle blowing machine, injection blow molding machine, cup making machine, rubber machine etc;
3.Connection to iNet system, achieves production workshop networking management;
4.Intelligent control, convenient for setting up; high level automation;
5.We will offer Cloud service, it can help for long distance assistant and long distance service advising;
6.It realizes production unit combination control and solustion offer.

01 HMI

Advantages

Nice interface UI, high-resolution, clear image quality, support to multi-language, various housing material (Aluminum, iron, plastic), fast communication.

Q7M(Sheet metal housing)

Items	Specifications
Size W(mm)*L(mm)	260*470
Central Processor	PXA270 32bit@520MHZ
LCD Display	7.4"LED
LCD Resolution	800*480
Baud Rate	38400bps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	RS232*1+Optional*1 NET*1
Memory Card Port	USB*1

Q7M (Sheet metal housing)

Q8M(Sheet metal housing)

Items	Specifications
Size W(mm)*L(mm)	260*470 / 400*240
Central Processor	PXA270 32bit@520MHZ
LCD Display	8.0"LED
LCD Resolution	800*600
Baud Rate	38400bps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	RS232*1+Optional*1 NET*1
Memory Card Port	USB*1

Q8M (Sheet metal housing)

Integrated automation control system

01 HMI

Advantages

Nice interface UI, high-resolution, clear image quality, support various languages, various casing material (Aluminum, iron, plastic), fast communication.

Characters

1. Mass storage space for saving 2000 sets of mold parameters, 5000 sets of monitor, alarm and parameters changing record.
2. Realized over than 29 languages switching randomly;
3. Event tracable record including alarm record, monitoring record, parameter changing record, terminal operation history, motor, power on/off status, and PPH function for production management and tracking searching;
4. Many kinds of graphs for machine maker to choose his selected pages design, operation method and software tool for satisfying the needs of every customers in their controller's status;
5. SPC monitoring, multi- level setting for user management and intermit stop function to make sure whole system safety and reliable;
6. Functions like Temperature self-learning control and position planning control will reduce the time for setting up waiting and adjusting;
7. Communication mechanism: assist iNet and iMRO implement intelligent production, intelligent after-sales service.

M12M(Sheet metal housing)

Items	Specifications
Size W(mm)*L(mm)	335*550
Central Processor	PXA270 32bit@520MHZ
LCD Display	12.1"LED
LCD Resolution	800*600
Baud Rate	38400bps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	RS232*1+Optional*1 NET*1
Memory Card Port	USB*1

M12M (Sheet metal housing)

M12A(Plastic frame)

Items	Specifications
Size W(mm)*L(mm)	335*600
Central Processor	PXA270 32bit@520MHZ
LCD Display	12.1"LED
LCD Resolution	800*600
Baud Rate	38400bps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	RS232*1+Optional*1 NET*1
Memory Card Port	USB*1

M12A (plastic frame)

Q8A(Milled aluminum frame)

Items	Specifications
Size W(mm)*L(mm)	260*480
Central Processor	ARM3354 32bit@800MHZ
LCD Display	8.0"LED
LCD Resolution	800*600
Baud Rate	10/100Mbps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	NET*2、CAN*1+Optional*1、ENCODER/RS232/RS485(Optional)
Memory Card Port	USB*2

Q8A (Milled aluminum frame)

Q12A(Milled aluminum frame)

Items	Specifications
Size W(mm)*L(mm)	335*600
Central Processor	ARM3354 32bit@800MHZ
LCD Type	12.1"LED
LCD Resolution	800*600
Baud Rate	10/100Mbps
Operation Temperature	-10°C~50°C
Storage Temperature/RH	-20°C~85°C/85%RH
Communication Port	NET*2、CAN*1+Optional*1、ENCODER/RS232/RS485(Optional)
Memory Card Port	USB*2

Q12A (Milled aluminum frame)

Integrated automation control system

02 Controller

Characters

1. Various specifications, can add extended modules with flexible configurations;
2. Various protection equipment, such as output point short circuit, overvoltage, overcurrent and watch dog etc.

AK618

Items	Specifications
Size H(mm)*W(mm)*D(mm)	227*300*42.5
PB(Digital Input)	16
PC(Digital Output)	16
Relay(Relay Output)	8(5 heating+2 motor+1 other)
TEMP Temperature Input	6(5 barrel temperature +1 oil temperature)
AD(Analog Input)	4
DA(Analog Output)	2(A)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1
Switching Power Supply	DC24V

AK618

AK628

Items	Specifications
Size H(mm)*W(mm)*D(mm)	227*424*56.5
PB(Digital Input)	24
PC(Digital Output)	24
Relay(Relay Output)	11(5 heating+3 motor+3 other)
TEMP Temperature Input	6(5 barrel temperature +1 oil temperature)
AD(Analog Input)	4
DA(Analog Output)	2(A) //2(V) +1(A)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1
Switching Power Supply	DC24V

AK628

TECH 1

Items	Specifications
Size H(mm)*W(mm)*D(mm)	227*424*56.5
PB(Digital Input)	24
PC(Digital Output)	28
Relay(Relay Output)	12(6 heating+3 motor+3 other)
TEMP Temperature Input	7(6 barrel temperature +1 oil temperature)
AD(Analog Input)	4
DA(Analog Output)	2(A) //2(V) +1(A)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1 NET*1
Switching Power Supply	DC24V

TECH 1

TECH 2

Items	Specifications
Size H(mm)*W(mm)*D(mm)	255*424*56.5
PB(Digital Input)	32
PC(Digital Output)	32
Relay(Relay Output)	16(9 heating+3 motor+4 other)
TEMP Temperature Input	10(9 barrel temperature +1 oil temperature)
AD(Analog Input)	8
DA(Analog Output)	4(A) //4(V)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1 NET*1
Switching Power Supply	DC24V

TECH 2

Integrated automation control system

02 Controller

Characters

1.Various specifications, can add extended modules with flexible configurations;
2.Various protection equipment, such as output point short circuit, overvoltage, overcurrent and watch dog etc.

PILOT3A

Items	Specifications
Size H(mm)*W(mm)*)D(mm)	255*424*56.5
PB(Digital Input)	40
PC(Digital Output)	40
Relay(Relay Output)	16(9 heating+3 motor+4 other)
TEMP Temperature Input	10(9 barrel temperature +1 oil temperature)
AD(Analog Input)	8
DA(Analog Output)	8(V)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1 NET*1
Switching Power Supply	DC24V

PILOT3A

PILOT3

Items	Specifications
Size H(mm)*W(mm)*)D(mm)	255*424*56.5
PB(Digital Input)	40
PC(Digital Output)	40
Relay(Relay Output)	16(9 heating+3 motor+4 other)
TEMP Temperature Input	10(9 barrel temperature +1 oil temperature)
AD(Analog Input)	8
DA(Analog Output)	4(A) //4(V)
IO Extendable(Input + Output)	IO88(8 PB+8 PC)
Communication Port	RS232*1 NET*1
Switching Power Supply	DC24V

PILOT3

C7000

Items	Specifications
Size H(mm)*W(mm)*)D(mm)	169*337*207
PB(Digital Input)	32 or 48 MAX.144
PC(Digital Output)	32 or 48 MAX.144
Relay(Relay Output)	9(3 motor+6 other) extendable
TEMP Temperature Input	10(9 barrel temperature +1 oil temperature) MAX.20
AD(Analog Input)	6+2(±10V) MAX.16
DA(Analog Output)	3(A)extendable MAX.16
Communication Port	RS232*1 NET*1+Optional*1
Switching Power Supply	DC24V

C7000

SMCH

Items	Specifications
Size H(mm)*W(mm)*)D(mm)	424*180*46.5
PB(Digital Input)	16
Relay(Transistor Output)	48(24 heating+24 other)
TEMP Temperature Input	24
AD(Analog Input)	7
DA(Analog Output)	4(V)
IO Extendable(Input + Output)	0
Communication Port	NET*1
Switching Power Supply	DC24V

SMCH

Hydraulic servo energy saving pumping system

01 Servo driver DE688 series

Characters

1.Can be used for serial operation or single movement fast change over, eauiped with many selectable modes;

2.Adopt NET/CAN digital communication to link with higher layer controllers, more accurate control, simplify operations;

3.Enhanced with short circuit, over current, over voltage and loss phase protections;

4.Link together with NET digital communication method, all parameters can be altered by HMI or APP from mobile phone, easy adjustment and trouble shooting.

Model	Input voltage/V	Output power/kW	Rated current/A
1BX_DE688K1F3CV	AC 3PH 380~480V (-15%~20%)	11	25
1BX_DE688K5F3CV		15	32
1BX_DE688K8F3CV		18.5	37
1BX_DE688J2F3CV		22	45
1BX_DE688I0F3CV		30	60
1BX_DE688I7F3CV		37	75
1BX_DE688H5F3CV		45	91
1BX_DE688G5F3CV		55	112
1BX_DE688E5F3CV		75	150
1BX_DE688C0F3CV		90	176

Specifications		
Power Input	Input Voltage(V)	AC 3PH 380~480V(-15%~20%, 380V Driver) AC 3PH 220V(10%~20%, 220V Driver)
	Incoming Frequency(Hz)	50Hz/60Hz, fluctuation range±3%
Power Output	Output Voltage(V)	0-480V
	Output Power(kW)	See the Valuation
	Output Current(A)	
Control Performance	Control Mode	Closed-loop vector control, V/F control
	Motor Type	Ac permanent-magnet synchronous motor
	Control Mode	Pressure closed-loop mode, speed mode
	Maximum Output Frequency	300Hz
	Pressure indication type	Analog setting; E_NET; CAN; SABUS IN; Upper Computer Communication Settings
	Pressure Control Accuracy	±1Bar
	Step Response Time Under Pressure control	≤100ms
	Speed Response Time At Flow Rate Control Mode	≤50ms
	Speed Control Accuracy	±0.2%
	Torque Response	≤2ms
	Torque Control Accuracy	±5%
	Overcurrent Capability	Up to 2.0 times
	Overload Capability	120% rated current for 30 minutes, 150% rated current for 90 seconds, 180% rated current for 8 seconds, 200% rated current for 2 seconds; some model can even bigger
Peripheral Interface	Terminal Analog Input Resolution	≤10mV
	Terminal Switching Input Resolution	≤1ms
	Analog Input	3, DC0~10V
	Digital Switch Input	6, Common terminals(internal or external power 24V)
	Digital Switch Output	4, Common terminals(24V)
Defensive Function	Fault protection function: over current, over voltage, under voltage, over temperature, such as lack of phase, overload protection function	
Communicating Function	NET; CAN; SABUS	
Other	Install Way	Support both wall and flange installation
	Operating Ambient Temperature	-10°C~50°C(The ambient temperature is above 40 °C)
	Protection Level	IP20
	Type Of Cooling	Air cool installation: Air cooling; Liquid cool installation: oil cooling or water cooling
	Storage Temperature	-20°C~70°C
	Breaking Unit	Internal installed, other option type: external installed
	Breaking Resistance	Optional, external installed (refer to attachment A; optional, external installed)
	Resistance	30~55KW a DC resistance installed internally

Hydraulic servo energy saving pumping system

01 Servo driver ID680 series

Characters

1.LED operation panel makes debugging maintenance more convenient and fast;

2.IO logic high-low electric level becomes more convenient;

3.≥37KW with built-in dc resistance, reducing drive failure rate caused by grid distortion;

Model	Input voltage/V	Output power/kW	Rated current/A
1BX_ID680K1F3	AC 3PH 380~480V (-15%~20%)	11	25
1BX_ID680K5F3		15	32
1BX_ID680K8F3		18.5	37
1BX_ID680J2F3		22	45
1BX_ID680I0F3		30	60
1BX_ID680I7F3		37	75
1BX_ID680H5F3		45	91
1BX_ID680G5F3		55	112
1BX_ID680E5F3		75	150
1BX_ID680C3F3		90	176

Specifications		
Power Input	Input Voltage(V)	AC 3PH 380~480V(-15%~20%, 380V Driver) AC 3PH 220V(10%~20%, 220V Driver)
	Incoming Frequency(Hz)	50Hz/60Hz, fluctuation range±3%
Power Output	Output Voltage(V)	0-480V
	Output Power(kW)	See the Valuation
	Output Current(A)	
Control Performance	Control Mode	Closed-loop vector control, V/F control
	Motor Type	Ac permanent-magnet synchronous motor
	Control Mode	Pressure closed-loop mode, speed mode
	Maximum Output Frequency	300Hz
	Pressure indication type	Analog setting(DC0 ~10V)
	Pressure Control Accuracy	±1Bar
	Step Response Time Under Pressure control	≤100ms
	Flow Rate Indication Type	Analog signal command(DC0~10V), CAN communication command(Combine flow mode)
	Speed Response Time At Flow Rate Control Mode	≤50ms
	Speed Control Accuracy	±0.1%
	Torque Response	≤2ms
	Torque Control Accuracy	±5%
	Overcurrent Capability	Up to 2.0 times
	Overload Capability	At 4KHz Modulation mode: 120% rated current for 30 minute. 150% rated current for 90 second, 180% rated current for 8 second, 200% rated current for 1 second
Peripheral Interface	Terminal Analog Input Resolution	≤20mV
	Terminal Switching Input Resolution	≤2ms
	Analog Input	3, DC0~10V
	Analog Output	2, DC0~10V
	Digital Switch Input	5, maximum frequency of 1KHZ, internal impedance:3.3kΩ
	Digital Switch Output	3(1normally open/ normally closed, 2normally open) Contact capacity:3A/ AC250, 1A/ DC30V
Defensive Function	Fault protection function: over current, over voltage, under voltage, over temperature, such as lack of phase, overload protection function	
Internal Communication Function	CAN(multi set combination)	
Other	Install Way	Support both wall and flange installation
	Operating Ambient Temperature	-10°C~40°C(The environment temperature between 40°C~50°C, derating)
	Protection Level	IP20
	Type Of Cooling	Forced cooling
	Storage Temperature	-20°C~60°C
	Breaking Unit	Internal installed, other option type: external installed
	Breaking Resistance	Optional, external installed(refer to attachment A; optional, external installed)
	EMC Filter	External installed filter

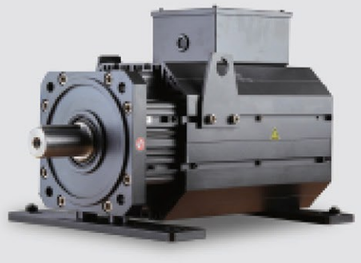
Hydraulic servo energy saving pumping system

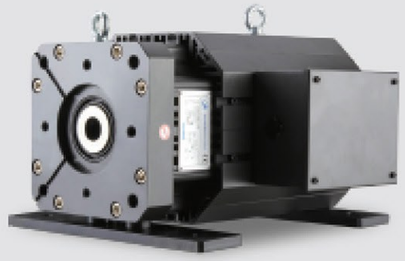
02 Servo motor KC series

Characters

1.Small moment of inertia, fast speed response, compact structure; High temperature resistant permanent magnetic materials, strong resistance to demagnetization;
2.Low noise, small vibration, small torque fluctuation, smooth operation, high precision. Motor rotor with special structure and process, to ensure the reliability of the motor at high speed;
3.Motor coil adopts vacuum coating processing to greatly improve the moisture resistant performance of the motor;
4.Rotating transformer model and the absolute value types of encoder are available;
5.Able to adapt to high temperature, vibration, dust, grease and other bad environment.

Model	Rated torque/Nm	Rated speed/Rpm	Rated current/A	Rated power/kW	Torque constant(Nm/A)	Interia(Kg m²)	Pole pairs
665KC1B	7.2	2000	3.5	1.5	2.20	0.001	5
665KC2B	11	2000	5.0	2.3	2.30	0.001	5
665KK1BB	42	2000	18.0	8.8	2.50	0.008	4
665KK3BA	66	1800	22.5	12.4	3.00	0.012	4
665KK5BA	89	1800	30.0	16.8	3.00	0.015	4
665KK7BA	131	1800	45.0	24.7	3.00	0.021	4
665KK9BB	170	2000	65.0	35.6	2.80	0.027	4
665KL2B	215	2000	77.0	45.0	2.80	0.035	4
665KL4B	286	2000	102.0	60.0	2.80	0.052	4
665KL6B	358	2000	128.0	75.0	2.80	0.069	4





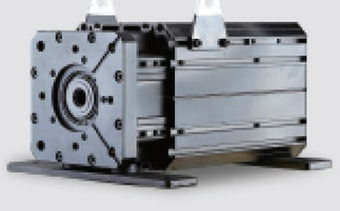
Hydraulic servo energy saving pumping system

02 Servo motor Phase servo series

Characters

1.Permanent magnet rotor component has a rotor module retaining ring design to ensure the magnet steel machinery fixation, without adhesive, greatly improved the production efficiency, protecting the health of workers, eliminates the environment pollution of glue , ensure the magnetic steel of motor don't be left in high speed case. Magnets with high density, high temperature resistant NdFeB rare earth materials, ensure small size, large torque, high temperature resistant of the machine;
2.With patent design technology of hollow rotor module cup design, greatly reducing the moment of inertia of the motor rotor, enhance the response speed of the servo motor, especially suitable for injection molding machine, military artillery system for requiring a high response frequency, etc;
3.The motor bearing before and after using the original import SKF bearing with high accuracy and low friction, ensure the operation time of machine can be up to 10 years without maintenance;
4.Phase air-cooled servo motor series products are all with EBM fan imported from Germany, the fan is stable, with big air volume, long life, good quality, guarantee the stability and reliability of the operation of the servo motor as a whole.

Model	Rated torque/Nm	Rated speed/Rpm	Rated current/A	Rated power/kW	Torque constant(Nm/A)	Interia(Kg m²)	Pole pairs
665PA1FB	38.9	2000	18.8	8.7	2.37	0.005	4
665PA2FB	58	2000	24.3	12.0	2.60	0.007	4
665PA4FB	87	2000	36.7	18.2	2.53	0.009	4
665PA6FA	122	1800	44.0	23.0	2.90	0.013	4
665PA6FB	135	2000	60.5	28.3	2.37	0.013	4
665PB1FA	165	1800	57.5	31.3	2.87	0.016	4
665PB1FB	175	2000	73.7	36.6	2.53	0.016	4
665PB2FI	195	1700	73.9	35.9	2.98	0.031	4
665PB2FA	195	1800	78.8	36.7	2.75	0.036	4
665PB3FI	229	1700	92.6	39.4	2.94	0.036	4
665PB3FA	232	1800	105.3	44.1	2.65	0.053	4
665PB3FB	269	2000	121.0	56.0	2.37	0.045	4
665PB6FI	304	1700	106.0	55.4	3.05	0.058	4
665PB4FA	357	1800	159.3	67.0	2.68	0.061	4



Hydraulic servo energy saving pumping system

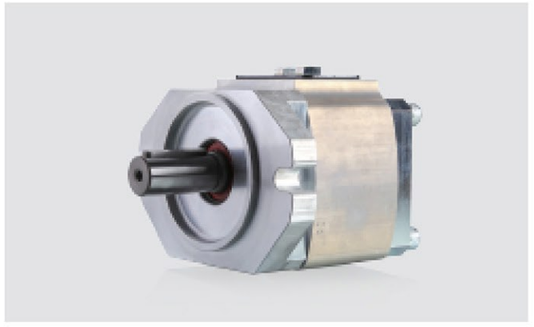
03 Oil pump Eckerle series

Characters

1.EIPC new series of new technologies
2.Maximum working pressure: 320bar
3.Aluminium alloy body
4.Low working noise
5.Multi-coupling links
6.With radial and axial pressure compensation design
7.Low pressure pulsation, stable pressure output, ensures the smooth operation of machines, and long operation life.

Series	EIPC2		EIPC3			
Specification	016	025	032	040	050	063
Displacement(cm^3/rev)	15.8	25.2	32.1	40.1	50.3	63.1
Continuous Action Pressure(bar)	250					180
Peak Pressure(bar)	320	280	320	300	280	200
Burst Pressure(bar)	325	300	350	325	300	210
Maximum Speed(min-1)	4000	3600	3700	3600	3600	2400
Operating Viscosity(mm^2/s)	10 – 300					
Initial Viscosity(mm^2/s)	2000					
Operating Temperature(°C)	-20 ~100					
Operating Medium	HL – HLP DIN 51 524 part 1/2					
Maximum Medium Temperature(°C)	120					
Minimum Medium Temperature(°C)	-40					
Maximum Temperature Around(°C)	80					
Minimum Ambient Temperature(°C)	-40					
Maximum Inlet Pressure(bar)	2(bar) Absolute					
Minimum Inlet Pressure(bar)	0.8(bar) Absolute					
Weight(kg)	3.6	4.2	9.2	9.8	10.5	10.5
Degree Of Filtering	Class 20 / 18 / 15 due to ISO 4406					
Volume Efficiency	95	95	94	95	95	95
Noise	61	64	64	65	66	66
n = 1,450 p = 250 bar T = 50 °C Medium: HLP 46						

Series	EIPC5		EIPC6			
Specification	80	100	125	160	200	250
Displacement(cm^3/rev)	80.4	100.5	125.7	160.1	200.9	249.9
Continuous Action Pressure(bar)	250		250		160	140
Peak Pressure(bar)	270		280		170	150
Burst Pressure(bar)	280		300		180	160
Maximum Speed(min-1)	3000	3000	2800		2200	
Operating Viscosity(mm^2/s)	10 – 300					
Initial Viscosity(mm^2/s)	2000					
Operating Temperature(°C)	-20 ~100					
Operating Medium	HL – HLP DIN 51 524 part 1/2					
Maximum Medium Temperature(°C)	120					
Minimum Medium Temperature(°C)	-40					
Maximum Temperature Around(°C)	80					
Minimum Ambient Temperature(°C)	-40					
Maximum Inlet Pressure(bar)	2(bar) Absolute					
Minimum Inlet Pressure(bar)	0.8(bar) Absolute					
Weight(kg)	13.0	13.5	27.5	30.0	43.0	54.0
Degree Of Filtering	Class 20 / 18 / 15 due to ISO 4406					
Volume Efficiency	95	95	94	94	93	93
Noise	70	71	76	77	77	78
n = 1,450 p = 250 bar T = 50 °C Medium: HLP 46						



Double pump series displacement

Series	C3 Series			C5 Series			C6 Series
Specifications and models	03216	04022	05025	06432	08040	10050	12564
Displacement (cm^3/rev)	32.1 ± 15.8	40.1 ± 22.2	50.3 ± 25.2	64.4 ± 32.1	80.4 ± 40.1	100.5 ± 50.3	125.7 ± 64.4

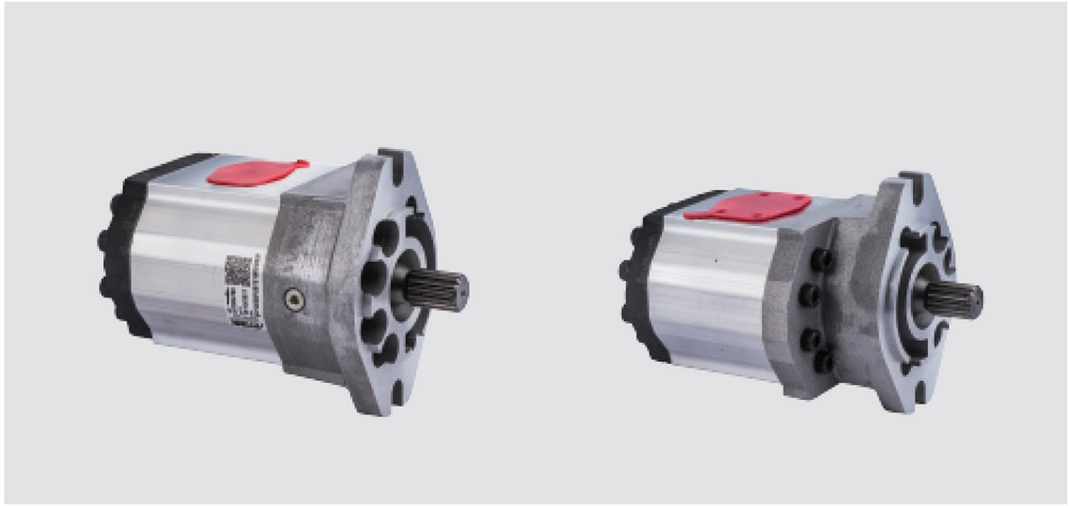
Hydraulic servo energy saving pumping system

03 Oil pump SETTMA series

Characters

1.Low noise, Low pulsation;
2.Low mechanical inertial force;
3.High volumatric efficiency;
4.High pressure and low speed simulational operation;
5.Can combine with all kind of exteral driverd gear pump, replace easily.

Series	GR47 Series				GR55 Series			GR72 Series
Specifications	028	032	040	050	063	075	090	101
Displacement(cm³/rev)	28.0	32.2	40.5	50.3	63.5	15.0	90.9	101.4
Sustain Working Pressure(bar)	270	250	225	200	250	230	180	230
Short Time Pressure(bar)	280	270	250	250	260	250	240	240
Peek Pressure(bar)	300	280	270	270	280	270	260	250



TECHMATION

High-end integration system
All-electric & Hybrid solution-SANDAL II

The new SANDAL II solution covers the standard communication protocol for product pick up robot and peripheral equipment. And also based on the communication protocol of SA Communication system, accompany with tmEdgeServer and tmPlasCloud platform, We already set up the firm foundation for future industry 4.0 intelligent manufacturing.

Advantages

Hydraulic servo energy saving pumping system combines with Techmation controller to offer multi functions in the same time, or selected requirement operation solutions. It shows the various plastic machines performance optimization, improving high efficiency in machine's performance, lower energy consumption, and makes the machine operate accuracy and stability. It makes the more easy adjustment and maintenance for the machinery and good competition in marketing, with superior specific technology, to develop the best system solution.

The foundation of next generation for future industry 4.0 intelligent manufacturing.