High-tech Enterprise

anstrength
injection molding machine

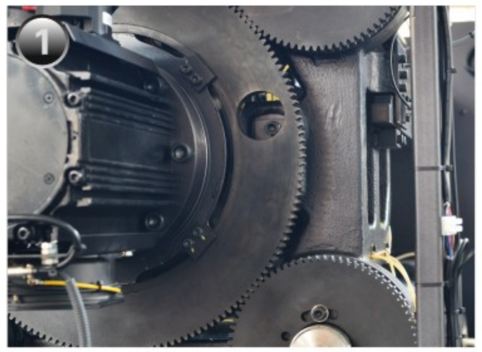
340 Commerce Dr. Crystal Lake, IL
847-648-6130
sales@log-imm.com
www.log-imm.com

anstrength
injection molding machine

AD-S series

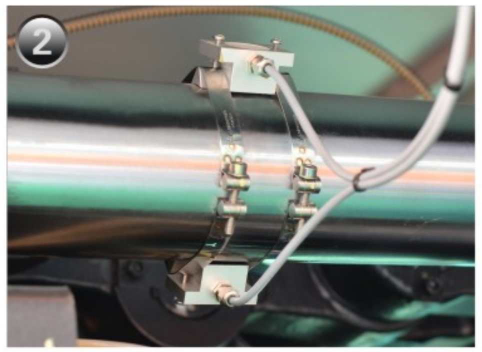
anstrength
injection molding machine

Advantageous Hi-precision Clamping Mechanism



Direct-drive clamping

Direct-drive clamping structure, with faster clamping response less clamping time.

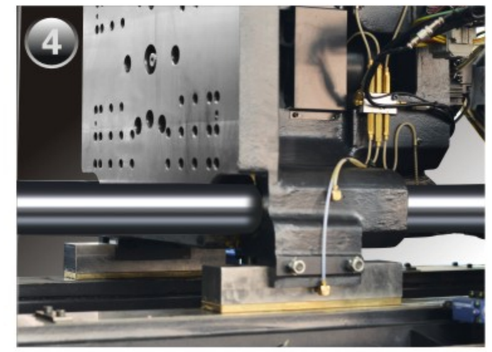


Clamping force sensor

Equipped with high-precision clamping force sensor, allowing real-time clamping state monitor, the clamping force setting adjustment with reduced mold loss and lower servo motor load.

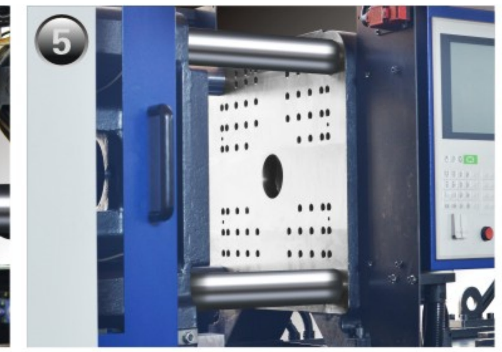
Double-pull nozzle

Double-pull nozzle contact mechanism, preventing plate tilting and uneven contact during nozzle contact; reducing the degree of mold damage.



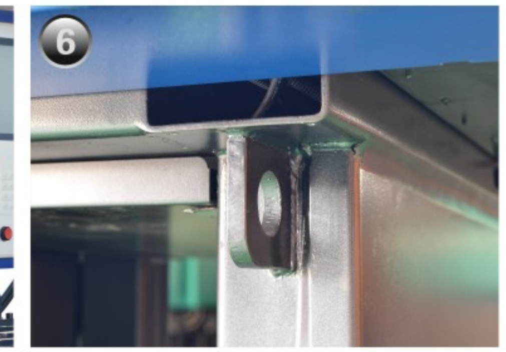
Support plate

High wear resistance, low friction support plate of the movable plate with lower servo motor load during the opening and closing process.



High standard clamping

High standard clamping force and parallelism adjustment with stable clamping state and reduced mold loss.



Frame

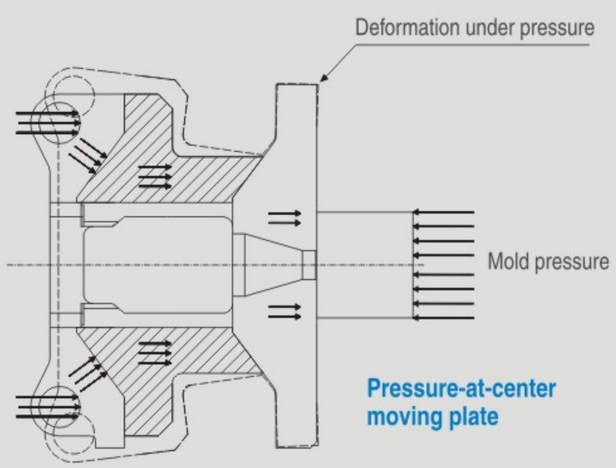
High strength frame design including thick-wall structure steel components, with reduced fast opening/closing vibration.

Optimized plate design

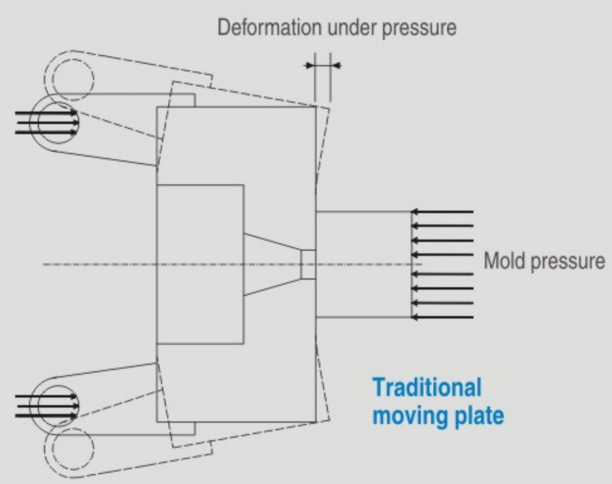
Optimized plate design, with even clamping force distribution on the plates, reduced burring of the products and longer service life of the mold.

Highest mold opening/closing speed
1500
mm/s

Mold life extended by:
2~3
times



Pressure-at-center moving plate



Traditional moving plate

Direct Drive Mechanism For Injection

Highly responsive and high speed injection control is achieved with direct drive structure mechanism the core of the injection.

1. High response, low inertia servo motor with corresponding low inertia load design is used to achieve the actual screw acceleration time of 20ms.
2. Equipped with high-precision multi-ring absolute value encoder and injection pressure sensor, which achieve precisely controlled screw position and stable rubber melting, injection, pressure holding and back pressure operation.
3. Rotation mechanism is used for the injection unit, for easy removal of the screw components and effective reduction of operation time.
4. High standard screw core runout adjustment to ensure long service life of the screw.

Repeatability of the Injection position within **0.02** mm

Rotation runout of the screw's central axis within **0.02** mm

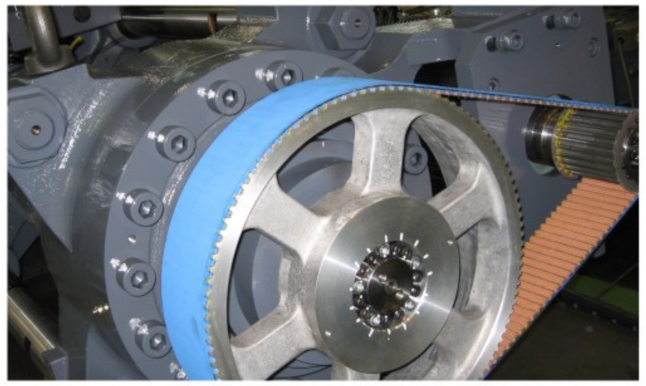
The advantages of direct drive vs. belt drive:

- Significantly improved response.
- Significantly reduced both inertia and moment of inertia.
- Better position control, no lag caused by the belt.
- No noise and dust pollution associated with the belt.

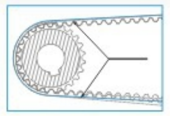
The response of direct drive is more than **30%** faster than that of traditional belt drive

Direct drive coupling

The output shaft of the injection motor is rigidly and rotationally coupled with the drive shaft of injection, with the response time of the motor directly reflected with the response time of injection.



Traditional all-electric belt connection



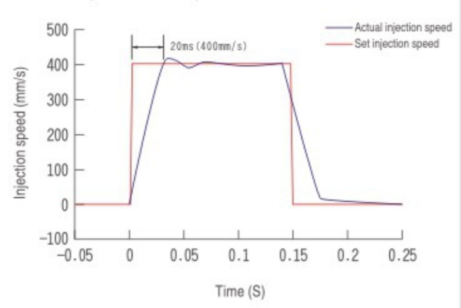
Disadvantages of the belt drive

The deformation of the belt under tension causes the speed lag of the driven wheel with respect to the driving force.

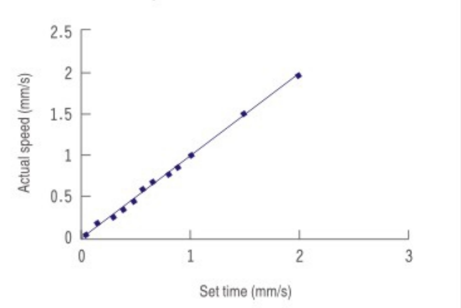
Injection Speed Control

Low inertia load is used to further improve basic characteristics as injection speed response and tracing of the injection at low speed, etc.

Injection response time of S175



S175M low-speed control characteristics



anstrength
injection molding machine

Advantages Of Diversified Configuration

In Response To Diversified Plastics

With requirement of higher heat resistance for high-precision molded parts and the advent of plastics products that can substitute metal parts, the performance requirements of the molded products are increasing. Depending on the characteristics of the resins, from PO with long molding cycle to PC for optical lenses and ABS for structural parts, specially designed and developed screws by Anstrength based on factors such as resin heating temperature and injection speed may be used, together with specialized screw components with special material, special processing and special treatment.

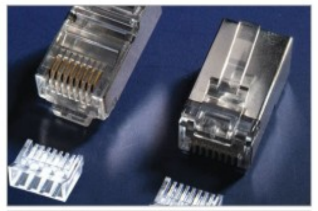
Screw Options Of Various Types

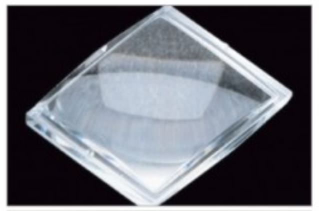
Type Of Screw	Nitrogen Treated	Plated	NCW1	NCW2	NCW3	NTW
Wear Resistance	○	○	◎	●	●	◎
Corrosion Resistance	○	○	◎	◎	●	◎
Applicable Resin	Wear-free and noncorrosive resin	Easily charred and not easily stranded resins	Retardant resins containing less than 30% glass fiber	Resins containing more than 30% glass fiber	Resins containing more than 30% glass fiber many other additives	Resins requiring high temperature molding

○Usable ◎Suitable ●Most suitable

Use the most suitable screw components corresponding to the special requirement of resins of various types, to improve product quality and extend the service life of the equipment.

Diversified Products


Network connectors


COP lenses


Rubber frames for cellphones


Light guide plates


Connectors


Electronic components


Cellphone lenses


LED lamps

Diversified Product Requirements And Configurations

Standard AD-S Series Configuration

Clamping Mechanism						Injection Device (A)	Injection Speed mm/s	Injection Device (B)	Injection Speed mm/s	Screw Diameter mm
AD180T	AD130T	AD100T	AD75T	AD50T	AD30T					
				○	◎	S67M	550	S67L	600	18、20、22
			○	◎	◎	S85M	550	S85L	600	20、22、25
		○	◎	◎	◎	S105M	500	S105L	550	22、25、28
	○	◎	◎	◎		S135M	500	S135L	550	25、28、32
○	◎	◎	◎			S175M	400	S175L	450	28、32、36
◎	◎	◎				S219M	400	S219L	450	32、36、40
◎	◎					S263M	300	S263L	350	36、40、45
◎						S307M	300	S307L	350	40、45、50

◎Standard ○Special In-frame injection device is standard with our products

AD-S series injection molding machine, with injection units of multiple types, are corresponded to thin-wall products with high injection speed and high injection pressure.

a.For products with higher clamping force requirements, special configuration may be adopted to improve the dimension precision and appearance quality.

b.Higher requirements of thin-wall products can be met by using S-L injection device to increase the injection speed and improve the filling performance of the thin-wall areas.

Configurations With Respect To High Pressure Injection Devices

Clamping Force						Injection Device (C)	Injection Speed mm/s	Screw Diameter mm	Filling Force Mpa
AD180T	AD130T	AD100T	AD75T	AD50T	AD30T				
				○	◎	S67LR	600	16	332
			○	◎	◎	S85LR	600	18	333
		○	◎	◎	◎	S105MR	500	20	333
	○	◎	◎	◎		S135MR	500	22	354
○	◎	◎	◎			S175MR	400	25	355
◎	◎	◎				S219MR	400	28	351
◎	◎					S263MR	300	32	325
◎						S307MR	300	36	301

◎Standard ○Special In-frame injection device is standard with our products

AD-S series injection molding machine allows high-load filling pressure and is suitable with operations requiring long time filling and pressure holding. It has significant effect for thick-wall molding with high holding pressure or for high-viscosity plastics molding.

anstrength
injection molding machine

List Of Standard Types

Model	Clamping Force	Pull-rod Interval	Plate Dimension	Opening Stroke	Mold Thickness	Positioning ring	Ejection force	Ejection stroke	Injection speed	Rubber melting speed	Injection distance	Nozzle protruding	Nozzle contact force	Equipment dimension	Equipment weight	Screw diameter	Injection mass	Injection pressure	Holding pressure	Plasticization capacity	Injection rate
	kN(tf)	mm×mm	mm×mm	mm	mm	mm	kN(tf)	mm	mm/s	rpm	mm	mm	kN	mm×mm×mm	t	mm	g	MPa	Mpa	kg/h	cm^3/s
AD30T–S67L	290(30)	310×290	440×420	230	150~300	60	9(1)	50	600	500	73	30	11	3200×900×1680	1.9	18	18	280	224	10	152
																20	22	224	179	13	188
																22	27	179	143	18	228
AD30T–S85L									600	400	87	30	11	3200×900×1680	2	20	26	280	224	13	188
																22	32	224	179	18	228
																25	41	179	143	26	294
AD30T–S105M									500	400	104	30	12	3650×990×1700	2.4	22	38	285	228	18	190
																25	49	221	177	26	245
																28	61	180	144	37	308
AD50T–S85L	490(50)	360×310	500×450	250	160~350	100	21(2.1)	70	600	400	87	30	11	3650×990×1700	2.3	20	26	280	224	13	188
																22	32	224	179	18	228
																25	41	179	143	26	294
AD50T–S105M									500	400	104	30	12	3650×990×1700	2.4	22	38	285	228	18	190
																25	49	221	177	26	245
																28	61	180	144	37	308
AD50T–S135M									500	400	104	30	12	3650×990×1700	2.4	25	49	282	225	26	224
																28	61	224	179	37	307
																32	80	172	138	53	402
AD75T–S105M	730(75)	410×360	580×530	300	160~410	100	26(2.7)	80	500	400	104	30	12	4250×1070×1800	3.3	22	38	285	228	18	190
																25	49	221	177	26	245
																28	61	180	144	37	308
AD75T–S135M									500	400	104	30	45	4250×1070×1800	3.4	25	49	282	225	26	224
																28	61	224	179	37	307
																32	80	172	138	53	402
AD75T–S175M									400	400	140	45	45	4250×1070×1800	3.6	28	86	285	227	37	247
																32	113	218	174	53	321
																36	143	172	137	86	407
AD100T–S135M	980(100)	460×410	650×600	350	180~410	100	32(3.3)	100	500	400	104	30	45	4700×1170×1800	4.1	25	49	282	225	26	224
																28	61	224	179	37	307
																32	80	172	138	53	402
AD100T–S175M									400	400	140	45	45	4700×1170×1800	4.2	28	86	285	227	37	247
																32	113	218	174	53	321
																36	143	172	137	76	407
AD100T–S219M									400	400	160	45	45	4700×1170×1800	4.3	32	124	280	224	53	321
																36	156	220	176	76	407
																40	193	171	136	101	502
AD130T–S175M	1270(130)	510×460	720×670	375	180~450	100	36(3.7)	100	400	400	140	45	45	5000×1250×1900	5.4	28	86	285	227	37	247
																32	113	218	174	53	321
																36	143	172	137	76	407
AD130T–S219M									400	400	160	45	45	5000×1250×1900	5.5	32	124	280	224	53	321
																36	156	220	176	76	407
																40	193	171	136	101	502
AD130T–S263M									300	400	160	45	45	5000×1250×1900	5.6	36	156	260	205	76	305
																40	193	210	166	101	377
																45	254	165	130	136	477
AD180T–S219M	1760(180)	560×510	800×750	450	200~500	120	45(4.6)	120	400	400	160	65	45	5600×1300×2000	6.5	32	124	280	224	53	321
																36	156	220	176	76	407
																40	193	171	136	101	502
AD180T–S263M									300	400	160	65	45	5600×1300×2000	6.7	36	156	260	205	76	305
																40	193	210	166	101	377
																45	254	165	130	136	477
AD180T–S307M									300	400	160	65	45	5600×1300×2000	6.8	40	193	265	212	101	377
																45	254	208	166	136	477
																50	302	169	135	193	289

The above parameters are subjected to changes following design updates without notice.

anstrength
injection molding machine

List of equipment

List of standard equipment

Injection pre-plasticization device

1 Direct drive of injection (corresponding to high speed and high response)
2 Injection load with low inertia design (corresponding to high speed and high response)
3 Nitrogen treated screw components (opened nozzle)
4 High-precision, high power double-sided double-pull nozzle contact
5 5-section control of barrel heating
6 Cooling water temperature monitor and high temperature alarming device
7 V-P switching(injection pressure, position, speed and time switching)
8 Molding during pre-plasticization (needle valve type nozzle can be used)
9 Installation of injection guard (with safety interlock function)
10 Front/rear feed and withdrawal function of the screw (started after pressure holding and pre-plasticization)
11 Preventing the screw from starting modes during cooling
12 Multi-phase switching control of injection
13 Multi-phase switching control of pressure holding
14 Multi-phase switching control of pre-plasticization
15 Maximum pressure holding ability at the highest injection speed
16 Moving time of injection unit and contact pressure of nozzle can be set
17 Rotational device of the injection unit (easier screw replacement)
18 High-precision injection pressure and back pressure detection
19 A device with which the screw rotation runout can be adjusted to within 0.02mm during pre-plasticization

Closing and ejection device

1 Double pressure-at-center plate design
2 Mold opening/closing speed and pressure control setting
3 Mold protection device
4 Low pressure clamping device
5 Flexible switch stopping
6 Moving plate support device (wear plate of polymer structure)
7 Mold installation and equipment commissioning preparation mode
8 Clamping force setting automation
9 High-precision automatic clamping
10 Ejection device (multiple ejection, speed and pressure control, stroke position, etc.)
11 Ejection during mold opening
12 Ejection during mold closing
13 Multi-phase speed control of ejection
14 Connecting circuit for robot
15 Product dropping confirming circuit
16 Mechanical safety interlock protection
17 Safety protection device with double-block dropping
18 Auxiliary power installation 400VAC (30A)、230VAC (15A)
19 3-color LED alarming device

Control device

1 15" color touch screen
2 Quality management screen (Statistics of actual values such as pre-plasticization stop position and injection stop position)
3 Production management screen (production counting and automatic production complete, etc.)
4 Mechanical performance screen(torque, speed and position wave form for various movements)
5 Fully automatic operation signal output
6 Control setting for automatic lubrication
7 USB connection circuit
8 Alarm control for abnormal auxiliary equipment
9 Heating barrel temperature monitor
10 Alarm information and time display for abnormal equipment
11 Automatic on/off
12 Motor temperature monitor and automatic fan control
13 Heating abnormality alarming

List of special equipment

Injection pre-plasticization device

1 High temperature heating ring (maximum temperature of 450°C)
2 Needle-valve type closed nozzle
3 Resin temperature monitor device
4 Plated feed opening
5 Special hopper installation
6 High-pressure injection device installation
7 Plated screw components
8 NCW1 screw components
9 NCW2 screw components
10 NCW3 screw components
11 NTW screw components
12 Double threaded screw components
13 Co-rotation rocket set
14 High-capacity heating ring
15 One-piece high-capacity heating ring
16 High-protrusion nozzle

Closing and ejection device

1 T-slot plate
2 High-density type heat insulator
3 Male die blowing device
4 Female die blowing device
5 Oill pressure pulling control circuit (control circuit and oil path)
6 Air pressure pulling control circuit(control circuit and air path)
7 Thread reversing control circuit
8 Ejection force application device
9 Ejection stroke application device
10 Ejection device with brake
11 Mold fastener control
12 Maximum mold adjustment extended by 50mm
13 Maximum mold adjustment extended by 100mm
14 Valve type injection port circuit control

Control device

1 2-step mold temperature monitor
2 4-step mold temperature monitor
3 Automatic starting device (for heating ring and cooling water starting)
4 Normal-close circuit cooling water system
5 Added back-up power 400VAC (30A)、230VAC(15A)

Spare parts and accessories

1 Shock proof foots (for one unit)
2 Positioning ring
3 Tool kit
4 Ejection rod
5 Lubricant gun
6 700ml grease
7 400ml grease
8 Pressure plate
9 Proximity switch
10 Temperature sensing line for heating

Notes:
1：Changes may be possible to improve the performance and quality of the equipment.
2：Special engineering proposed by customers requires prior permission of the technical personnel before implementation.
3：Equipment shall be selected by the customer with the help of the operation technology department and then be approved by the technical department before it can be