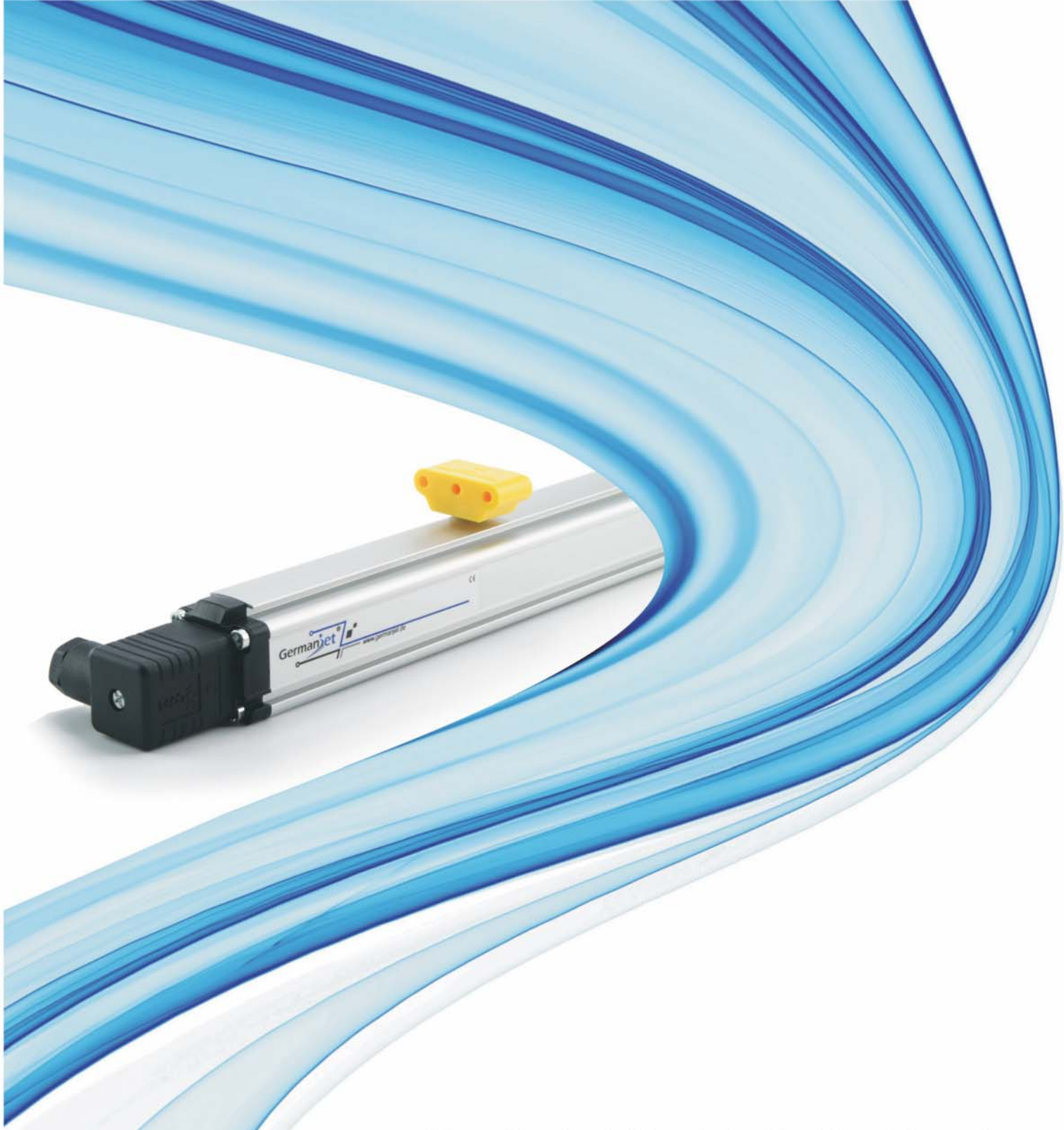


Non-Contact Absolute Position Transducer

Leading technology revolutionary determine who will hold the competitive advantage today and tomorrow.

ABSOPOS SERIES

Germanjet®

PART OF YOUR POSITIONING

...Experts in non-contact sensing

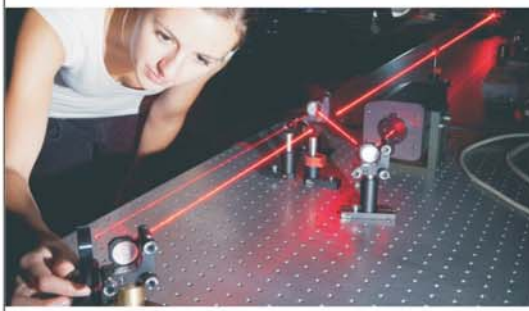
for extremely accurate, low-noise, and wear-free absolute position feedback

Our philosophy ...

Leading technology revolutionary can determine who will hold the competitive advantage today and tomorrow. Germanjet has been in the position to be the trendsetter for sensing revolution. Recognizing promising ideas and identify new approach to challenge has always been one of the most significant elements in our technology planning. To accomplish all this, we closely align our R&D activities toward our business strategy.

Our team is young, dynamic, and committed. Their excellent qualifications allow them to provide exceptional support to customers all around the world. Open and devoted cooperation results in an extraordinarily high degree of identification with the company.

In order to act proactively to our customers' technological needs, Germanjet Advance Sensing and Control Technology (ASCT) group was formed to specialize in designing intelligent product and solution. No matter how diverse and difficult the requirement is, our goal is to provide the highest possible performance with the most optimum service and price.



Worldwide Vision

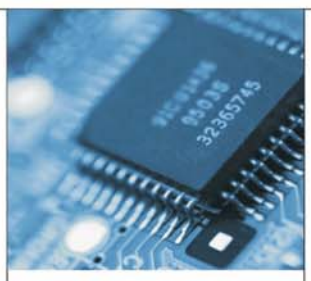
Our team excellent qualifications allow them to provide exceptional support to customers all around the world.

Persian control is an advance close-loop control system for blow molding machine. Non-contact absolute position transducer feedbacks the valve position to controller to precisely control the thickness of the bottle.

- Non-contact Technology
- Absolute Position
- IP 67 Protection
- Easy Installation

The fundamental principle of the Absopos position transducer is by analyzing the feedback sonic wave induced by an interaction of two magnetic fields. The first magnetic field is produced by the moveable magnetic cursor which attached at the moving component of a machine. The second field is generated by the Absopos pulse initiator. After the two magnetic fields interact, a sonic wave is induced and detected by the sonic wave analyzer.

By examining the characteristic of the wave pattern, the embedded microprocessor is able to generate the corresponding analog output signal to indicate the position of the machine. As a result, precise non-contact position is achieved with absolutely no wear to the sensing components.



high precision & reliability...

Electromagnetic Compatibility refers to the ability of equipment to perform satisfactorily in its electromagnetic environment without introducing intolerable interference into any thing in that environment.

The equipment must have a certain level of "immunity" to the Electromagnetic Interference (EMI) present in its environment so that it is not "susceptible" to that EMI. Product, in certain country, has to fulfill EMC test in order to be distributed legally.

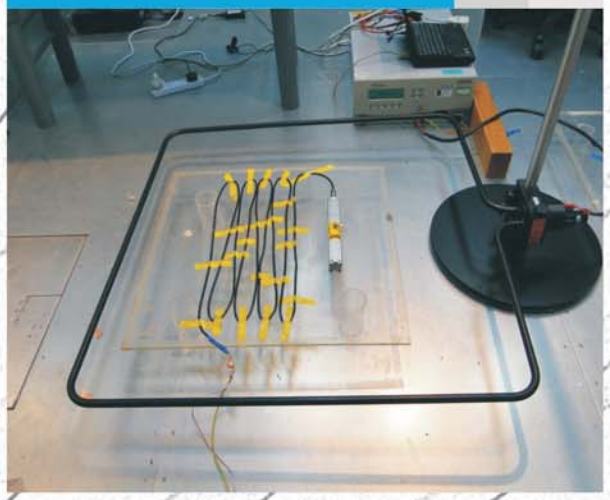
Our EMC laboratory is fully compatible with ISO/IEC 17025:1996 standard. And our product are passed all required EMC tests and meet the CE standard.

EN 61000-6-3	Emission standard for residential, commercial and light-industrial environments
EN 61000-6-2	Immunity for industrial environments
EN 61000-4-2	Electrostatic discharge immunity test
EN 61000-4-3	Radiated, radio-frequency, electromagnetic field immunity test
EN 61000-4-4	Electrical fast transient/burst immunity test
EN 61000-4-6	Immunity to conducted disturbances, induced by radio-frequency fields
EN 61000-4-8	Power frequency magnetic field immunity test

Radiated, radio-frequency, electromagnetic field immunity test

Emission standard for residential, commercial and light-industrial environments

Power frequency magnetic field immunity test



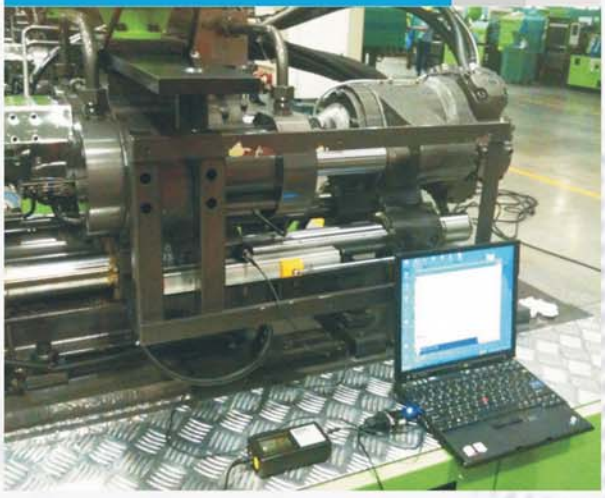
CE Quality and certification....

Product in most working environment would experience certain degree of shock and vibration. The purpose of shock and vibration test is to have product going through a similar simulated environment.

During design phase and pre-production cycle, our product would undergo a series of intensive shock and vibration tests. Machine such as plastic injection machine induces a severe level of vibration. To make sure our product overcome the actual challenge, we also perform a series of on-site test.

Shock and Vibration Test Laboratory

On-site Shock and Vibration Test



Applications

- Plastic Injection Machine
- Blow Molding Machine
- Die-Casting Machine
- Rubber Forming Machine
- Label Printing Machine
- Hydraulic Press
- Metal Forming Machine
- Automotive

Precision and reliability ...

Plastic Injection

Oil and Gas

Blow Molding

Mobile Vehicle

Construstion

Hydraulic Press

Hydraulic Cylinder

Motion Cinema

Sheet Forming

Medical Equipment

Automotive

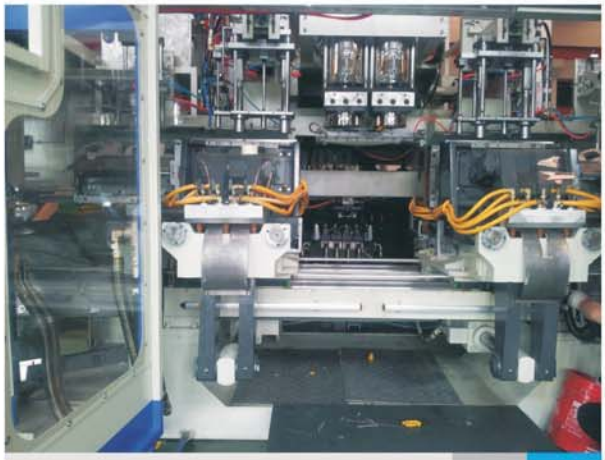
Water Dam Control

Non-contact technology ...

Injector and carriage position at plastic injection machine

4000mm transducer installed at 6000 ton machine

Mold closing at die-cast machine. injection speed at 10m/s

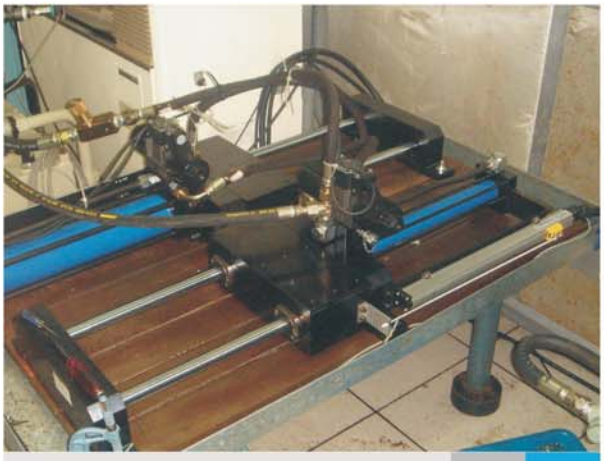


Fast mold shifting at blow molding machine

Rubber injection machine

Product unloading machine

Machine manufacturer standardized using Germanjet 18 series



University laboratory testing equipment

Packaging machine used IP67 Germanjet 18 series

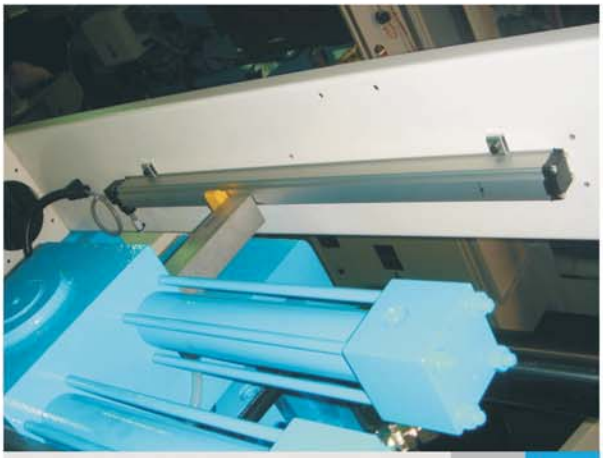
Hot chamber die-casting machine used Germanjet 18 series

Heavy duty hydraulic press

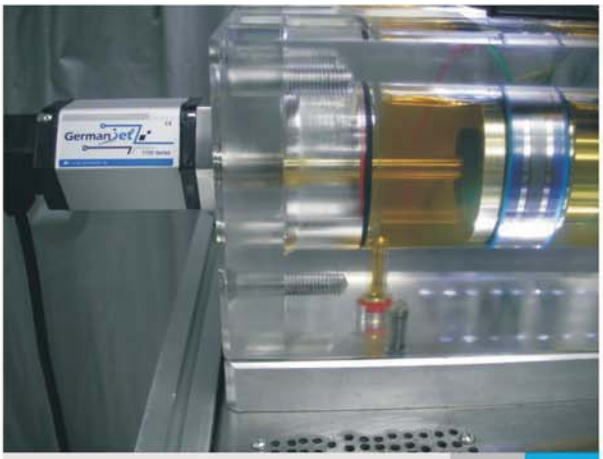
Hot chamber die-cast machine used Germanjet 17 series

Hydro-forming machine

Heavy duty servo hydraulic cyclinder



Molding automation

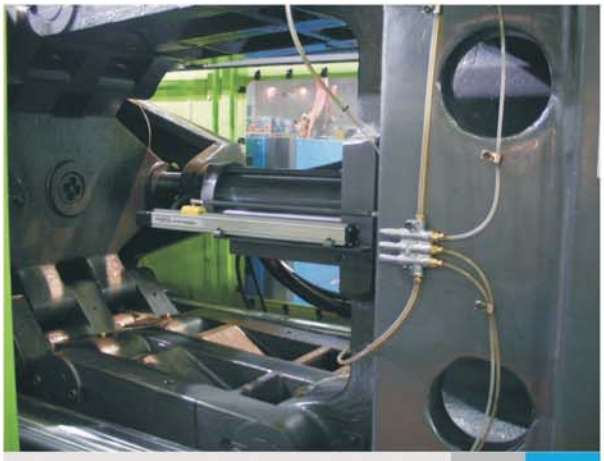


Crystall cyclinder demo at university

Vertical hydraulic press

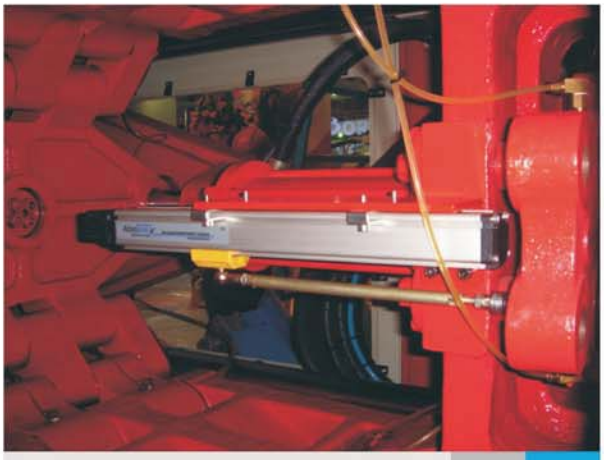
Handheld testing equipment

Large two-plate plastic injection machine used
4000mm Germanjet 18 Series



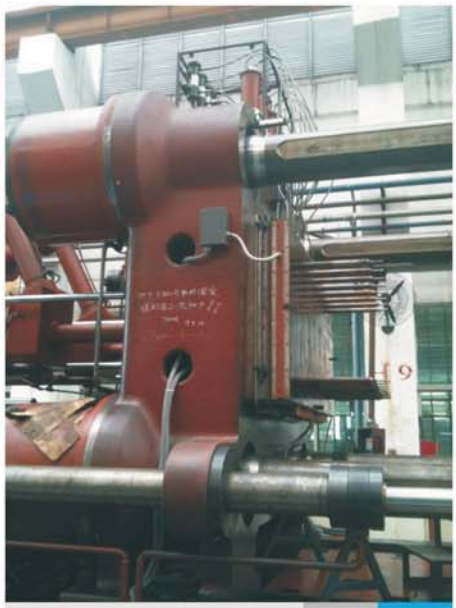
High speed ejector

Multi-color plastic second injector



High speed thin wall plastic injection machine

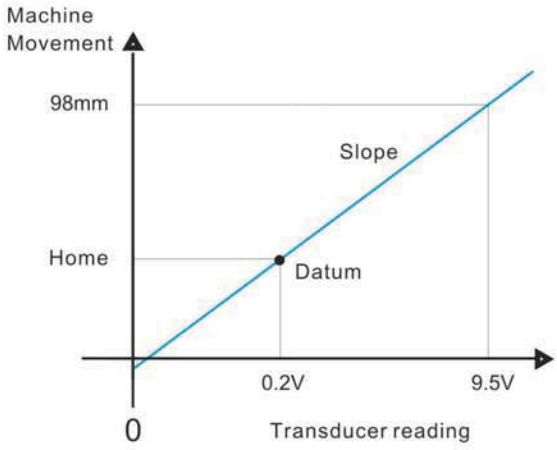
Rubber forming machine



Two-plate injection machine
high pressure cyclinder

Transducer on machine calibration

To make sure the nominal stroke length is fully covered, all analog position transducers' output signal were calibrated slightly wider than the stroke. After installation, the machine needs to go through calibration. The step is as follow.



1) Move the machine to home position and record the transducer reading.
Example: at home, the transducer reading = 0.2V

2) Move the machine away from home position, measure the actual movement and record the transducer reading.
Example: actual movement = 98mm,
transducer actual movement reading = 9.5V

3) Calculate the "slope"
Slope = actual movement / (transducer actual movement reading - transducer home reading).
Example: slope = 98mm / (9.5V - 0.2V) = 10.537

4) Calculate the "datum"
Datum = slope x transducer home reading
Example: datum = 10.537 x 0.2V = 2.106

5) Machine position = (slope x transducer reading) - datum
Example: machine position = (10.537 x transducer reading) - 2.106

International Protection Rating (IP)

IP X X

Solid particle protection

4 = >1mm object size protected against

5 = Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment;

6 = No ingress of dust; complete protection against contact

Liquid ingress protection

0 = Not protected

5 = Water projected by a nozzle (6.3mm) against enclosure from any direction shall have no harmful effects.

7 = Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).

Transducer may in touch with dust and water, having proper IP rating is needed. Potentiometer IP rating is IP 40 or 50 but non-contact position transducer IP rating is IP 65 or even 67.

Installation of floating magnet

Installation of floating magnet is very simple. Compared to captive magnet, floating magnet can truly demonstrate the advantage of non-contact sensing and eliminate the wear of captive magnet socket.

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