Press Load Monitor

Model YK

Digital Display of the Press Load
Prevents breakdown caused by overload.

- Digital Display
  Displays the press load digitally based on the pressure change of the overload cylinder.

- Automatic Monitoring of Load Changes
  Numerical monitoring of the press and die status detects even the slightest changes in press load. Monitoring enables preventative maintenance to avoid unexpected halts in production.

- Model No. Indication

- Upper and Lower Limit Load Warning Outputs
  Set the upper and lower limit of the press load and stop the press urgently.

YK010 0

Design No. (Revision Number)
Load Monitor Main Unit

Specifications

- **Model No.:** YK0100
- **Supported Press Load:** 9999 kN or less
- **Supported Number of Press Strokes:** MAX 200 spm
- **Accuracy:** ±5 % F.S (Press Ability 20 ~ 100%)
- **Output Functions:**
  - HI: Upper Limit Warning Output (Dry Contact)
  - LO: Lower Limit Warning Output (Dry Contact)
- **Output Contact Capacity:** DC 30 V • 0.5 A
- **AD Sampling:** 5 mS
- **Power Consumption:** 10 VA or less
- **Drip Protection:** None
- **Power Supply:** AC 100 V • 50 / 60 Hz
- **Operating Temperature Range:** 0 ~ 60 °C
- **Weight:** 2.5 kg
- **Accessories:** Pressure Sensor, Cable with Connector (5 m)

External Dimensions

Pressure Sensor (Included)

Specifications

- **Model No.:** YK0100 Pressure Sensor
- **Pressure Range:** 0 ~ 50 MPa
- **Allowable Maximum Pressure:** 75 MPa
- **Power Supply:** DC 24 V ±10 %
- **Output Format:** 4 ~ 20 mA
- **Accuracy:** ±0.5 % F.S
- **Temperature Effect on Zero Point:** ±0.05 % F.S / °C
- **Temperature Effect on Span:** ±0.05 % F.S / °C
- **Guaranteed Temperature Range:** -20 ~ +70 °C (Make sure no condensation or frost)
- **Operating Temperature Range:** -20 ~ +70 °C (Make sure no condensation or frost)

External Dimensions
Cautions

● Installation Notes (Cautions for Hydraulic Series)

1) Check the fluid to use
● Please use the appropriate fluid by referring to the Hydraulic Fluid List.
● If hydraulic oil with viscosity grade higher than ISO-VG-32 is used, action time would be longer.
● If using it at low temperature, action time will be longer because the viscosity of hydraulic oil becomes higher.

2) Procedure before Piping
● The pipeline, piping connector and fixture circuits should be cleaned by thorough flushing.
● The dust and cutting chips in the circuit may lead to fluid leakage and malfunction.
● Our products except some valves are not equipped with protective function to prevent dust and cutting chips going into the hydraulic system and pipeline.

3) Applying Sealing Tape
● Wrap with tape 1 to 2 times following the screwing direction.
● Pieces of the sealing tape can lead to air leaks and malfunction.
● In order to prevent a foreign substance from going into the product during piping, it should be carefully cleaned.

4) Air Bleeding in the Hydraulic Circuit
● If the hydraulic circuit has excessive air, the action time may become very long.
   After installing the hydraulic circuit, or if the pump run out of oil, be sure to bleed air by the following step.
   ① Reduce hydraulic supply pressure to less than 2MPa.
   ② Please loosen the cap nut of pipe fitting that is closest to clamps + RA die lifters by one full turn.
   ③ Wiggle the pipeline to loosen the outlet of pipeline fitting.
   The hydraulic fluid mixed with air comes out.

   ④ Tighten the cap nut after bleeding.
   ⑤ It is more effective to bleed air at the highest point inside the circuit or at the end of the circuit.

5) Checking Looseness and Retightening
● At the beginning of the machine installation, the bolt/nut may be tightened lightly.
   Check torque and re-tighten as required.

● Hydraulic Fluid List

<table>
<thead>
<tr>
<th>ISO Viscosity Grade ISO-VG-32</th>
<th>Maker</th>
<th>Anti-Wear Hydraulic Oil</th>
<th>Multi-Purpose Hydraulic Oil</th>
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<tbody>
<tr>
<td>Showa Shell Sekiyu</td>
<td>Tellus S2 M 32</td>
<td>Morina S2 B 32</td>
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<tr>
<td>Idemitsu Kosoan</td>
<td>Daphne Hydraulic Fluid 32</td>
<td>Daphne Super Multi Oil 32</td>
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<tr>
<td>JX Nippon Oil &amp; Energy</td>
<td>Super Hyrando 32</td>
<td>Super Mulpus DX 32</td>
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<tr>
<td>Cosmo Oil</td>
<td>Cosmo Hydro AW32</td>
<td>Cosmo New Mighty Super 32</td>
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<tr>
<td>ExxonMobil</td>
<td>Mobil DTE 24</td>
<td>Mobil DTE 24 Light</td>
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<tr>
<td>Matsumura Oil</td>
<td>Hydol AW-32</td>
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<td></td>
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<tr>
<td>Castrol</td>
<td>Hyspin AWS 32</td>
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</table>

Note: As it may be difficult to purchase the products as shown in the table from overseas, please contact the respective manufacturer.
- **Notes on Hydraulic Cylinder Speed Control Unit**

  Please pay attention to the cautions below. Design the hydraulic circuit for controlling the action speed of hydraulic cylinder. Improper circuit design may lead to malfunctions and damages. Please review the circuit design in advance.

  - **Flow Control Circuit for Single Acting Cylinder**
    For spring return single acting cylinders, restricting flow during release can extremely slow down or disrupt release action. The preferred method is to control the flow during the lock action using a valve that has free-flow in the release direction. It is also preferred to provide a flow control valve at each actuator.

    ![Flow Control Circuit for Single Acting Cylinder Diagram]

    Accelerated clamping speed by excessive hydraulic flow to the cylinder may sustain damage. In this case add flow control to regulate flow.

    ![Flow Control at the Release Side Diagram]

  - **Flow Control Circuit for Double Acting Cylinder**
    Flow control circuit for double acting cylinder should have meter-out circuits for both the lock and release sides. Meter-in control can have adverse effect by presence of air in the system.

    ![Flow Control Circuit for Double Acting Cylinder Diagram]

    In the case of meter-out circuit, the hydraulic circuit should be designed with the following points.

    1. Single acting components should not be used in the same flow control circuit as the double acting components. The release action of the single acting cylinders may become erratic or very slow.

    Refer to the following circuit when both the single acting cylinder and double acting cylinder are used together.

    ![Flow Control Circuit with Single and Double Acting Cylinders Diagram]

    ○ Separate the control circuit.

    ○ Reduce the influence of double acting cylinder control unit. However, due to the back pressure in tank line, single action cylinder is activated after double action cylinder works.

    ![Flow Control Circuit with Single and Double Acting Cylinders (Reduced Influence) Diagram]

    2. In the case of meter-out circuit, the inner circuit pressure may increase during the cylinder action because of the fluid supply. The increase of the inner circuit pressure can be prevented by reducing the supplied fluid beforehand via the flow control valve. Especially when using sequence valve or pressure switches for clamping detection. If the back pressure is more than the set pressure then the system will not work as it is designed to.

    ![Flow Control Circuit with Sequence Valve and Reduced Inner Circuit Pressure Diagram]
**Cautions**

**Notes on Handling**

1) It should be handled by qualified personnel.
   - The hydraulic machine / air compressor should be handled and maintained by qualified personnel.

2) Do not handle or remove the machine unless the safety protocols are ensured.
   ① The machine and equipment can only be inspected or prepared when it is confirmed that the preventive devices are in place.
   ② Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
   ③ After stopping the machine, do not remove until the temperature cools down.
   ④ Make sure there is no abnormality in the bolts and respective parts before restarting the machine or equipment.

3) Do not touch clamps (cylinders) while they are working. Otherwise, your hands may be injured.

4) Do not disassemble or modify.
   - If the equipment is taken apart or modified, the warranty will be voided even within the warranty period.

**Maintenance • Inspection**

1) Removal of the Machine and Shut-off of Pressure Source
   - Before the machine is removed, make sure that the above-mentioned safety measures are in place. Shut off the air of hydraulic source and make sure no pressure exists in the hydraulic and air circuit.
   - Make sure there is no abnormality in the bolts and respective parts before restarting.

2) Regularly clean the area around the equipment.
   - If it is used when the surface is contaminated with dirt, it may lead to packing seal damage, malfunctioning, fluid leakage and air leaks.

3) If disconnecting by couplers on a regular basis, air bleeding should be carried out daily to avoid air mixed in the circuit.

4) Regularly tighten bolts and pipe line, mounting bolts, nuts, circlips and cylinders to ensure proper use.

5) Make sure the hydraulic fluid has not deteriorated.

6) Make sure there is smooth action and no abnormal noise.
   - Especially when it is restarted after left unused for a long period, make sure it can be operated correctly.

7) The products should be stored in the cool and dark place without direct sunshine or moisture.

8) Please contact us for overhaul and repair.
Warranty

1) Warranty Period
The product warranty period is 18 months from shipment from our factory or 12 months from initial use, whichever is earlier.

2) Warranty Scope
- If the product is damaged or malfunctions during the warranty period due to faulty design, materials or workmanship, we will replace or repair the defective part at our expense.
- Defects or failures caused by the following are not covered.
  1. If the stipulated maintenance and inspection are not carried out.
  2. If the product is used while it is not suitable for use based on the operator’s judgment, resulting in defect.
  3. If it is used or handled in inappropriate way by the operator.
     (Including damage caused by the misconduct of the third party.)
  4. If the defect is caused by reasons other than our responsibility.
  5. If repair or modifications are carried out by anyone other than Kosmek, or without our approval and confirmation, it will void warranty.
  6. Other caused by natural disasters or calamities not attributable to our company.
  7. Parts or replacement expenses due to parts consumption and deterioration.
     (Such as rubber, plastic, seal material and some electric components.)

Damages excluding from direct result of a product defect shall be excluded from the warranty.
Company Profile

Sales Offices

Sales Offices across the World

<table>
<thead>
<tr>
<th>Region</th>
<th>Office Name</th>
<th>Address/Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>KOSMEK LTD.</td>
<td>1-5, 2-chome, Murotani, Nishi-ku, Kobe-city, Hyogo, Japan 651-2241 TEL. +81-78-991-5162 FAX. +81-78-991-8787</td>
</tr>
<tr>
<td>Overseas Sales</td>
<td>KOSMEK（USA） LTD.</td>
<td>650 Springer Drive, Lombard, IL 60148 USA TEL. +1-630-620-7650 FAX. +1-630-620-9015</td>
</tr>
<tr>
<td>USA</td>
<td>KOSMEK USA Mexico Office</td>
<td>Blvd Jurica la Campana 1040, B Colonia Punta Juriquilla Queretaro, QRO 76230 Mexico TEL. +52-442-161-2347</td>
</tr>
<tr>
<td>EUROPE</td>
<td>KOSMEK EUROPE GmbH</td>
<td>Schleppenplatz 2 9020 Klagenfurt am Wörthersee Austria TEL. +43-463-287587 FAX. +43-463-287587-20</td>
</tr>
<tr>
<td>China</td>
<td>KOSMEK（CHINA） LTD.</td>
<td>Room601, RIVERSIDE PYRAMID No.55, Lane21, Pusan Rd, Pudong Shanghai 200125, China TEL. +86-25-54253000 FAX. +86-21-54253709</td>
</tr>
<tr>
<td>India</td>
<td>KOSMEK LTD - INDIA</td>
<td>F 203, Level-2, First Floor, Prestige Center Point, Cunningham Road, Bangalore -560052 India TEL. +91-9880561695</td>
</tr>
<tr>
<td>Thailand</td>
<td>Thailand Representative Office</td>
<td>67 Soi 58, RAMA 9 Rd., Suanluang, Suanluang, Bangkok 10250, Thailand TEL. +66-2-300-5132 FAX. +66-2-300-5133</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Full Life Trading Co., Ltd.</td>
<td>16F-4, No.2, Jian Ba Rd, Zhonghe District, New Taipei City Taiwan 23511 TEL. +886-2-82261860 FAX. +886-2-82261890</td>
</tr>
<tr>
<td>Philippines</td>
<td>G.E.T. Inc, Phil.</td>
<td>Victoria Wave Special Economic Zone Mt. Apo Building, Brgy. 186, North Caloocan City, Metro Manila, Philippines 1427 TEL. +63-2-310-7286 FAX. +63-2-310-7286</td>
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Sales Offices in Japan

<table>
<thead>
<tr>
<th>Region</th>
<th>Office Name</th>
<th>Address/Contact Information</th>
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</thead>
<tbody>
<tr>
<td>Head Office</td>
<td></td>
<td>TEL. 078-991-5162 FAX. 078-991-8787</td>
</tr>
<tr>
<td>Osaka Sales</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Overseas Sales</td>
<td></td>
<td>〒651-2241 兵庫県神戸市西区室谷2丁目1番5号</td>
</tr>
<tr>
<td>Tokyo Sales</td>
<td></td>
<td>TEL. 048-652-8839 FAX. 048-652-8828</td>
</tr>
<tr>
<td></td>
<td></td>
<td>〒331-0815 埼玉県さいたま市北区大成町4丁目81番地</td>
</tr>
<tr>
<td>Nagoya Sales</td>
<td></td>
<td>TEL. 0566-74-8778 FAX. 0566-74-8808</td>
</tr>
<tr>
<td></td>
<td></td>
<td>〒446-0076 愛知県安城市美園町2丁目10番地</td>
</tr>
<tr>
<td>Fukuoka Sales</td>
<td></td>
<td>TEL. 092-433-0424 FAX. 092-433-0426</td>
</tr>
<tr>
<td></td>
<td></td>
<td>〒812-0006 福岡県福岡市博多区上出平1丁目8-10-101</td>
</tr>
</tbody>
</table>
Global Network

Asia Detailed Map

For further information on unlisted specifications and sizes, please call us.

Specifications in this catalog are subject to change without notice.