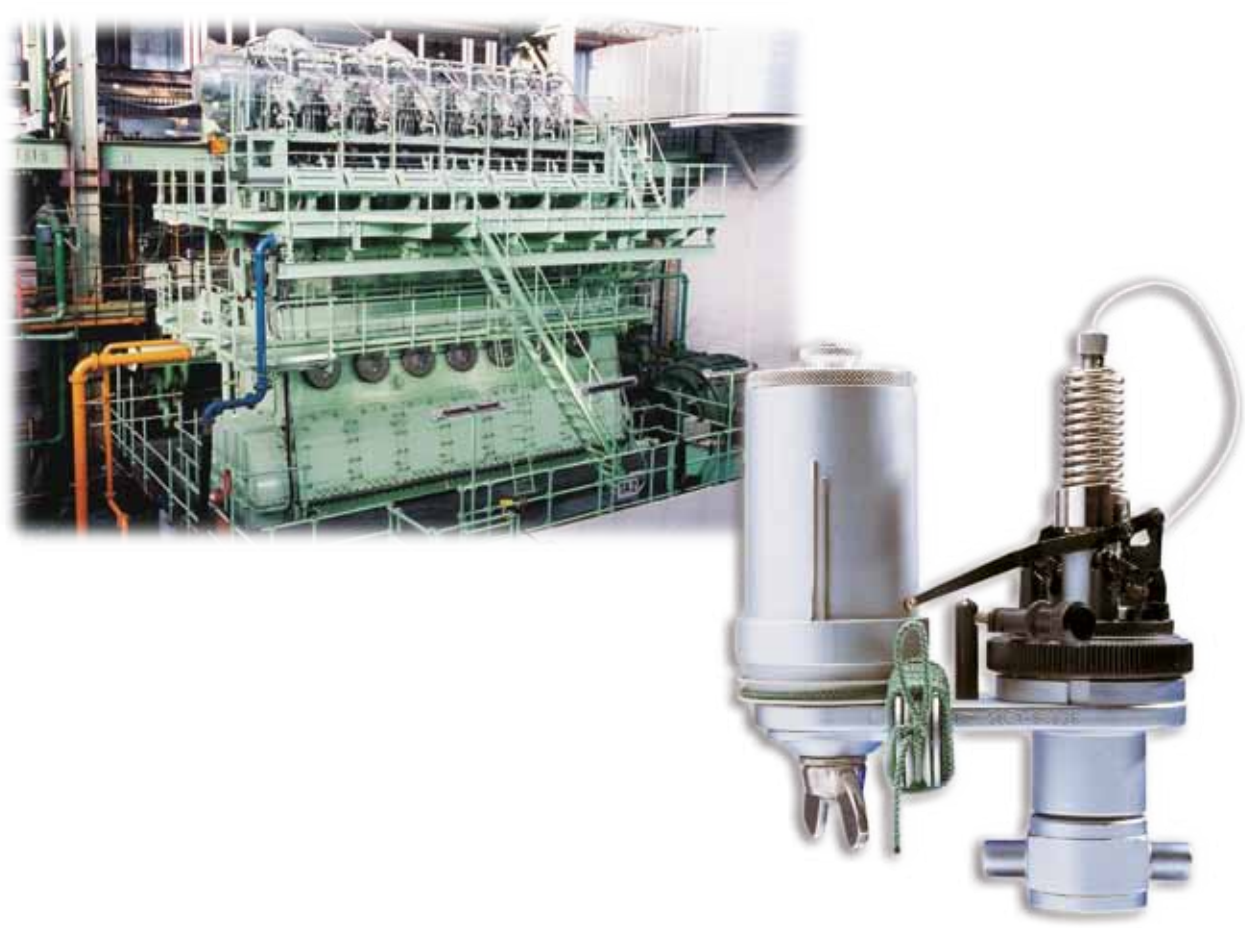
Engine Indicator Type 50

System Maihak



Engine Indicator

The mechanical pressure indicator type 50 measures dynamic pressures. It is especially designed to analyze and adjust 2 stroke large diesel engines.

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Description

Leutert Engine Indicators are used on diesel engines, steam engines, gas engines, air compressors, pumps, etc. A metal stylus draws a clear pressure-path diagram which records the pressure curve within the engine cylinders as influenced by the piston stroke. The recording drum can be moved by means of a string, which is pulled manually or by the engine. If the drum is driven by the engine, the diagram may be planimetered.

Our indicators are designed to cover various ranges of speed and rates of pressure-change: **For low pressure-change rates use type 50**. For high pressure-change rates type 30 should be used and for extra high pressure-change rates use type S1 (barspring).

It will always be advisable to operate with small diagrams as far as possible, in consideration of the oscillating masses. In doubtful cases it is suggested to forward particulars of the operating conditions, and on orders to give particulars regarding kind of engine, pressures to be measured, engine stroke and r.p.m.

The selection of the correct indicator size depends not only on the r.p.m but also on the rate of pressure rise at time unit dp/dt. If the above stated limit values are exceeded, the resulting acceleration would cause too high an indication of pressure. Size of piston and spring are selected such that the maximum natural frequency is attained. With regard to the accelerations, for best results the diagram length should be progressively reduced as the r.p.m. approaches the designed maximum of the indicator.

Type 50 complete in wooden box

Features

- Minimum reciprocating mass.
- Pressure springs are double-coiled. They operate in tension.
- Piston, cylinders and springs are detachable and interchangeable.
- Easy to handle, simple to operate.
- Rugged design

Technical specifications

Measuring range	:	see spring table below
Engine sizes	:	up to n = 300 rpm or max. dp/dt = 9 x 10^3 bar/sec
Max. diagram	:	50 mm / 80 mm (height / length)
Drum diameter	:	50 mm
Paper size	:	180 mm x 65 mm
Dimensions	:	165 mm x 130 mm x 90 mm
Weight	:	1.5 kg (without wooden box) 4.4 kg (with wooden box)
Natural frequency/sec	:	(270/$\sqrt{f}$) (f = measuring scale)
Standard connection	:	W27 x 23.75 dia 10 tpi (W1-1/16")

Standard accessories

1 wooden box, 1 spring, 1 measuring scale, 1 block indicator paper each 40 sheets, 1 cord tightening hook, 1 oil can for piston and links, 2 screw drivers, 1 flat plier, 1 cylinder spanner, 1 hollow spanner, 1 cylinder cleaner, 1 stand for instrument, 1 bundle indicator cord, 1 tube incl. 5 recording pencils, 1 vacuum washer 1 mm, 1 vacuum washer 0.5 mm, 1 instruction manual

Table of Indicator Springs Type 50

Piston	Scale	Max. Pressure	Spring-No.	Part-No.
1/10	0.60 mm/bar	80 bar	50 / 8 bar	4651.0.71.10000
1/10	0.50 mm/bar	100 bar	50 / 10 bar	4651.0.71.11000
1/10	0.40 mm/bar	120 bar	50 / 12 bar	4651.0.71.13000
1/10	0.35 mm/bar	140 bar	50 / 14 bar	4651.0.71.14000
1/10	0.30 mm/bar	160 bar	50 / 16 bar	4651.0.71.15000
1/10	0.25 mm/bar	200 bar	50 / 20 bar	4651.0.71.16000
1/10	0.20 mm/bar	250 bar	50 / 25 bar	4651.0.71.17000
1/10	0.15 mm/bar	300 bar	50 / 30 bar	4651.0.71.18000

Piston diameter 1/10 = 6.41 mm