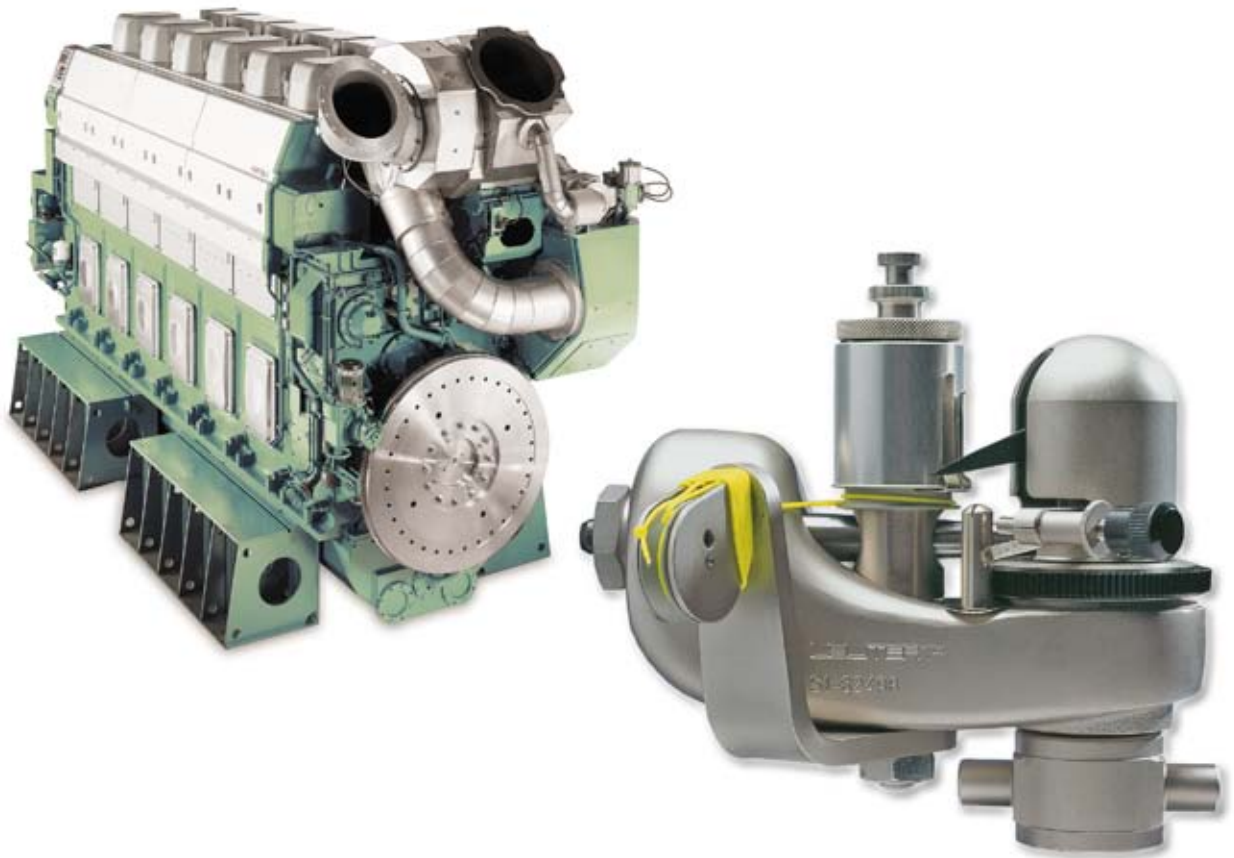


Barspring Engine Indicator Type S1

System Maihak



Engine Indicator

The mechanical pressure indicator type S1 measures dynamic pressures. It is especially designed to analyze and adjust large 4-stroke diesel engines.

Description

Leutert engine indicators are used on diesel 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 planimeted.

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

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.

Features

- Minimum reciprocating mass.
- 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 range	: up to $n = 2,000$ rpm or max. $dp/dt = 32 \times 10^3$ bar/sec
Max. diagram	: 25 mm/60 mm (height/length)
Drum diameter	: 30 mm
Paper size	: 115 mm x 35 mm
Dimensions	: 140 mm x 150 mm x 100 mm
Weight	: 2.6 kg without wooden box 6.0 kg with wooden box
Standard connection	: W27 x 1/10"

Standard accessories

1 wooden box, 1 barspring, 1 measuring scale,
1 block indicator paper each 40 sheets, 1 oil can for
piston and links, 1 screw driver, 1 cylinder spanner,
1 hollow spanner, 1 spanner SW22,
1 spanner SW 14x17, 1 cylinder cleaner
1 stand for instrument, 1 operating instructions

Table of Indicator Springs Type S1				
Piston	Scale	Max. Pressure	Spring-No.	Part-No.
1/2	0.30 mm/bar	80 bar	S / 40 bar	4631.0.71.06000
1/2	0.25 mm/bar	100 bar	S / 50 bar	4631.0.71.07000
1/2	0.20 mm/bar	120 bar	S / 60 bar	4631.0.71.08000
1/2	0.175 mm/bar	140 bar	S / 70 bar	4631.0.71.09000
1/2	0.15 mm/bar	160 bar	S / 80 bar	4631.0.71.10000
1/2	0.12 mm/bar	200 bar	S / 100 bar	4631.0.71.11000

Piston diameter 14.38 mm