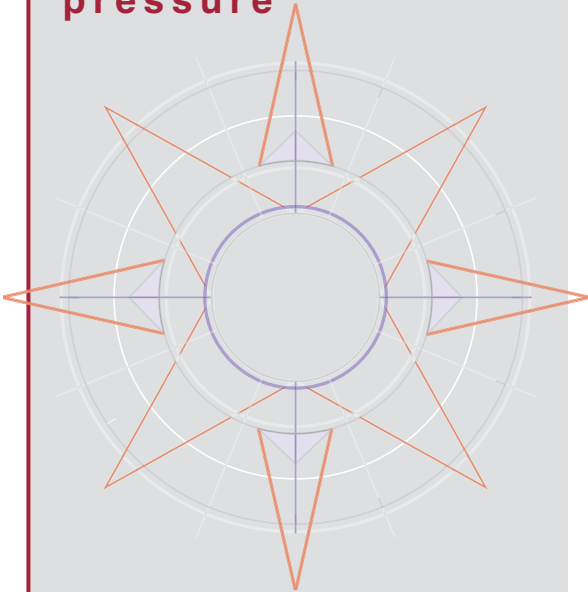


## pressure



### Pressure range

MGC-HIGH 0 to 300 bar

MGC-LOW 0 to 300 bar

### Dual-scale gauges

All gauges include bar & kg/cm<sup>2</sup>

### High accuracy

MGC-HIGH  $\pm 0.6\%$  F.S. of gauge

MGC-LOW  $\pm 1\%$  F.S. of gauge

### Fast calibration

The hydraulic pump rapidly produces the required testing pressure

### Easy to use

Easy assembly of the pressure pump and the easy-to-read gauge

### Portable

The pressure test set is delivered in a handy and durable carrying case making it easy to move about the ship

### Hydraulic pumps

Easy to operate dual step pumps

### DNV approval

All JF Instruments calibrators are marine type approved by Det Norske Veritas

### Complete marine program

Part of a complete program of marine approved temperature, pressure and signal calibrators; including temperature sensors  
See more at [www.jofra.com](http://www.jofra.com)

ISO 9001 Manufacturer

## JF Instruments MGC series Marine Gauge Calibrator

### PRODUCT DESCRIPTION

The MGC series is the flexible pressure calibration systems to optimize the performance of the vessel. The MGC series is using quality mechanical gauges as the pressure reference - just connect the reference gauge and the unit-under-test to the hydraulic pump and perform the calibration. The MGC-HIGH and MGC-LOW both goes to 300 bar. Each system contains from 2 to 4 dual-scale gauges to cover the range with the best possible accuracy.



### Maintain and calibrate monitoring devices for:

- Turbo-charger lubrication
- Lubricating oil systems
- Cylinder / piston / fuel valve cooling media
- Fuel oil inlet
- Scavenge air
- Exhaust gas
- Sea water cooling
- Thrust / shaft plane / stern tube bearings
- Crankcase protection
- Charge air
- Turbine and gear bearings
- Uptake gas
- Steam
- Feed water
- Servo oil propeller pitch
- Cooling water outlet
- Purifiers
- Refrigeration systems
- Starting air
- Gland steam
- Hydraulic systems
- Condensing system
- Oil burner
- Main steam
- Generators
- Condensers
- Safety valves

## FEATURES MGC-LOW

The MGC-LOW consists of 2 or 3 dual-scaled precision pressure gauges with  $\pm 1\%$  F.S. accuracy and a hydraulic handpump fitted with hose, valve and couplings: delivered in a handy carrying case.

The pressure gauges are all dual-scaled in bar &  $\text{kg}/\text{cm}^2$  and of a quality matching marine requirements.

The calibrator is easy to operate and the hydraulic pump very rapidly produces the required testing pressure.

The gauges provide the user with a clear indication of pressure for comparison to the system instrument. The operator can then identify the extent of any error; it is possible to compensate for or note the error and thereby only replace faulty pressure indicators.

## FUNCTIONAL SPECIFICATIONS

### Pressure specifications

MGC-LOW..... 0 to 300 bar

### Accuracy

MGC-LOW.....  $\pm 1\%$  F.S. of connected gauge

### Pressure units

MGC-LOW..... bar and  $\text{kg}/\text{cm}^2$ , dual scale

### Pressure medium

MGC-LOW..... Hydraulic oil

### Shipping (+ std. accessories + carrying case)

Weight: MGC-LOW ..... 6 kg / 13.2 lb

Size: L x W x H... 530 x 130 x 390 mm / 20.9 x 5.1 x 15.4 in



## STANDARD DELIVERY MGC-LOW

- 2-3 gauges (select system)
  - System 1: 6 and 16 bar &  $\text{kg}/\text{cm}^2$
  - System 2: 16 and 40 bar &  $\text{kg}/\text{cm}^2$
  - System 3: 40 and 100 bar &  $\text{kg}/\text{cm}^2$
  - System 4: 10, 40 and 300 bar &  $\text{kg}/\text{cm}^2$
- Carrying case, plastic
- T-620 hydraulic pump or T-620 H
- 1.64 ft (0.5 m) hose
- BSP adapters:
  - Adaptor, 1/4" BSP male x 1/4" BSP male (60R115)
  - Adaptor, 1/4" BSP female x 1/4" BSP female (60R324)
  - Adaptor, 1/4" BSP female x 3/8" BSP female (60R325)
  - Adaptor, 1/2" BSP female x 1/4" BSP female (60R326)
  - Adaptor, 1/4" BSP female x 3/4" BSP female (60R327)
- Traceable calibration certificate
- User manual

## ACCESSORIES

- 102151 Precision gauge 0 to 6 bar -  $\text{kg}/\text{cm}^2$ , class 1
- 126319 Precision gauge 0 to 10 bar -  $\text{kg}/\text{cm}^2$ , class 1
- 102158 Precision gauge 0 to 16 bar -  $\text{kg}/\text{cm}^2$ , class 1
- 102165 Precision gauge 0 to 40 bar -  $\text{kg}/\text{cm}^2$ , class 1
- 102172 Precision gauge 0 to 100 bar -  $\text{kg}/\text{cm}^2$ , class 1
- 126320 Precision gauge 0 to 300 bar -  $\text{kg}/\text{cm}^2$ , class 1
- AM-T-656 Service kit for T-620 and T-620H pumps
- 60R120 Bonded seal 1/4" BSP
- 65P175 1 meter, Pressure hose, (Max. 5.000psi / 350bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 65P180 2 meter, Pressure hose, (Max. 5.000psi / 350bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 60I156 1.5 meter, Pressure hose, (Max. 10000psi / 700bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 60I157 5 meter, Pressure hose, (Max. 10000psi / 700bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 60R155 Lloyds valve without clamp
- 60R160 Clamp for lloyds valve
  - \* Lloyds valve system part no. is 60R155 + 60R160
- 50-REP615 Quick connector set, female 1/4" BSP to 1/4" BSP

### Main deck – testing the pressure manometer at a manifold

#### Application

When the ship is unloading, a manometer is required on each loading hose to be able to read the pressure at frequent intervals. This is due to the fact that in the agreement made between the shipowner and the shipping agent it is usually required that the ship must hold 7 kg on the manifold or unload the cargo in max. 24 hours.

### Main deck – testing the pressure manometer at a manifold

#### Savings

The owner saves money because he does not need to send the manometers ashore to be calibrated. At the same time, he is more likely to be able to convince his counterpart that the pressure read-out is correct, which again will justify payment of his demurrage.

## FEATURES MGC-HIGH

The MGC-HIGH consists of 3 or 4 dual-scaled precision pressure gauges with  $\pm 0.6\%$  F.S. accuracy and a hydraulic jack pump fitted with hose, valve and couplings: delivered in a handy carrying case.

The pressure gauges are all dual-scaled in bar & kg/cm<sup>2</sup> and of a quality matching marine requirements.

The gauges are easy to read and the hydraulic pump rapidly produces the required testing pressure.

The gauges provide the user with a clear indication of pressure for comparison to the system instrument. The operator can then identify the extent of any error; it is possible to compensate for or note the error and thereby only replace faulty pressure indicators.

## FUNCTIONAL SPECIFICATIONS

### Pressure specifications

MGC-HIGH..... 0 to 300 bar

### Accuracy

MGC-HIGH.....  $\pm 0.6\%$  F.S. of connected gauge

### Pressure units

MGC-HIGH..... bar and kg/cm<sup>2</sup>, dual scale

### Pressure medium

MGC-HIGH..... Hydraulic oil

### Shipping (+ std. accessories + carrying case)

Weight: MGC-HIGH ..... 11 kg / 24.3 lb

Size: L x W x H... 640 x 420 x 200 mm / 25.2 x 16.5 x 7.9 in

## STANDARD DELIVERY MGC-HIGH

- 3-4 gauges (select system)
  - System 1: 6, 16 and 40 bar & kg/cm<sup>2</sup>
  - System 2: 10, 40, 100 and 300 bar & kg/cm<sup>2</sup>
  - System 3: 10, 40 and 100 bar & kg/cm<sup>2</sup>
  - System 4: 10, 40 and 300 bar & kg/cm<sup>2</sup>
- Carrying case, aluminium
- P-142 hydraulic pump
- 16.4 ft (5 m) hose
- BSP adapters:
  - Adaptor, 1/4" BSP male x 1/4" BSP male (60R115)
  - Adaptor, 1/4" BSP female x 1/4" BSP female (60R324)
  - Adaptor, 1/4" BSP female x 3/8" BSP female (60R325)
  - Adaptor, 1/2" BSP female x 1/4" BSP female (60R326)
  - Adaptor, 1/4" BSP female x 3/4" BSP female (60R327)
- Traceable calibration certificate
- User manual

## ACCESSORIES

- 100403 Precision gauge 0 to 6 bar - kg/cm<sup>2</sup>, class 0.6
- 100404 Precision gauge 0 to 10 bar - kg/cm<sup>2</sup>, class 0.6
- 100405 Precision gauge 0 to 16 bar - kg/cm<sup>2</sup>, class 0.6
- 100406 Precision gauge 0 to 40 bar - kg/cm<sup>2</sup>, class 0.6
- 100409 Precision gauge 0 to 100 bar - kg/cm<sup>2</sup>, class 0.6
- 100411 Precision gauge 0 to 300 bar - kg/cm<sup>2</sup>, class 0.6
- 60R120 Bonded seal 1/4" BSP
- 60I156 1.5 meter, Pressure hose, (Max. 10000psi / 700bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 60I157 5 meter, Pressure hose, (Max. 10000psi / 700bar)
  - \* 1/4" BSP female to 1/4" BSP male
- 60R155 Lloyds valve without clamp
- 60R160 Clamp for lloyds valve
  - \* Lloyds valve system is = 60R155 + 60R160
- 50-REP615 Quick connector set, female 1/4" BSP to 1/4" BSP

## Type approval certificate

The MGC-HIGH and MGC-LOW are both type approved by Det Norske Veritas.

Find the certificate at our web-page [www.jofra.com](http://www.jofra.com)

DNV Marine Approval, Certificate no.: ..... A-10549



## ORDERING INFORMATION

### Model MGC-LOW Series

Order number	Description
MGC-LOW	<b>Base model number</b> MGC-LOW gauge calibrator
	<b>System</b>
System 1	2 gauges: 6 and 16 bar/kg/cm <sup>2</sup>
System 2	2 gauges: 16 and 40 bar/kg/cm <sup>2</sup>
System 3	2 gauges: 40 and 100 bar/kg/cm <sup>2</sup>
System 4	3 gauges: 10, 40 and 300 bar/kg/cm <sup>2</sup>

**MGC-LOW System 1** **Sample order number**  
JOFRA MGC-LOW System 1 with 2 gauges: 6 and 16 bar / kg/cm<sup>2</sup> (dual-scale) and standard accessories.

## ORDERING INFORMATION

### Model MGC-HIGH Series

Order number	Description
MGC-HIGH	<b>Base model number</b> MGC-HIGH gauge calibrator
	<b>System</b>
System 1	3 gauges: 6, 16 and 40 bar/kg/cm <sup>2</sup>
System 2	4 gauges: 10, 40, 100 and 300 bar/kg/cm <sup>2</sup>
System 3	3 gauges: 10, 40 and 100 bar/kg/cm <sup>2</sup>
System 4	3 gauges: 10, 40 and 300 bar/kg/cm <sup>2</sup>

**MGC-HIGH System 1** **Sample order number**  
JOFRA MGC-HIGH System 1 with 3 gauges: 6, 16 and 40 bar / kg/cm<sup>2</sup> (dual-scale) and standard accessories.



**AMETEK**<sup>®</sup>  
CALIBRATION INSTRUMENTS



**AMETEK Calibration Instruments**  
is one of the world's leading manufacturers and developers of calibration instruments for temperature, pressure and process signals as well as for temperature sensors both from a commercial and a technological point of view.

**JOFRA Temperature Instruments**  
Portable precision thermometers. Dry-block and liquid bath calibrators: 4 series, with more than 25 models and temperature ranges from -90° to 1205°C / -130° to 2200°F. All featuring speed, portability, accuracy and advanced documenting functions with JOFRACAL calibration software.

**JOFRA Pressure Instruments**  
Convenient electronic systems ranging from -1 to 1000 bar (25 inHg to 14,500 psi) - multiple choices of pressure ranges, pumps and accuracies, fully temperature-compensated for problem-free and accurate field use.

**JOFRA Signal Instruments**  
Process signal measurement and simulation for easy control loop calibration and measurement tasks - from handheld field instruments to laboratory reference level bench top instruments.

**JOFRA / JF Marine Instruments**  
A complete range of calibration equipment for temperature, pressure and signal, approved for marine use.

**FP Temperature Sensors**  
A complete range of temperature sensors for industrial and marine use.

**M&G Pressure Testers**  
Pneumatic floating-ball or hydraulic piston dead weight testers with accuracies to 0.015% of reading.

**M&G Pumps**  
Pressure generators from small pneumatic "bicycle" style pumps to hydraulic pumps generating up to 1,000 bar (15,000 psi).

*...because calibration is  
a matter of confidence*