



## OPERATING MANUAL

### Gilson Concrete Pressure Meters HM-30 & HM-30S

#### OPERATING INSTRUCTIONS:

**NOTE:** Please refer to ASTM C231 or AASHTO T 152 for complete and detailed test protocol. These instructions are intended only as a guide for general operation of this device.



HM-30

1. Fill the base (29) with a sample of fresh concrete, placing and consolidating it in the manner prescribed in the specification. Use the metal strike-off bar (68) provided to strike off the excess so the base is level full. Carefully wipe the rim clean.
2. Clamp on cover securely and insure both petcocks (21) are open.
3. Using the syringe (69) provided, inject water through one petcock until all air is expelled through the opposite petcock. Do not tilt meter. Leave the petcocks open.
4. With built-in pump (22), pump air to the calibrated initial pressure line on the gauge (7).
5. Wait a few seconds for the gauge hand to stabilize, then pump additional air or bleed off as necessary using the air bleeder valve cap (6).
6. Close both petcocks, then press down on the needle valve lever (13) to release pressurized air into the base. Tap the gauge lightly with your finger while holding the lever down for a few seconds until the gauge hand stabilizes.
7. Read total concrete air content directly from dial gauge.
8. Carefully open petcocks to release air pressure, then remove cover. Clean and flush base, cover and petcock openings thoroughly with running water.
3. Using the syringe provided, add water to the base through the petcock with the threaded tube until all air is expelled through the opposite petcock.
4. Pump up air pressure to just beyond the predetermined initial pressure line. Wait a few seconds for the gauge hand to stabilize, then add or release air as necessary to stabilize the gauge hand at the initial pressure line.
5. Close both petcocks and immediately press the needle valve lever (13) to release air into the base. Tap the gauge lightly with your finger while holding down the lever. The gauge hand should read zero. If two or more tests show a variation greater than 0.1% from zero, follow specification protocol to reestablish initial pressure line.
6. Screw the curved tube (65) provided into the threaded outside opening of the petcock. By pressing on the needle valve lever and controlling the flow with the petcock lever, carefully fill the included calibration vessel (64) exactly full of water.
7. Release air pressure by opening the free petcock. Open the other petcock and allow water from the tube to run back into the base. There is now 5% air in the base.
8. With both petcocks open, follow the procedure in step four to pressurize the meter to the initial pressure line. Close the petcocks and immediately press the needle valve lever. Stabilize the gauge hand as before. The gauge should read 5.0%.
9. If two or more tests indicate a variation of more than 0.1%, reset the gauge pointer. Remove the bezel ring, gauge lens and gasket and set aside.

#### CALIBRATION INSTRUCTIONS:

**NOTE:** These instructions are intended to supplement specified procedures detailed in ASTM C231 or AASHTO T 152.

1. Fill the base completely with room temperature water.
2. Thread the short piece of straight tubing (66) provided into the threaded petcock opening on the underside of the cover. Clamp the cover on the base with the tube extending down into the water.

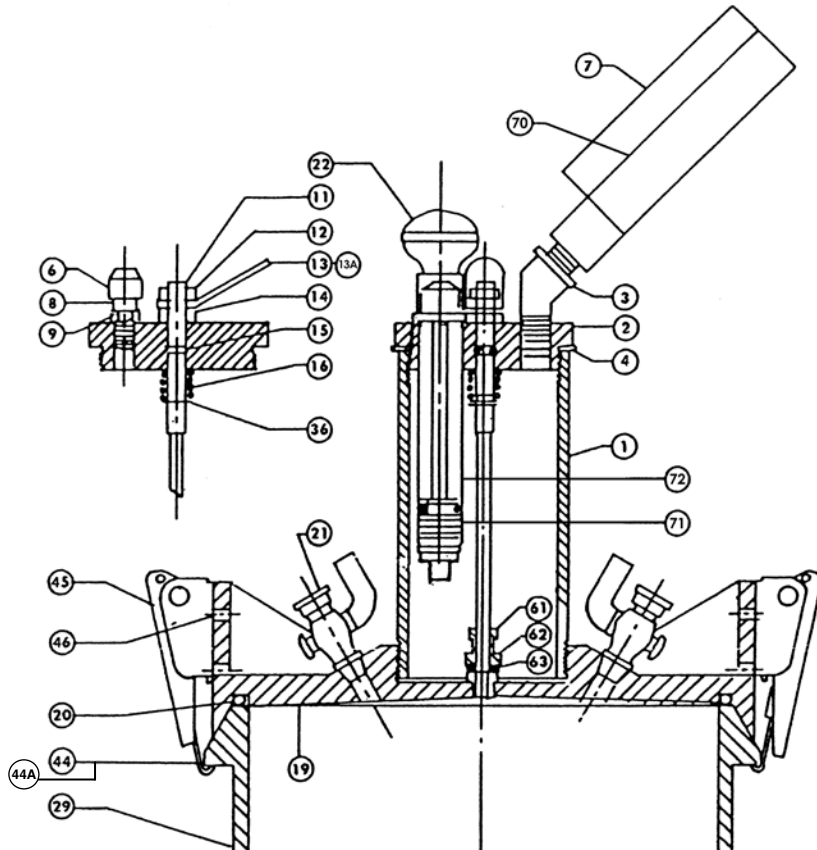
Rev: 01/19/2018

- For HM-30 models using the Gilson Gorilla Gauge with micro-adjustable pointer, gently hold the wider end of the pointer. Using a small flathead screwdriver, turn the micro-adjusting screw on the wide end of the pointer until it indicates 5.0% (see diagram).
- For HM-30S models using the gauge with stainless steel housing, use a small flathead screwdriver to loosen the pointer screw. Gently adjust the pointer to indicate 5.0% and retighten the screw.

Reinstall the bezel ring, gauge lens and gasket. Retest to insure settings are correct.

10. When gauge hand reads correctly at 5.0%, additional tests may be run in increments of 5% by withdrawing additional water with the calibration vessel.

## PARTS DIAGRAM:



Item No.	Part No.	Description	Qty.	Item No.	Part No.	Description	Qty.
1	RPHM-30KEY1R	Pressure Chamber	1	29	RPHM-30KEY29R	Base Only	1
2	RPHM-30KEY2R	Pressure Chamber Cap	1	36	RPHM-30KEY18BR	Needle Valve Snap Ring	1
3	RPHM-30KEY3R	Pressure Chamber Elbow	1	44	RPHM-30KEY23R	Clamp Tab	4
4	RPHM-30KEY4R	Pressure Chamber Gasket	2	44A	RPHM-30KEY24R	Clamp Tab Adjusting Red	4
6	RPHM-30KEY6R	Air Bleeder Valve Cap	1	45	RPHM-30KEY22R	Latch Assembly	4
7	HMA-108	Gorilla Gauge	1	46	RPHM-30KEY25R	Pan Head Screws	12
7S	HMA-108S	Gauge, Stainless Steel	1	61	RPHM-30KEY17R	5/16in Nut	1
8	RPHM-30KEY5R	Air Bleeder Valve Stem	1	62	RPHM-30KEY18R	Male Connector 5/16in x 1/8in	1
9	RPHM-30KEY6AR	Air Bleeder Valve Gasket	1	63	RPHM-30KEY18AR	O-Ring # 2-201	1
11	RPHM-30KEY11R	Needle Valve Stem	1	64	RPHM-30KEY31R	Calibration Vessel	1
12	RPHM-30KEY12R	Needle Valve Nut	1	65	RPHM-30KEY32R	Calibration Tube Bent	1
13	RPHM-30KEY13R	Needle Valve Lever	1	66	RPHM-30KEY33R	Calibration Tube Inside	1
13A	RPHM-30KEY13AR	Cover Needle Valve Lever	1	67	HM-48	Tamping Rod	1
14	RPHM-30KEY14R	Needle Valve Spacer	1	68	RPHM-30KEY34R	Strike-Off Bar	1
15	RPHM-30KEY15R	Needle Valve O-Ring	1	69	RPHM-30KEY36R	Syringe	1
16	RPHM-30KEY16R	Needle Valve Spring	1	70	RPHM-30KEY37R-1	Replacement Glass for HMA-108 Gauge	1
19	RPHM-30KEY19R	Lid Only	1	70S	RPHM-30KEY37R-2	Replacement Glass for HMA-108S Gauge	1
20	RPHM-30KEY20R	Lid Seal	1		RPHM-30KEY8R	Gauge Glass Gasket	1
21	RPHM-30KEY21R	Lid Petcock	2		RPHM-30KEY57R	Gasket Repair Kit	1
22	HMA-107R	Pump Assembly	1		RPHM-30KEY38R	Plastic Carrying Case	1
	RPHM-30KEY63R	Pump Housing O-Ring	1	71	RPHM-30KEY66R	Pump Check Valve	1
	RPHM-30KEY61R	Pump Plunger O-Ring	1	72	RPHM-30KEY66RP	Pump Plastic Check Valve	1

## ACCESSORIES SHOWN WITH CARRYING CASE:



## MICRO-ADJUSTABLE GILSON GORILLA GAUGE FOR HM-30:

