

DYNALOGIC

**HYDRAULIC
DYNAMOMETERS** **KAHN**
KAHN INDUSTRIES INC.

KAHN FLANGE MOUNTED DYNAMOMETERS

SERIES 100

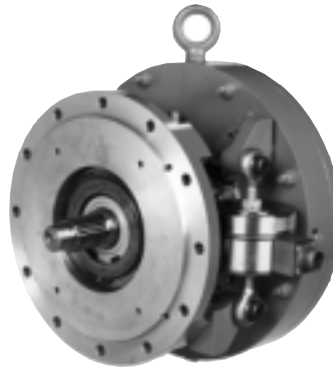
Compact, portable, flange-mounted hydraulic dynamometers designed for load testing of turboshaft engines (250C/T63, AGT1500, Arriel, Arrius, Artouste, Astazou, Gem, Isotov, LTS101, MTR 390, PT6B, PT6T/T400, PW200, T53, T55, T64, TF40, TF50) and light turboprop engines (250-B, LTP101, PT6A, TPE331/T76). The Series 100 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
102-100	1,100	11,000	285
102-130	1,800	9,000	285
102-160	2,400	7,200	375
106-060	2,600	24,000	285
102-200	3,000	6,000	750
102-240	3,000	4,500	880
106-070	3,000	20,000	330
106-080	4,800	18,000	470
108-080	6,500	18,000	600

SERIES 101

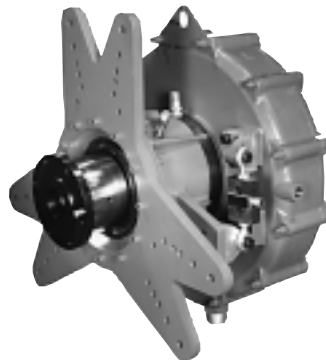
Compact, portable, flange trunnion-mounted hydraulic dynamometers designed for load testing of small gas turbines, auxiliary power units, accessory gearboxes, gasoline engines, electric motors, hydraulic motors, belt and chain drives. The Series 101 absorb full power in both directions of rotation and are also available in double-ended shaft configurations.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
101-030	70	35,000	23
101-040	110	30,000	23
101-050	180	25,000	23
101-060	250	20,000	23
101-080	450	14,000	60
101-100	700	11,500	70
101-130	1,000	9,000	95

SERIES 301

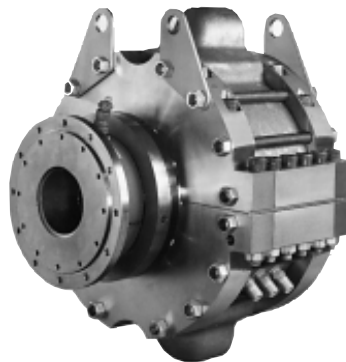
Compact, portable, flange trunnion-mounted hydraulic dynamometers designed for load testing of automotive diesel and gasoline engines. X-shaped adapters and high-torque gear couplings permit alignment-free installation directly to the engine flywheel housing. The Series 301 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
301-130	450	7,500	112
301-160	700	5,000	222
301-190	1,000	4,000	280
301-220	1,350	3,600	500

SERIES 400

Cavitation-free, flanged-mounted hydraulic dynamometers designed for load testing of high-speed turboshaft engines (Gnome, Makila, PT6C, RTM322, T58, T700, T800, Turmo) and experimental gas turbines. Each dynamometer carries a special 5000 hour/5 year warranty against cavitation damage of the power elements. The Series 400 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
401-013	200	50,000	150
401-016	300	42,000	175
401-020	500	35,000	200
404-012	700	60,000	275
404-016	1,000	40,000	320
404-020	1,600	35,000	510
404-025	2,500	30,000	820
405-025	3,000	30,000	920
404-032	3,800	24,000	1,350
406-032	5,500	24,000	1,750

BASE MOUNTED DYNAMOMETERS **KAHN**

SERIES 100

Lightweight, base-mounted, high-speed hydraulic dynamometers designed for direct-drive load testing of heavy turboshaft engines, gas turbines and steam turbines (501-K, 601-K, Avon, FT8, LM500, LM1600, LM2500, LM5000, LM6000, RB211, T64, T406, Trent). The Series 100 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
108-080	6,400	15,000	2,000
105-130	10,000	10,000	3,100
108-100	10,000	12,500	2,800
108-130	16,000	10,000	4,000
105-200	22,500	6,500	6,200
108-160	24,000	8,500	5,500
105-250	35,000	5,500	9,400
108-200	36,000	6,500	10,000
109-200	40,000	6,500	12,000
108-250	56,000	5,500	14,000
108-300	80,000	4,500	23,000

SERIES 300

Base-mounted, low-speed hydraulic dynamometers designed for load testing of industrial, marine and locomotive diesel engines, electric motors and heavy turboprop engines (AE2100, CT7, CTP800, Dart, PT6A, PW100, T56, T64, TPE331/T76, Tyne). The Series 300 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
302-220	2,700	4,000	1,950
302-280	4,400	3,300	2,900
302-350	6,600	2,600	4,500
303-350	10,000	2,600	6,600
305-410	20,000	2,000	14,500
305-440	27,000	1,600	17,000

SERIES 400

Cavitation-free, high-speed hydraulic dynamometers designed for direct-drive load testing of heavy turboshaft engines, gas turbines and steam turbines (501-K, 601-K, Avon, FT8, LM500, LM1600, LM2500, LM5000, LM6000, RB211, T64, T406, Trent). Each dynamometer carries a special 5000 hour/5 year warranty against cavitation damage of the power elements. The Series 400 absorb full power in both directions of rotation.



Model	Max. Power hp	Max. Speed rpm	Dry Weight lbs
406-040	7,000	16,000	6,000
406-050	10,000	14,000	7,500
406-065	16,000	11,000	12,000
406-080	24,000	9,000	18,000
406-100	35,000	7,500	32,000
406-130	55,000	5,500	50,000
406-160	80,000	4,500	80,000

Kahn Industries operates as part of The Kahn Companies group, a family-owned multi-million dollar manufacturer of test equipment, air and gas purification systems and electronic instruments. Founded in 1945, the company is a world leader in dynamometer technology and is the only American manufacturer of a complete line of hydraulic engine dynamometers.

Specializing exclusively in hydraulic dynamometers and associated equipment, Kahn Industries pioneered the design concept of the portable, flange trunnion-mounted hydraulic dynamometer over forty years ago. Since then, significant advances have been continuously incorporated, particularly in the areas of higher operating speeds and increasingly sophisticated computer-interfaced, closed-loop controls. The result has been a widely acknowledged leadership in product performance and reliability. With designs capable of absorbing up to 100,000 hp (75,000 kW) and operating at speeds up to 100,000 rpm, Kahn Industries dynamometers are now at work in engine test facilities around the world. Visit us at www.kahn.com.

CONTROLS

DYNAMOMETER CONTROLS

Depending on individual test requirements, Kahn Industries offers a number of different control systems, ranging from simple manual controls to the most sophisticated, computer compatible, fast response, closed-loop control systems, as well as computerized data acquisition systems.

MANUAL CONTROL SERIES 516

- Electric (110V or 220V) inlet valve for the lowest cost and elimination of compressed air requirement.
- Testing applications include diesel or gasoline engines, electric motors, and other relatively high inertia drives where fast dynamometer control is not required.

MANUAL CONTROL SERIES 514

- Two fast-acting electro-pneumatic valves for faster dynamometer control with the ability to conduct transient testing.
- Testing applications include speed governed engines and gas turbines.

AUTOMATIC CONTROL SERIES 545

- Latest generation design with adaptive control.
- Very fast control capability to meet the most demanding steady-state and transient test requirements for dynamometer control when testing aircraft engines and experimental gas turbines.
- Electro-hydraulic valves for fastest control, with full stroke in less than 100 milliseconds, allows the dynamometer control system to be faster than most engine control systems.
- Manual mode and three closed loop automatic modes for flexible control of all engine types:
 - Automatic speed control
 - Automatic torque control
 - Automatic power law relationship between speed and torque.
- Numerous features to suit the application and user:
 - Bumpless transfer
 - Storage/retrieval of multiple PID settings
 - Built-in speed calibration
 - Pushbutton selectable English and metric units
 - Demand signal display

ACCESSORIES

DATA ACQUISITION SYSTEM SERIES 533

Developed specifically for dynamometer test applications, this personal computer (PC) based system offers easy-to-use software which allows simple setup configuration, and calibration, and provides a wide variety of alarm, control, and display functions.

- Latest generation computer for maximum capability and best value.
- Text and graphics presentation formats for easy-to-understand presentation of data.
- Historic data presentation for comparison of current data and trend analysis.
- Alarm management for safe operation.

CALIBRATION SYSTEMS SERIES 504

Kahn offers two types of direct load calibration systems to suit every dynamometer and test setup.

- Deadweight calibration systems.
- Mechanical (jackscrew) and hydraulic calibration systems.

ENGINE TEST STANDS SERIES 505

Manufactured from rectangular structural steel, the engine test stands are designed to rigidly support both the dynamometer and the engine during the performance test. Stationary and/or mobile engine test stands are available for a wide variety of diesel, turboprop and turboshaft engines, including the latest generation of high speed gas turbine engines. Each stand is fully analyzed to ensure that it is rigid and that trouble-free operation is inherent in the design.

- Static finite element computer analysis eliminates shaft misalignment due to deflections under engine loads.
- Dynamic finite element computer analysis ensures freedom from harmful vibration, whether due to a forced vibration or a resonant vibration.

LUBRICATION SYSTEMS SERIES 506

Designed specifically for use with the Kahn Series 100 and Series 400 hydraulic dynamometers, these lubrication systems are skid mounted and self contained units and include oil pumps, oil reservoir, heat exchanger, filters, and monitoring equipment.

While this brochure shows the broad range of Kahn Industries dynamometers, we also offer additional standard models not shown here as well as derivatives of standard models tailored for particular applications. Please call on us with your specific requirements. The information included herein was correct at the time of publication and supersedes all previously published data. However, it is our policy to continually improve our products to ensure ever better performance. Consequently, current Kahn Industries products may incorporate modifications not shown or described on these pages.

No 6011. Printed in U.S.A.

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