The Advanced Dynamometer System from A&D Technology ...the leaders in powerful, innovative powertrain testing solutions.

- State-of-the-art drive technology
- Backed by powertrain experts
- Steady-state and transient testing
- Engineered specifically for powertrain testing
- Low cost
- Optional high-speed dynamometer controller

			Base Speed	Max Speed	Inertia
Model	Power (kW)	Torque (Nm)	(RPM)	(RPM)	(Kgm2)
ADT-50kW-2500-12000	50	191	2500	12000	0.1
ADT-50kW-2500-15000	50	191	2500	15000	0.1
ADT-100kW-2500-12000	100	382	2500	12000	0.25
ADT-100kW-2500-15000	100	382	2500	15000	0.25
ADT-100kW-4755-6000	100	201	4755	6000	0.3
ADT-125kW-2500-12000	125	477	2500	12000	0.27
ADT-125kW-2500-15000	125	477	2500	15000	0.27
ADT-150kW-2000-8040	150	716	2000	8040	1.1
ADT-150kW-2500-12000	150	573	2500	12000	0.32
ADT-150kW-2500-13800	150	573	2500	13800	0.32
ADT-200kW-2000-8040	200	955	2000	8040	1.6
ADT-200kW-2500-12000	200	764	2500	12000	0.44
ADT-250kW-2000-8040	250	1193	2000	8040	1.9
ADT-250kW-2500-12000	250	955	2500	12000	0.93
ADT-300kW-2000-8040	300	1432	2000	8040	2.7
ADT-300kW-2500-12000	300	1145	2500	12000	1
ADT-350kW-2000-8040	350	1670	2000	8040	4.1
ADT-400kW-1500-7500	400	2545	1500	7500	6.8
ADT-450kW-1500-6750	450	2864	1500	6750	7.4
ADT-500kW-1500-6000	500	3182	1500	6000	8.1
ADT-550kW-1500-6000	550	3500	1500	6000	13.4
ADT-600kW-1500-6000	600	3818	1500	6000	15.1

Sample list only - additional designs available upon request

Americas

A&D Technology, Inc. Ann Arbor, MI USA Ph: +1 734-973 1111 www.AandDTech.com

Europe A&D Europe, GmbH A&D Europe - UK Griesheim, Germany Abingdon, Oxon, UK PH: +49 (0)6155=605 250 PH: +44 (0)1235-550 420 www.AandDEurope.com www.AandD-eu.net

A&D Technology Trading Co. A&D Company, Ltd. Shanghai, China Tokyo, Japan PH: +86 (0)21-3393 2340 PH: +81 (0)3-5391 2753 www.AandDTech.com www.AandD.co.jp

Australia A&D Australasia Pty Ltd. Kensington, VIC, Australia PH: +61 (0)3-9372 1522 www.andaustralasia.com.au

800

1200

1000 Torque (Nm) 600 400 200 0 2000 4000 6000 0 ——Torque (Nm) ——Torque overload (Nm)



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Asia

PerformanceLine Dyno

Advanced Dynamometer Systems



AC Dynamometer packages specifically designed for the rigors of powertrain testing

ADT-200kW-2500



PerformanceLine Dynos

Advanced Dynamometer Systems

The A&D PerformanceLine Dynos provide a high-performance solution for all tasks of a modern efficient test cell, including durability, vehicle simulation, and high-dynamic transient testing, including high-speed electric motors.

The PerformanceLine Dynos are a low inertia line designed to meet the high-performance demands for modern engine and electric motor testing facilities. A&D motors are designed using liquid gap cooling to provide reduce footprints for greater power density and smaller rotors with lower inertia for given a torque capability.

Features

- Foot-mounted motors optimized for inertia, speed, torque, and size
- Liquid gap cooled
- High-fidelity for dynamic simulation and control
- Low maintenance and services costs
- Bearing lubrication system
- Integrated tri-axial vibration monitoring sensors
- Winding and bearing temperature sensors (integrated into dyno)
- Speed encoder
- Shaft hub
- Dyno signal box (with signal conditioners if purchased with iTest)
- Dyno liquid cooling system

Optional Items

- Dyno rotor lock for calibration
- Calibration arm
- Weights and hanger
- Dyno base
- HBM T40 torque flange
- Double ended
- Stall brake
- Drive shaft guard



The Drive

The dynamometer drive is an all-digital pulse-widthmodulated (PWM) inverter that provides superior control of three-phase AC motors. Its revolutionary technology and modular design make it the optimum solution where superior performance, flexibility, ease of operation are important.

The drive can be configured for either regenerative or non-regenerative solutions. For regeneration, the dynamometer drive uses a sinusoidal PWM inverter for full regeneration to the 3 phase mains. The power regenerated has a power factor of 1, due to the strict regulation of current output to the mains. Output power is compliant with IEEE 519 quality specification.

General Features

- All-digital control for zero drift and repeatable Motor operation
- 24th SSP computational power for fast, Dynamic response
- High-switching-frequency IGNITE devices for quiet Operation
- Digital current regulator for high-speed Operation and fast response
- Digital space vector control for reduced motor Noise and low current ripple
- Flux vector control for full torque from zero to Rated speed
- Servo loop operation for precise velocity, position, or torque control
- Field weakening at constant horsepower up to four times base speed

Reliable Operation

- Tolerant of AC line fluctuations
- Extensive electronic protection circuits reduce failures
- Optically isolated signals for high noise immunity
- S-curve acceleration reduces shock and extends equipment life
- Fiber-optics for noise-free serial communication
- Designed to meet or exceed accepted international standards



The drive is an all-digital pulse-width-modulated (PWM) inverter that provides superior control of three-phase AC motors.

Ease of Use

- Full keypad for easy entry of application-specific setup adjustments
- Two-line by 24-character/line descriptive, plain-English display
- Process variable display in bar graph and engineering units
- Comprehensive plain-language, self-diagnostic message display
- Real-time motion information and historical fault log
- RS-232/422/485 for communication with controllers
- Optional software for managing the drive from a personal or handheld computer

Ease of Installation, Setup, and Maintenance

- Complete, self-contained package requires few option boards
- Identical control boards across full power range reduces spare parts
- Snap-in signal connections for ease of wiring
- Automated setup feature requires no chart recorders or meters
- Software-based calibration and adjustment eliminates need for tuning components
- Software input and output scaling eliminates potentiometers
- Automated hardware configuration check