

Test Cell Integration Solutions...

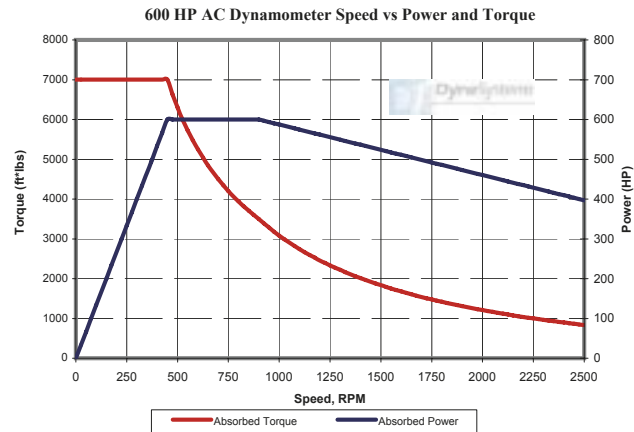
Dynamometers • Controls
Data Acquisition • Automation



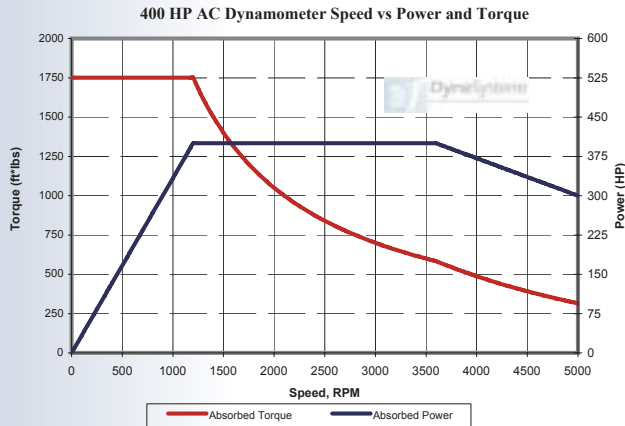
AC & DC DYNAMOMETERS

Dymond Series AC Dynamometers

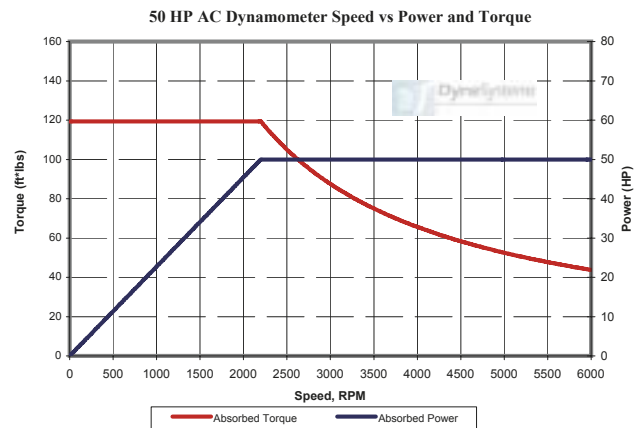
The AC Dynamometer models chart on the next page is your starting point. From the basic model you choose, DyneSystems will custom engineer your AC Dynamometer for your present and anticipated applications. A few examples:



600hp Foot-mounted liquid cooled AC Dynamometer with 0-450 RPM constant torque range, 450-900 RPM constant HP Range, and 900-2500 RPM decreasing HP range (400HP)



400hp Trunnion mounted, blower cooled AC Dynamometer with 0-1200 RPM constant torque range, 1200-3600 RPM constant HP range, and 3600-5000 RPM decreasing HP range (300HP)



50hp trunnion mounted, liquid-cooled AC Dynamometer with 0-2200 RPM constant torque range and 2200-6000 RPM constant HP range, in an adjustable-height test stand.

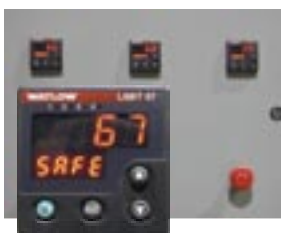
State-of-the-Art Engineering

DyneSystems Co.

High Torque AC Dynamometers

High Speed AC Dynamometers

HP	Cooling Type	Constant Torque Range	Constant HP Range	Decreasing HP Range	Max. Torque	Constant Torque Range	Constant HP Range	Decreasing HP Range	Max. Torque
15	Blower	1175	3525	5000	67.05	3450	6900	18000	22.8
15	Liquid	875	2625	4000	90.03	1750	3500	12000	45.0
20	Blower	1175	3525	5000	89.40	3450	6900	18000	30.4
20	Liquid	875	2625	4000	120.05	1750	3500	10800	60.0
25	Blower	1175	3525	5000	111.74	3450	6900	18000	38.1
25	Liquid	875	2625	4000	150.06	1750	3500	10800	75.0
30	Blower	1175	3525	5000	134.09	3450	6900	15000	45.7
30	Liquid	875	2625	4000	180.07	1750	3500	9000	90.0
40	Blower	1175	3525	5000	178.79	3450	6900	15000	60.9
40	Liquid	875	2625	4000	240.09	1750	3500	9000	120.0
50	Blower	1175	3525	5000	223.49	3450	6900	15000	76.1
50	Liquid	875	2625	4000	300.11	1750	3500	9000	150.1
75	Blower	1175	3525	5000	335.23	3450	6900	13800	114.2
75	Liquid	875	2625	4000	450.17	1750	3500	7500	225.1
100	Blower	1175	3525	5000	446.98	3450	6900	13800	152.2
100	Liquid	875	2625	4000	600.23	1750	3500	7000	300.1
125	Blower	1175	3525	5000	558.72	3450	6900	13800	190.3
125	Liquid	875	2625	4000	750.29	1750	3500	7000	375.1
150	Blower	1175	3525	5000	670.47	3450	6900	13800	228.3
150	Liquid	875	2625	4000	900.34	1750	3500	7000	450.2
200	Blower	1175	3525	5000	893.96	3450	6900	13800	304.5
200	Liquid	875	2625	4000	1200.46	1750	3500	7000	600.2
250	Blower	1175	3525	5000	1117.45	3450	6900	13800	380.6
250	Liquid	875	2625	4000	1500.57	1750	3500	7000	750.3
300	Blower	1175	3525	5000	1340.94	3450	6900	13800	456.7
300	Liquid	875	2625	4000	1800.69	1750	3500	7000	900.3
400	Blower	1175	3525	5000	1787.91	3450	6900	10800	608.9
400	Liquid	875	2625	4000	2400.91	1750	3500	7000	1200.5
550	Blower	1175	3525	5000	2458.38	3450	6900	10800	837.3
550	Liquid	875	2625	4000	3301.26	1750	3500	7000	1650.6
650	Blower	1175	3525	5000	2905.36	3450	6900	9000	989.5
650	Liquid	875	2625	4000	3901.49	1750	3500	7000	1950.7
850	Blower	1175	3525	5000	3799.32	3450	6900	9000	1294.0
850	Liquid	875	2625	4000	5101.94	1750	3500	7000	2551.0
1000	Blower	1175	3525	5000	4469.79	3450	6900	8400	1522.3
1000	Liquid	875	2625	4000	6002.29	1750	3500	6600	3001.1
1250	Blower	1175	3525	5000	5587.23	3450	6900	7600	1902.9
1250	Liquid	875	2625	4000	7502.86	1750	3500	6000	3751.4
1600	Blower	1175	3525	5000	7151.66	3450	6900	7200	2435.7
1600	Liquid	875	2625	4000	9603.66	1750	3500	6000	4801.8



AC Interface Box

The AC Interface Box was designed to monitor the condition of all elements of a DyneSystems AC Dynamometer system. For more information on this important safety feature, please visit us on the Web at www.dynesystems.com.

Notes:

Regenerative DC Systems

Safe Energy Recovery System



DyneSystems DC Motoring Dynamometer System
Shown with wall-mounted 1-100hp drive and 35, 50 and
75 hp Regenerative DC Dynamometers

- Dynamometer Soft Start and Stop, under all conditions
- Up to +/- 200% rated current limit
- Armature current slew rate of +100% to -100% in 40ms
- Individual SCR fuses for high current dynamometers
- Regenerative Braking for fault trips
- Dynamic Braking is available as an option
- Armature Over-Voltage Trip
- Armature Over-Current Trip (with 1/t protection)
- Phase Loss / Under Voltage Trip
- Phase-Insensitive Power Converter
- Wrong Direction Protection



Field control in a DC dynamometer usually receives little consideration. DyneSystems' design, however, includes a wide-band 4SCR regenerative, current source field amplifier with bidirectional forcing for fast field control when operating above dynamometer base speed. It also insures that armature voltage will be limited to the dyno-rated value.

System ratings from 1hp to 1,200hp are available in standardized designs including isolation transformer ratings. The control design allows for extensive customization. Armature chokes mounted in a separate enclosure are available if desired.

Single door, floor-mounted regenerative DC drives
Shown with optional DC contactor. Rated up to 850 Amps,
and maximum 300HP at 250 VDC Armature voltage or
600HP at 500 VDC Armature voltage

DyneSystems Static DC 4-Quadrant Dynamometer Controls utilize either the Inter-Loc V or the Dyn-Loc IV digital dynamometer controllers to control RPM (speed) and torque. Using the same control for DC, AC, Eddy-Current and Water Brake dynamometers allows more flexibility within a test cell's equipment design, reduces space requirements and simplifies automation. DC systems also provide for easy integration of DyneSystems Throttle Controllers.

DyneSystems provides schematic and connection/conduit drawings customized to your specific application. In addition to protection features built into DyneSystems digital controllers, our DC Four-Quadrant dynamometer systems also offer the following:



Double door, floor-mounted regenerative DC drives
Shown with optional DC contactor. Rated from 1300 to
2000 Amps, and maximum 600HP at 250 VDC Armature
voltage or 1300HP at 500 VDC Armature voltage

The system that pays for itself



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