

**Lanmec**<sup>®</sup>  
兰菱科技 Test

水力测功机  
Hydraulic Dynamometer



江苏兰菱科技股份有限公司  
Jiangsu Lanmec Technology Co., Ltd.

# 关于兰菱

About Lanmec

公司创建于2002年，公司职工近200人，研发人员50多名。占地30多亩，厂房30000平方米，研发大楼1栋。

公司是国家高新技术企业，国家专精特新小巨人企业，酒泉卫星发射中心关键设备供应商，江苏省研究生工作站。公司通过ISO9001、ISO14001、ISO45001体系认证,欧盟CE。

公司拥有江苏省扭矩测控技术研发中心、扭矩传感器事业部、测功设备事业部、张力事业部，从研发到铸造、精密加工、精密组装、仪表软件开发、设备调试服务形成全闭环，质量、交期、技术保障均得到最大保证。

强大的研发能力、大规模全产业链的制造能力、无忧及时的售后服务，均为公司赢得了大量的客户，遍及中国、美国、德国、意大利、日本、印度、泰国、马来西亚等国家，产品在世界知名大专院校、研究所、军工企业、工业企业中大量使用，享有较高的声誉。

公司总部位于中国江苏省海安市，高铁直达上海只需1.5小时，北京4小时。在深圳、上海、北京设有分公司，极大地方便了客户进行当面技术沟通和售后服务，热烈欢迎各位新老客户莅临指导，为兰菱科技实现更大、更远目标建言献策！

Lanmec Technology was founded in 2002 and has nearly 200 employees and more than 50 R&D personnel. It covers an area of over 30 acres, with a workshop of 30000 square meters and a research and development building.

Lanmec Technology is a national high-tech enterprise, national specialized and innovative small giant enterprise, a key equipment supplier for the Jiuquan Satellite Launch Center, and a postgraduate workstation in Jiangsu Province. Lanmec Technology has passed ISO9001, ISO14001, ISO45001 system certification, EU CE.

Lanmec Technology has Jiangsu Province Torque Measurement and Control Technology R&D Center, Torque Sensor Division, Dynamometer Division, and Tension Division. From R&D to casting, precision machining, precision assembly, instrument software development, and equipment debugging services, it forms a fully closed loop with quality and delivery services. Both the period and the technical guarantee are guaranteed.

Strong research and development capabilities, large-scale manufacturing capabilities across the entire industry chain, and worry-free and timely after-sales service have won a large number of customers, covering China, United States, Germany, Italy, Japan, India, Thailand, Malaysia and other countries. It is widely used in world-renowned universities, colleges, research institutes, military enterprises and industrial enterprises, and enjoys a high reputation.

Lanmec Technology headquartered is in Hai'an City, Jiangsu Province, China. It only takes 1.5 hours to reach Shanghai by high-speed train and 4 hours to Beijing. There are branches in Shenzhen, Shanghai, and Beijing, which greatly facilitates customer's face-to-face technical communication and after-sales service. Warmly welcome all new and old customers to visit and guide, and provide advice and suggestions for Lanmec Technology to achieve greater and farther goals!



公司俯瞰  
Company overlook



水力测功机展示  
Hydraulic dynamometer display

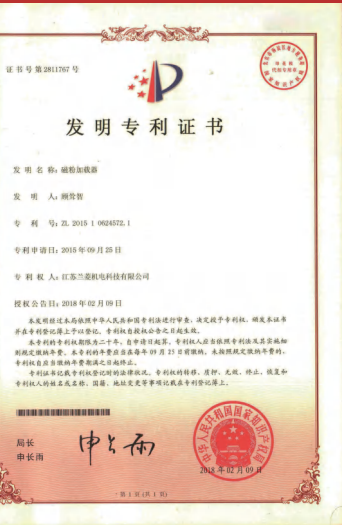
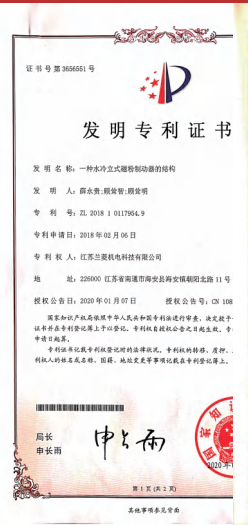
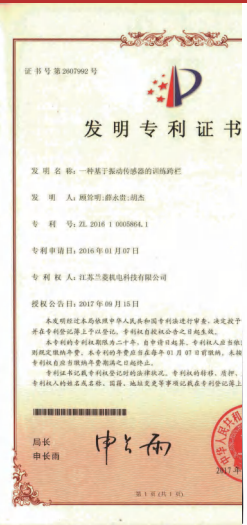
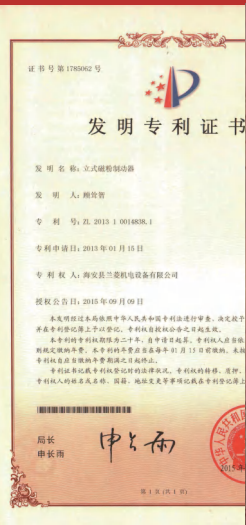
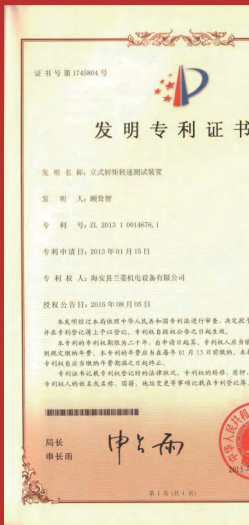
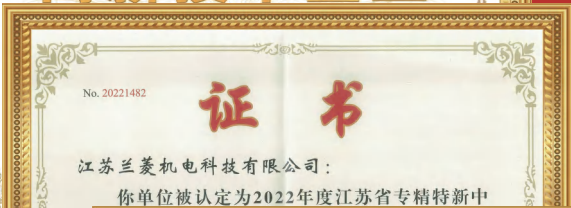


生产现场一角  
A corner of the production site



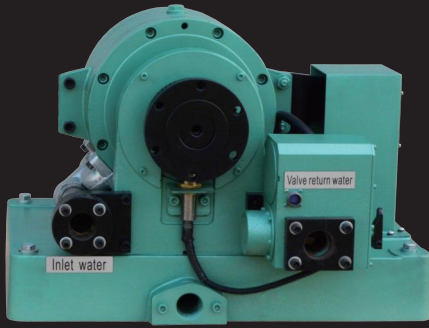
公司文化  
Company Culture



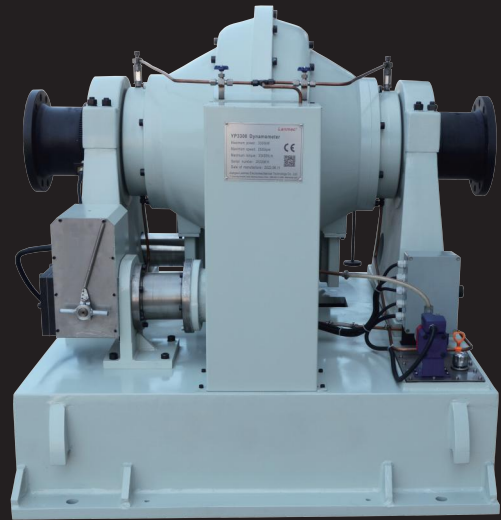


**知名客户** 测功机行业领导者，全球客户超10,000家  
Leader in dynamometer, over 10,000 clients worldwide

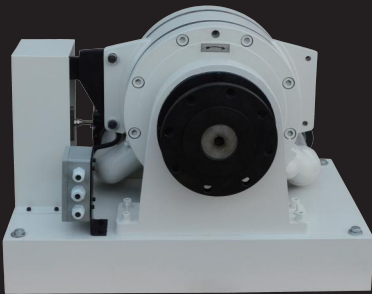




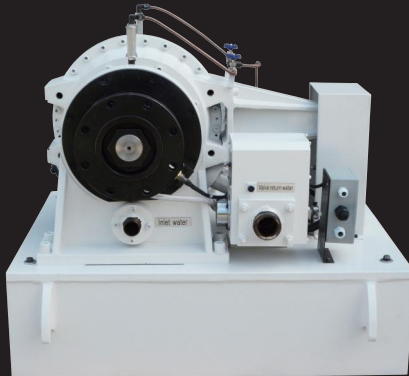
YP380水力测功机  
YP380 hydraulic dynamometer



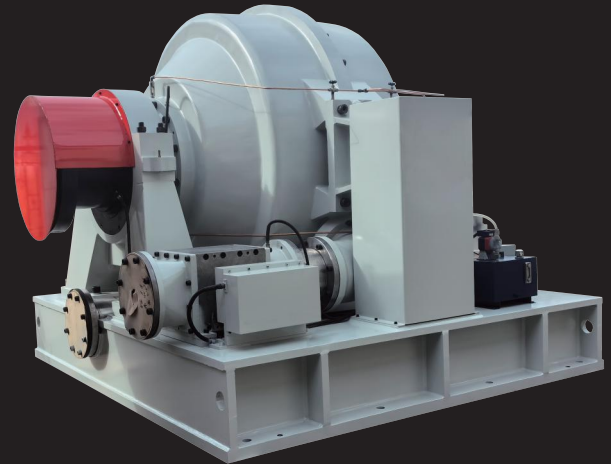
YP3300kW水力测功机  
YP3300kW hydraulic dynamometer



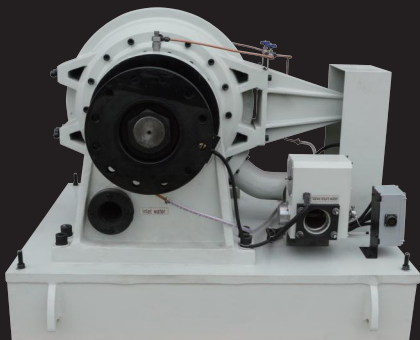
YP520水力测功机  
YP520 hydraulic dynamometer



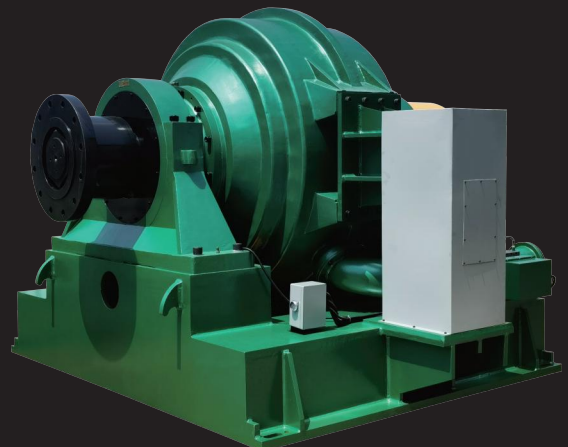
YP880水力测功机  
YP880 hydraulic dynamometer



YP16000kW水力测功机  
YP16000kW hydraulic dynamometer

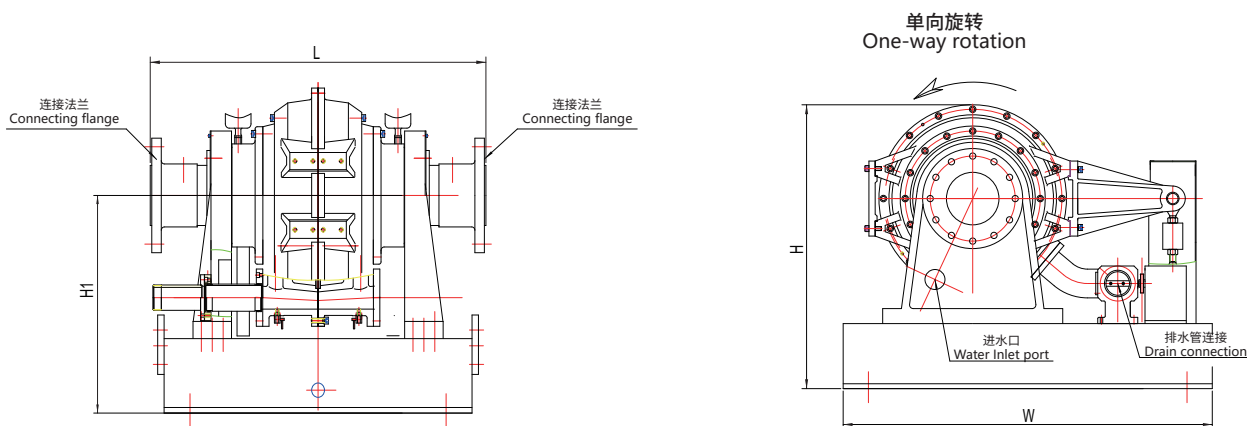


YP1900水力测功机  
YP1900 hydraulic dynamometer

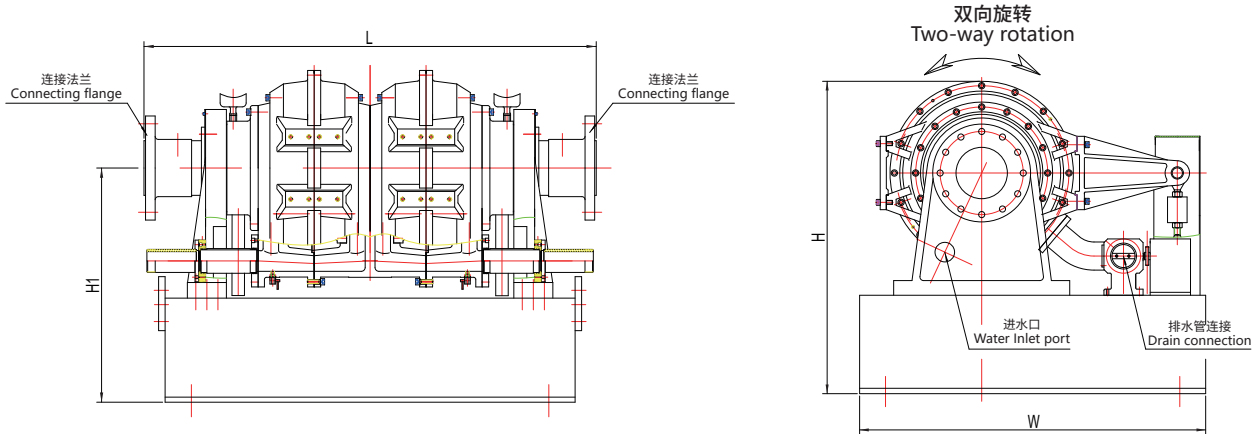


YP16000kW水力测功机  
YP16000kW hydraulic dynamometer



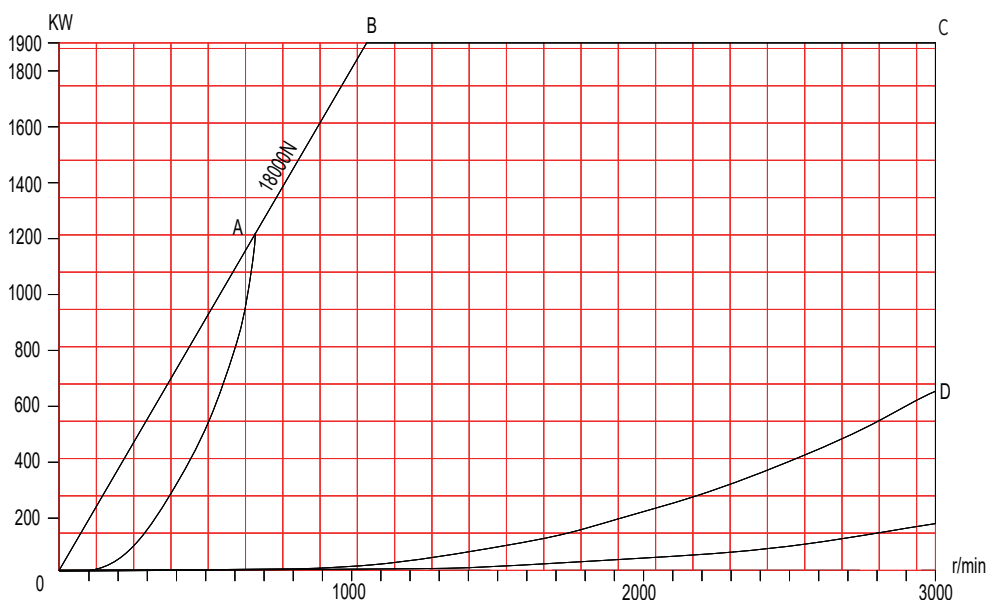


测功器 型号 Model	最大吸收功率 Max absorbed power (kW)	最高转速 Max speed (r/min)	最大扭矩 Max torque (N.m)	最大制动力 Max braking force (N)	循环水量 Circulating water volume (m <sup>3</sup> /h)	主轴中心高 Spindle center height (mm)	外形尺寸(长×宽×高) External dimensions (L × W × H) (mm)	净重 (kg)
YPS60	60	9000	172	180	1.2	255	450×400×370	180
YPS120	120	7500	525	550	2.4	300	635×510×430	200
YPS250	250	7500	945	1000	5	300	640×520×450	210
YPS380	380	7500	1241	1300	8	300	640×520×450	220
YPS520	520	5000	2350	2500	11	350	760×620×545	400
YPS560	560	5000	2578	2700	12.3	350	760×620×545	415
YPS660	660	5000	3151	3300	13.9	350	760×620×545	435
YPS750	750	3500	3770	3950	16.5	650	1078×845×905	850
YPS880	880	3500	5730	6000	18.5	650	1078×845×905	950
YPS1200	1200	3000	11760	12000	24	760	1296×1310×1135	2700
YPS1900	1900	3000	17190	18000	36.3	760	1296×1310×1135	2800
YPS2500	2500	2500	26460	27000	52	900	1598×1560×1310	3400
YPS3300	3300	2500	33400	35000	66	900	1598×1560×1310	3500
YPS4800	4800	1500	91673	96000	96	1020	2564×3208×1804	9500
YPS5900	5900	1500	105000	110000	120	1020	2564×3208×1804	10000
YPS6300	6300	2200	105000	110000	120	1020	2500×3108×1800	10000
YPS7500	7500	1000	210080	220000	150	1130	3255×3850×1905	12000
YPS10000	10000	1000	230000	240000	215	1100	2354×2920×1975	13000
YPS12500	12500	1500	315000	320000	220	1400	2550×3000×2305	18000
YPS16000	16000	1000	420000	440000	400	1300	2942×3310×2300	30000
YPS18000	18000	1000	482000	490000	450	1200	3955×3850×2200	35000



测功器 型号 Model	最大吸收功率 Max absorbed power (kW)	最高转速 Max speed (r/min)	最大扭矩 Max torque (N.m)	最大制动力 Max braking force (N)	循环水量 Circulating water volume (m <sup>3</sup> /h)	主轴中心高 Spindle center height (mm)	外形尺寸(长×宽×高) External dimensions (L × W × H) (mm)	净重 (kg)
YPT660	660	5000	3151	3300	15	350	980×620×545	650
YPT880	880	3500	5730	6000	20	650	1378×845×905	1450
YPT1900	1900	3000	1719	18000	42	760	1726×1740×1275	3400
YPT3300	3300	2500	33400	35000	78	900	2053×1586×1370	5000
YPT5900	5900	1500	105000	110000	160	1020	2620×3020×1804	12000
YPT6000	6000	3000	33400	35000	80	900	2053×1586×1370	5800
YPT7500	7500	1000	210080	220000	150	1130	3855×3850×1905	18000
YPT9000	9000	2200	66843	70000	190	1000	2726×2734×1600	12000
YPT10000	10000	1000	230000	240000	210	1130	3955×3950×1905	22000
YPT12000	12000	1800	130000	136000	240	920	2620×3020×1624	18000
YPT16000	16000	750	420000	440000	400	1300	5450×3885×2300	38000





YP1900水力测功器特性曲线  
Characteristic curve of YP1900 hydraulic dynamometer

水力测功器的应用范围,可以从它的特性曲线上看出(见上图)。特性曲线表示了测功器在不同转速下所能吸收的功率范围。

OA曲线表示测功器在一定进水压力下,随着转速的变化所能吸收的最大功率线。

AB直线为保持测功器扭矩为最大值时,随着转速的变化,测功器所能吸收的最大功率线。

AB直线(YP1900型)与BC直线为不超过测功器最大容许的排水温度时,测功器所能吸收的最大功率限制线。

CD直线为测功器最高转速限制线。

OD曲线为测功器不充水时的制动功率线(空气摩擦阻力)。

曲线图形OABCD O所包围的区域表示了该型水力测功器所能吸收的功率范围。这也是动力机性能试验时选用测功器的依据。

凡动力机的特性在曲线图形所包围的范围内,一般均能在该型水力测功器上进行特性试验。

- \* 用户在选用测功器时,必须注意动力机的测试点是否在该型测功器的特性曲线范围内,并尽量避开曲线边缘。
- \* 充水情况下最佳控制时的最小吸收功率线(蝶阀全开位置)略高于OD线,选型时应尽量不要太靠近OD线。

The application range of hydraulic dynamometer can be seen from its characteristic curve(see above). The characteristic curve represents the power range that the dynamometer can absorb at different speeds. The OA curve represents the maximum power line that the dynamometer can absorb as the speed changes under a certain inlet pressure.

The AB line represents the maximum power line that the dynamometer can absorb as the speed changes while maintaining the maximum torque of the dynamometer.

The AB straight line (YP1900 type) and BC straight line are the maximum power limit lines that the dynamometer can absorb when the maximum allowable discharge temperature of the dynamometer is not exceeded.

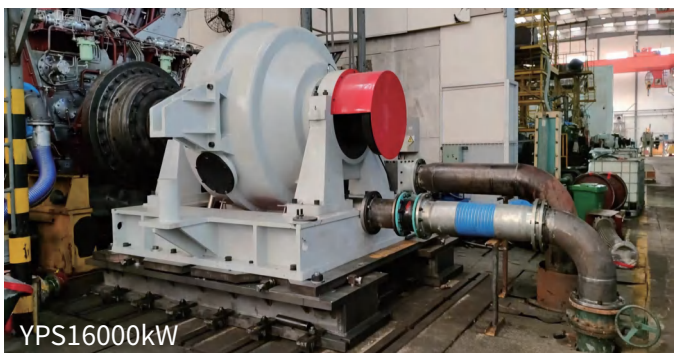
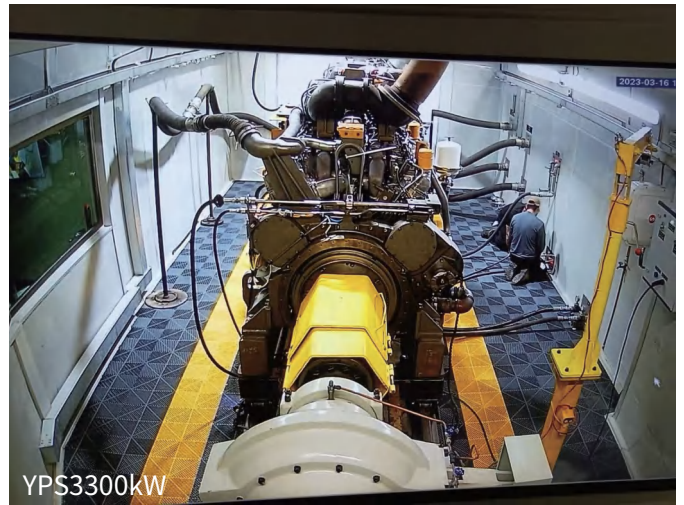
The CD line represents the maximum speed limit line of the dynamometer.

The OD curve represents the braking power line (air friction resistance) of the dynamometer when it is not filled with water.

The area enclosed by the curve graph OABCD O represents the power range that this type of hydraulic dynamometer can absorb. This is also the basis for selecting a dynamometer during power machine performance testing. The characteristics of a power machine can generally be tested on this type of hydraulic dynamometer within the range enclosed by the curve graph.

\* When selecting a dynamometer, users must pay attention to whether the testing points of the power machine are within the range of the characteristic curve of this type of dynamometer, and try to avoid the edge of the curve as much as possible.

\* The minimum absorbed power line (butterfly valve fully open position) for optimal control under water filling is slightly higher than the OD line. When selecting, it should be avoided to be too close to the OD line.







YPT880kW



YPT9000kW



YPT3300kW



YPT12000kW



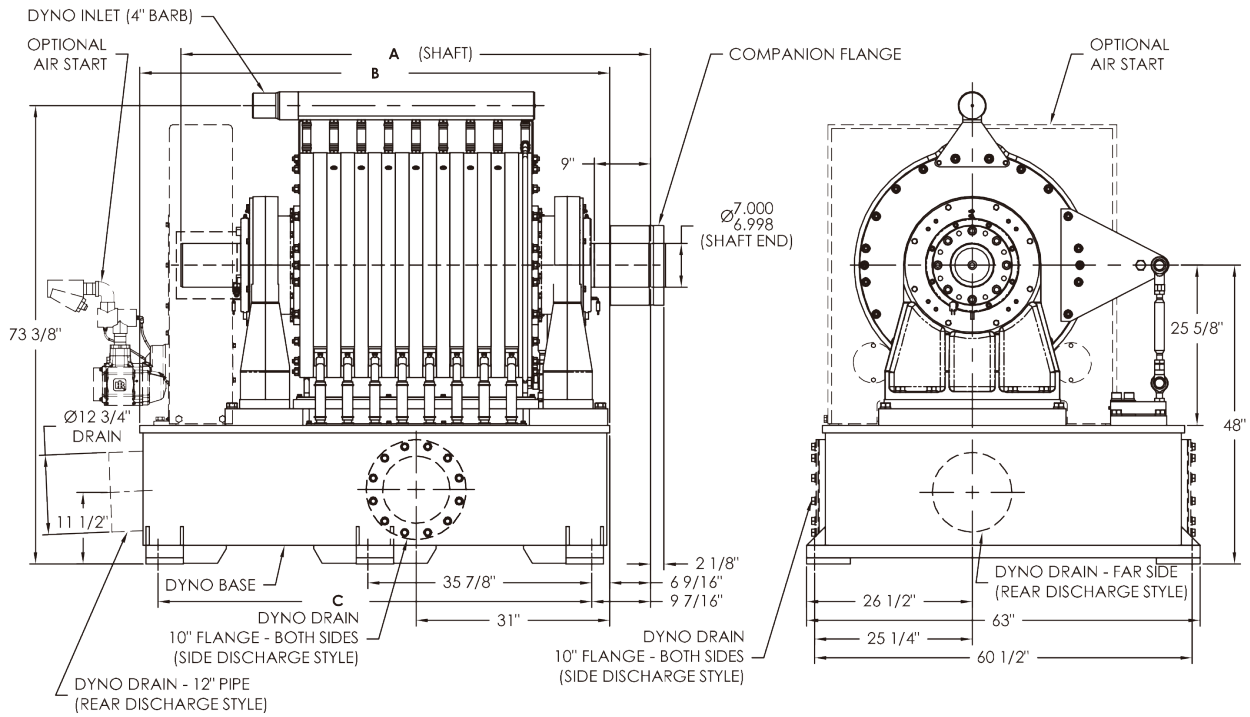
YPT3300kW



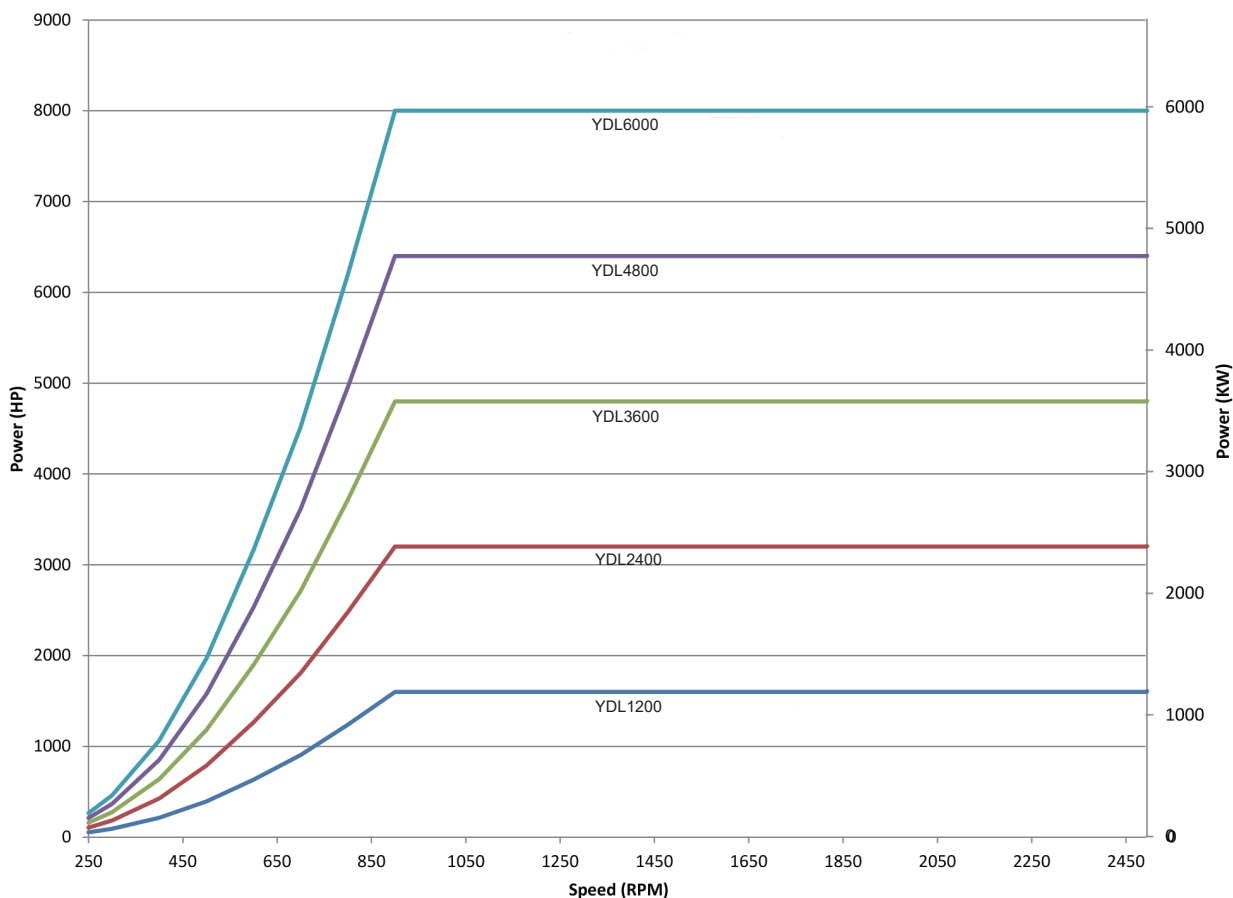
YPT16000kW





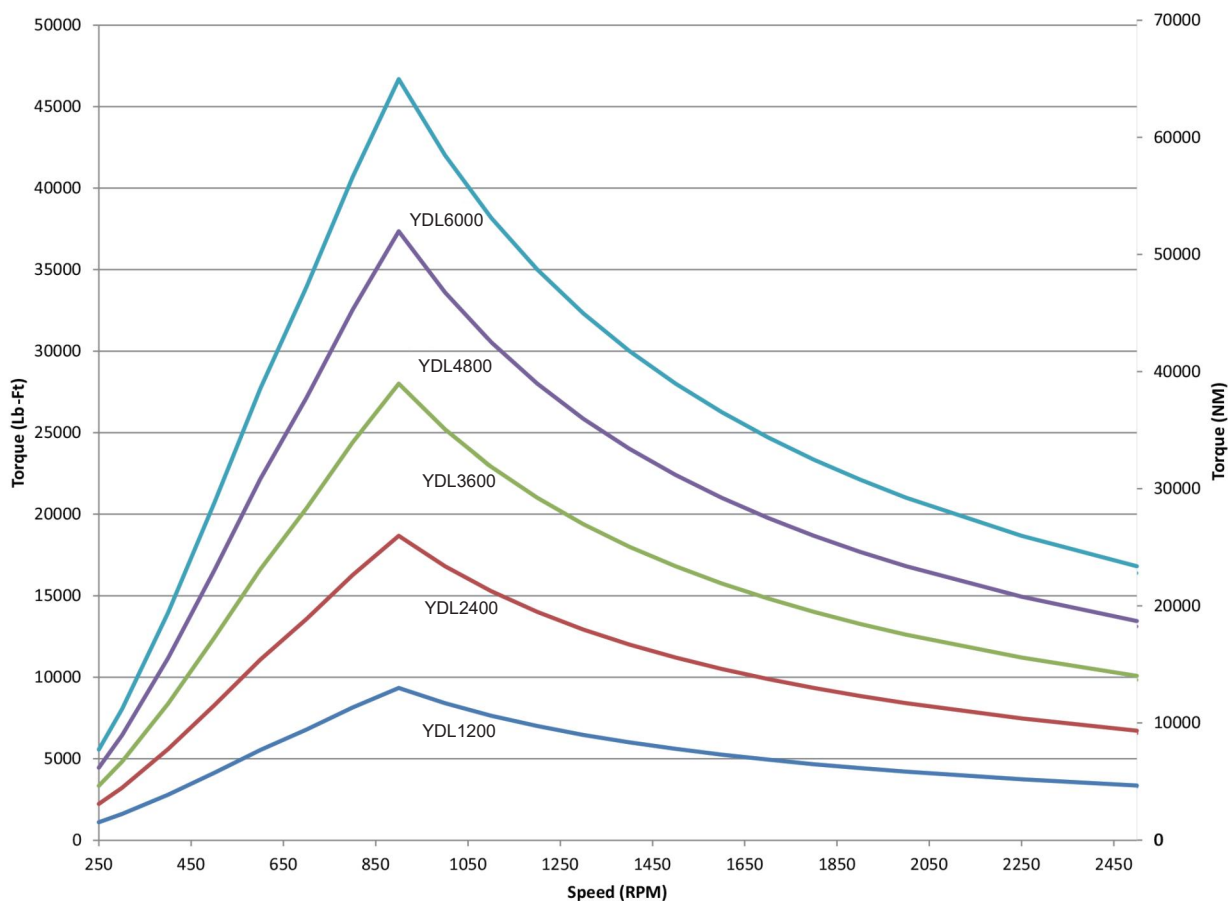


Description	Dimensions (inches)			Weight (lbs)	Inertia (lb-ft <sup>2</sup> )
	A	B	C		
YDL1200	56 1/4	49	43 1/4	8,750	411
YDL2400	62 7/8	57 3/4	52	10,500	799
YDL3600	69 1/2	66 1/2	60 3/4	12,250	1,187
YDL4800	76 1/8	75 1/4	69 1/2	14,000	1,575
YDL6000	84 3/4	84	78 1/4	15,750	1,963

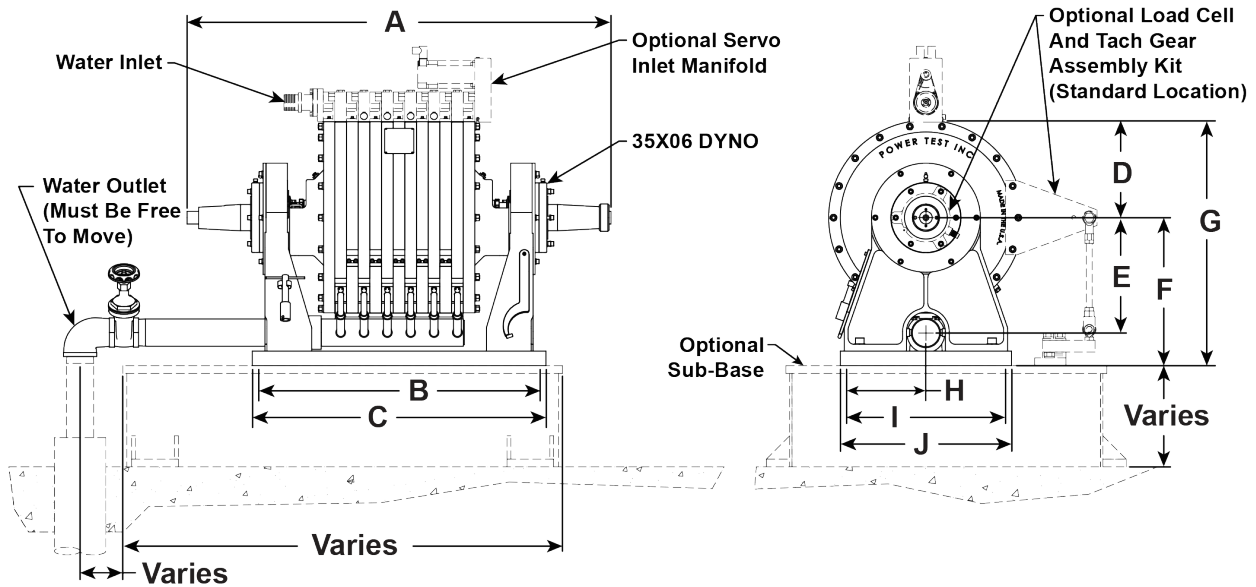


RPM	Power - HP (kW)				
	YDL1200	YDL2400	YDL3600	YDL4800	YDL6000
250	53 (40)	109 (79)	3,340 (4,531)	4,454 (6,041)	5,567 (7,551)
400	213 (159)	426 (318)	8,377 (11,362)	11,174 (15,156)	13,970 (18,949)
600	633 (472)	1,267 (945)	16,631 (22,559)	22,172 (30,074)	27,713 (37,590)
900	1,600 (1,194)	3,200 (2,387)	28,011 (37,993)	37,348 (50,658)	46,684 (63,322)
1,200	1,600 (1,194)	3,200 (2,387)	21,008 (28,495)	28,001 (37,993)	35,013 (47,492)
1,400	1,600 (1,194)	3,200 (2,387)	18,007 (24,424)	24,009 (32,566)	30,011 (40,707)
1,700	1,600 (1,194)	3,200 (2,387)	14,829 (20,114)	19,772 (26,819)	24,715 (33,524)
2,000	1,600 (1,194)	3,200 (2,387)	12,605 (17,097)	16,806 (22,796)	21,008 (28,495)
2,500	1,600 (1,194)	3,200 (2,387)	10,084 (13,678)	13,445 (18,237)	16,806 (22,796)





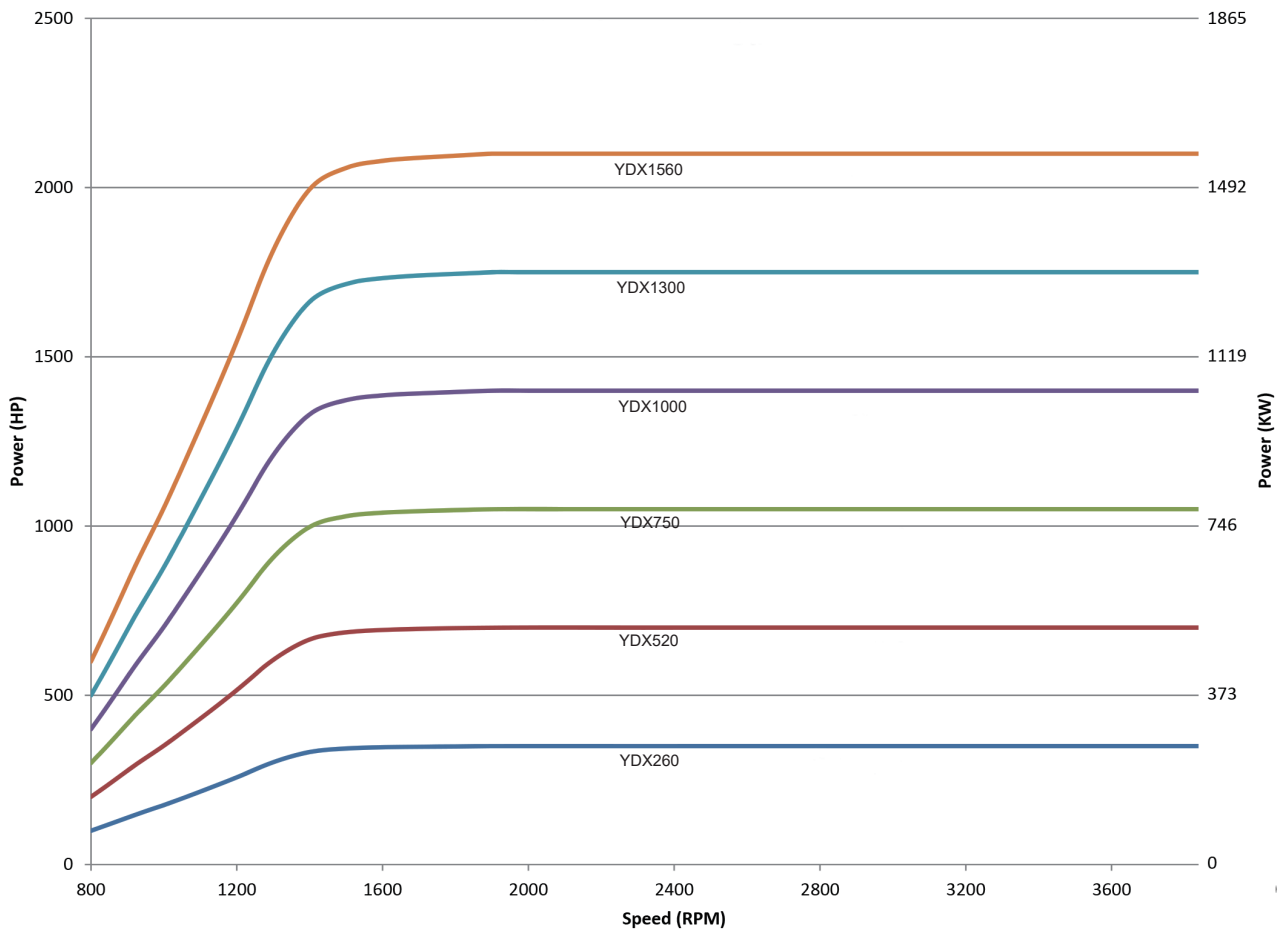
Torque - Lb-Ft (N.m)					
RPM	YDL1200	YDL2400	YDL3600	YDL4800	YDL6000
250	1,113 (1,510)	2,227 (3,020)	3,340 (4,531)	4,454 (6,041)	5,567 (7,551)
400	2,797 (3,793)	5,593 (7,587)	8,377 (11,362)	11,174 (15,156)	13,970 (18,949)
600	5,541 (7,516)	11,090 (15,043)	16,631 (22,559)	22,172 (30,074)	27,713 (37,590)
900	9,337 (12,664)	18,674 (25,329)	28,011 (37,993)	37,348 (50,658)	46,684 (63,322)
1,200	7,003 (9,498)	14,005 (18,997)	21,008 (28,495)	28,001 (37,993)	35,013 (47,492)
1,400	6,002 (8,141)	12,005 (16,283)	18,007 (24,424)	24,009 (32,566)	30,011 (40,707)
1,700	4,943 (6,705)	9,886 (13,409)	14,829 (20,114)	19,772 (26,819)	24,715 (33,524)
2,000	4,202 (5,699)	8,403 (11,398)	12,605 (17,097)	16,806 (22,796)	21,008 (28,495)
2,500	3,361 (4,559)	6,723 (9,118)	10,084 (13,678)	13,445 (18,237)	16,806 (22,796)



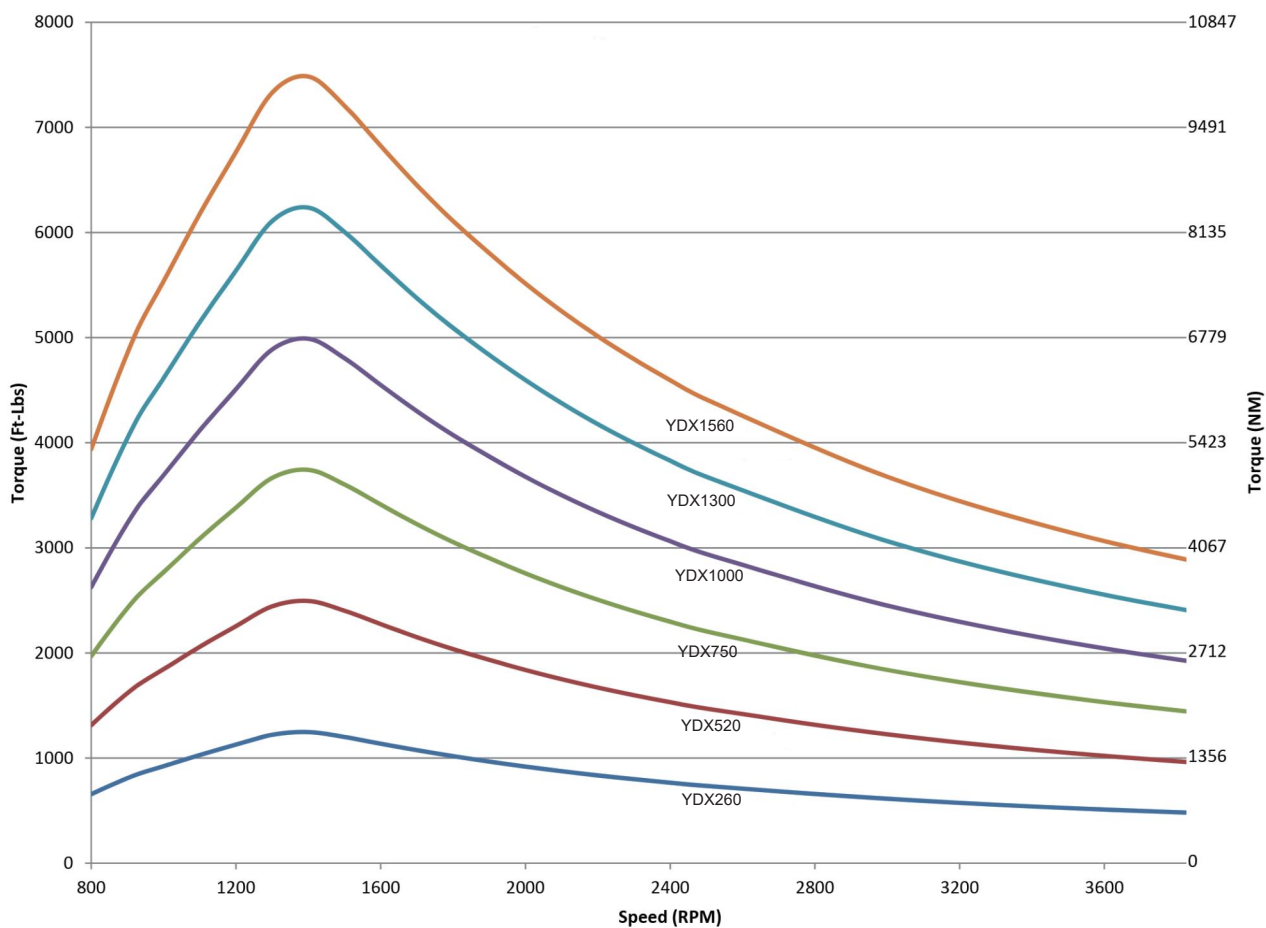
Description	Part #	Dimensions (inches)										Weight (lbs)	Inertia (lb-ft <sup>2</sup> )
		A	B	C	D	E	F	G	H	I	J		
YDX260 Water Brake	73505.01	39 1/2	21	22 3/4								1,385	33.4
YDX520 Water Brake	73505.02	42 1/2	24	25 3/4								1,655	65.8
YDX750 Water Brake	73505.03	45 1/2	27	28 3/4	12 1/2	15	19	31 1/2	10 1/8	20 1/4	22	1,929	98.1
YDX1000 Water Brake	73505.04	48 1/2	30	31 3/4								2,239	130.4
YDX1300 Water Brake	73505.05	51 1/2	33	34 3/4								2,514	126.8
YDX1560 Water Brake	73505.06	54 1/2	36	37 3/4								2,790	195

Description	Part #	Dimensions (cm)										Weight (kg)	Inertia (kg <sup>2</sup> )
		A	B	C	D	E	F	G	H	I	J		
YDX260 Water Brake	73505.01	100.3	53.3	57.8								628	1.41
YDX520 Water Brake	73505.02	108	61	65.4								750	2.78
YDX750 Water Brake	73505.03	115.6	68.6	73	31.8	38.1	48.3	80	25.7	51.4	55.9	875	4.14
YDX1000 Water Brake	73505.04	123.2	76.2	80.7								1,016	5.50
YDX1300 Water Brake	73505.05	130.8	83.8	88.3								1,140	6.87
YDX1560 Water Brake	73505.06	138.4	91.4	96								1,265	8.23

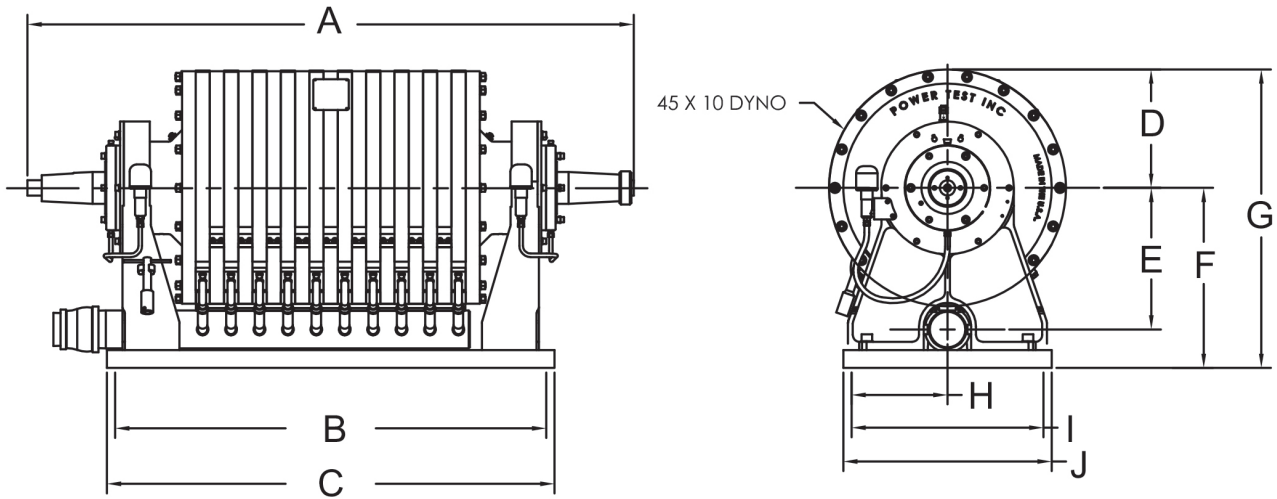




RPM	Power - HP (kW)					
	YDX260	YDX520	YDX750	YDX1000	YDX1300	YDX1560
800	100(75)	200(149)	300(224)	400(298)	500(373)	600(447)
1,000	176(131)	351(262)	527(393)	703(524)	879(655)	1,054(786)
1,200	258(192)	515(384)	773(576)	1,030(768)	1,288(960)	1,546(1,153)
1,400	333(248)	665(496)	998(744)	1,330(992)	1,663(1,240)	1,995(1,488)
1,500	343(256)	686(512)	1,029(767)	1,372(1,023)	1,715(1,279)	2,058(1,535)
2,000	350(261)	700(522)	1,050(783)	1,400(1,044)	1,750(1,305)	2,100(1,566)
2,500	350(261)	700(522)	1,050(783)	1,400(1,044)	1,750(1,305)	2,100(1,566)
3,000	350(261)	700(522)	1,050(783)	1,400(1,044)	1,750(1,305)	2,100(1,566)
3,500	350(261)	700(522)	1,050(783)	1,400(1,044)	1,750(1,305)	2,100(1,566)
4,000	350(261)	700(522)	1,050(783)	1,400(1,044)	1,750(1,305)	2,100(1,566)

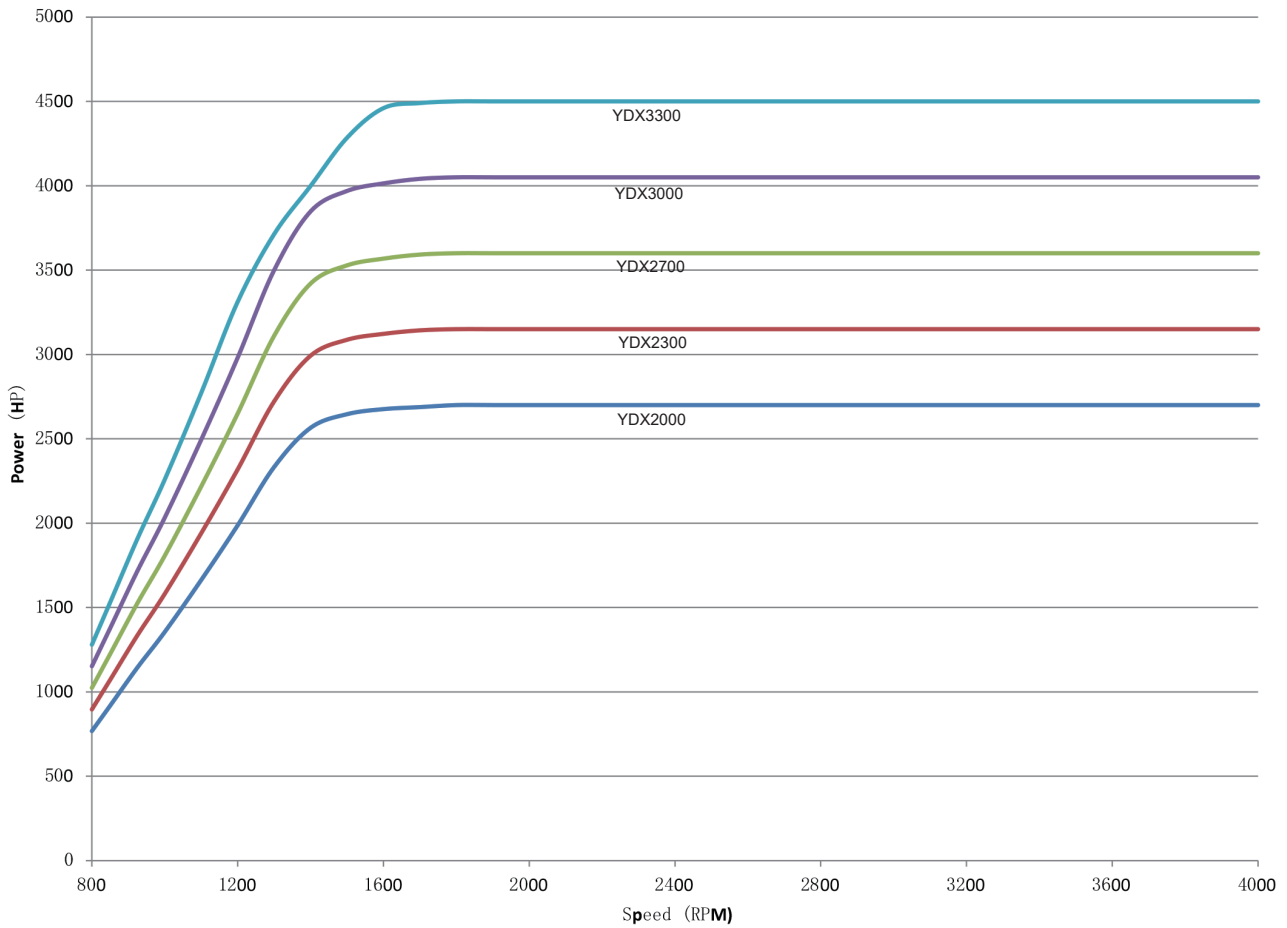


RPM	Torque - Lb-Ft (N.m)					
	YDX260	YDX520	YDX750	YDX1000	YDX1300	YDX1560
800	657 (890)	1,313 (1,780)	1,970 (2,670)	2,626 (3,560)	3,283 (4,450)	3,939 (5,341)
1,000	923 (1,251)	1,846 (2,520)	2,768 (3,753)	3,691 (5,004)	4,614 (6,256)	5,537 (7,507)
1,200	1,127 (1,529)	2,255 (3,057)	3,382 (4,586)	4,510 (6,114)	5,637 (7,643)	6,765 (9,172)
1,400	1,247 (1,691)	2,495 (3,382)	3,742 (5,074)	4,989 (6,765)	6,237 (8,456)	7,484 (10,147)
1,500	1,201 (1,628)	2,402 (3,257)	3,603 (4,885)	4,804 (6,513)	6,005 (8,141)	7,206 (9,770)
2,000	919 (1,246)	1,838 (2,492)	2,757 (3,738)	3,676 (4,985)	4,596 (6,231)	5,515 (7,477)
2,500	735 (997)	1,471 (1,994)	2,206 (2,991)	2,941 (3,988)	3,676 (4,985)	4,412 (5,981)
3,000	613 (831)	1,225 (1,662)	1,838 (2,492)	2,451 (3,323)	3,064 (4,154)	3,676 (4,985)
3,500	525 (712)	1,050 (1,424)	1,576 (2,136)	2,101 (2,848)	2,626 (3,560)	3,151 (4,272)
4,000	460 (623)	919 (1,246)	1,379 (1,869)	1,838 (2,492)	2,298 (3,115)	2,757 (3,738)

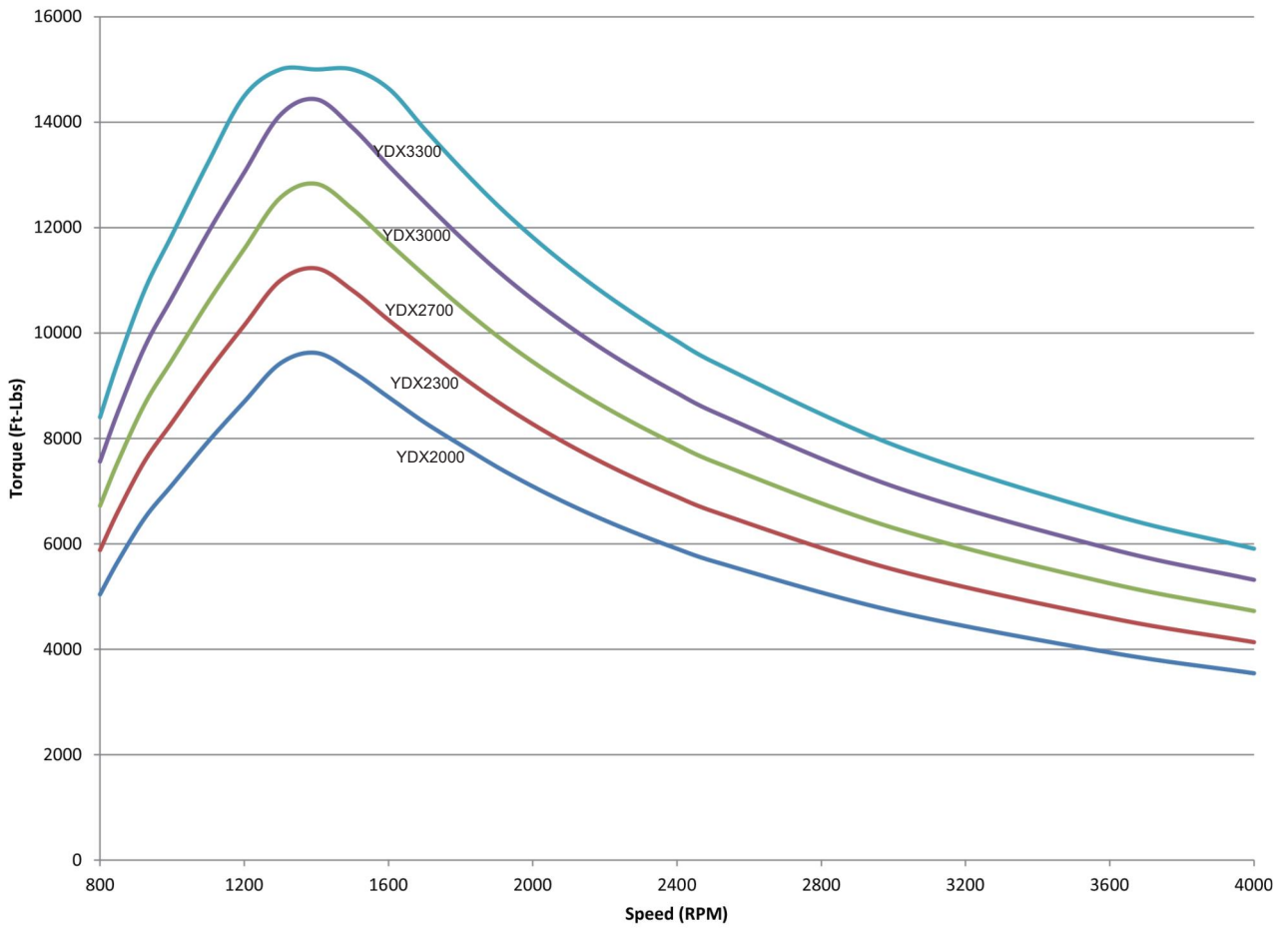


Description	Dimensions (inches)										Weight (lbs)	Inertia (lb-ft <sup>2</sup> )
	A	B	C	D	E	F	G	H	I	J		
YDX2000	52	32 1/2	35 1/4								2,690	195.4
YDX2300	55	35 1/2	38 1/4								2,960	227.8
YDX2700	58	38 1/2	41 1/4	12 1/2	15	19	31 1/2	10	20	22	3,230	260.1
YDX3000	61	41 1/2	44 1/4								3,500	292.4
YDX3300	64	44 1/2	47 1/4								3,770	324.7

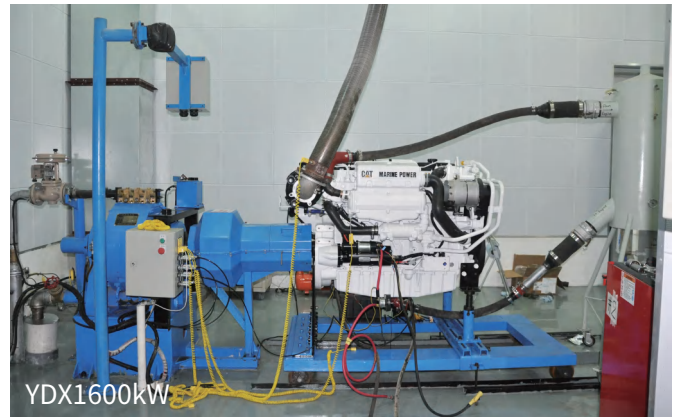
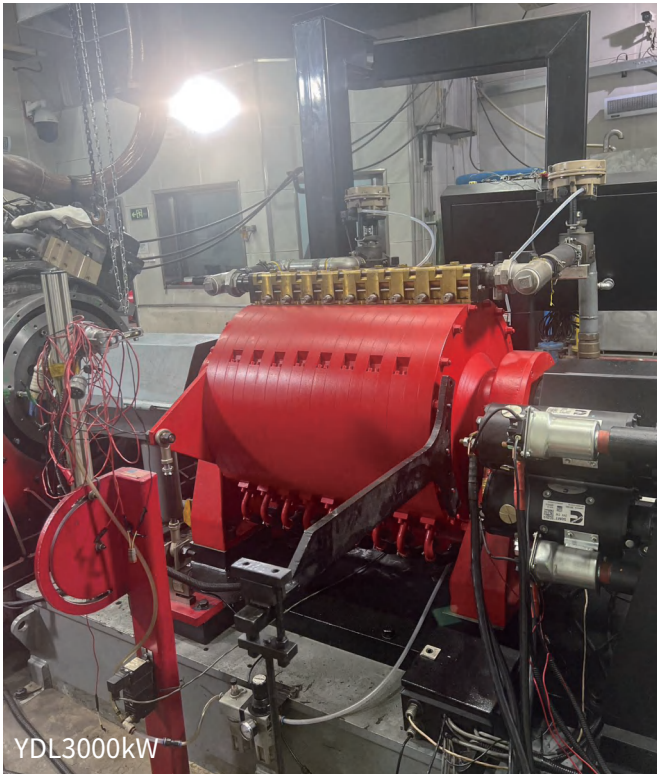




RPM	Power - HP (kW)				
	YDX2000	YDX2300	YDX2700	YDX3000	YDX3300
800	768	896	1,024	1,152	1,280
1,000	1,355	1,581	1,807	2,033	2,259
1,200	1,987	2,318	2,650	2,981	3,312
1,500	2,646	3,087	3,528	3,969	4,284
2,000	2,700	3,150	3,600	4,050	4,500
2,500	2,700	3,150	3,600	4,050	4,500
3,000	2,700	3,150	3,600	4,050	4,500
3,500	2,700	3,150	3,600	4,050	4,500
4,000	2,700	3,150	3,600	4,050	4,500



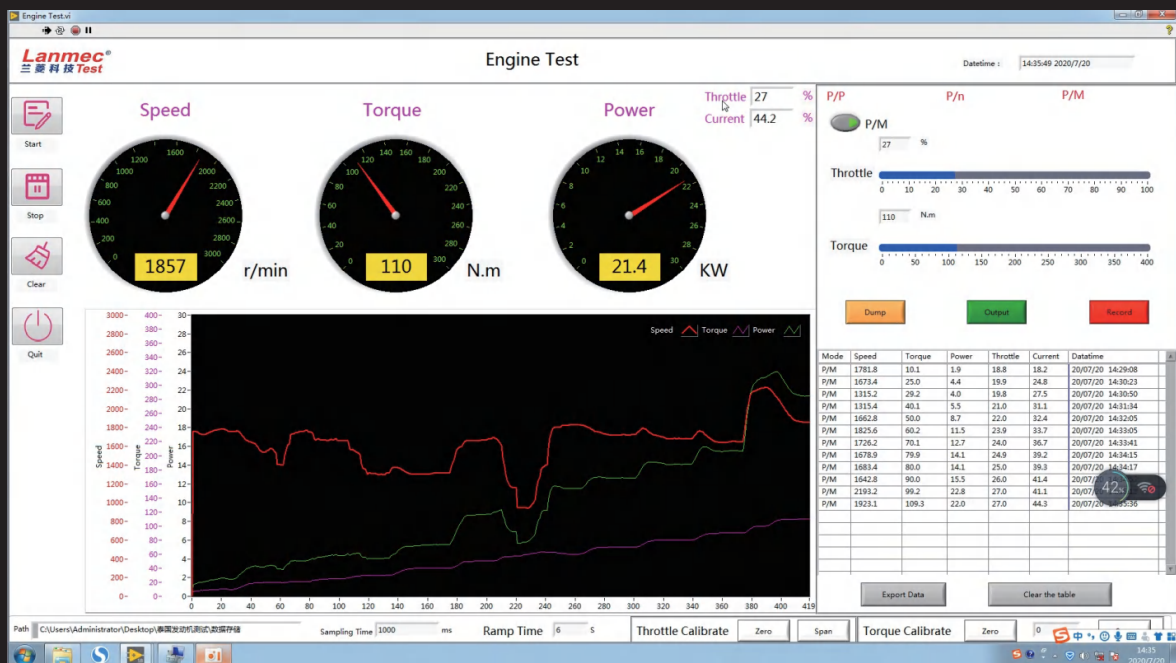
Torque - Lb-Ft (N.m)					
RPM	YDX2000	YDX2300	YDX2700	YDX3000	YDX3300
800	5,042	5,882	6,723	7,563	8,403
1,000	7,119	8,305	9,491	10,678	11,864
1,200	8,697	10,147	11,596	13,046	14,496
1,500	9,265	10,809	12,353	13,897	15,000
2,000	7,090	8,272	9,454	10,635	11,817
2,500	5,672	6,618	7,563	8,508	9,454
3,000	4,727	5,515	6,302	7,090	7,878
3,500	3,939	4,596	5,252	5,909	6,565
4,000	3,545	4,135	4,727	5,318	5,909







控制检测柜  
 Control and test cabinet

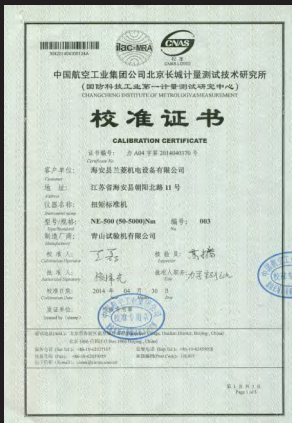


测试软件  
 test software

Torque measuring range 0.01~2000kN.m  
 Speed measurement range 0.01~100kRPM  
 Measurement accuracy  $\pm 0.1\%F.S$   $\pm 0.2\%F.S$   
 Can output voltage, current, frequency signal,  
 RS485 communication  
 Power supply DC24V,  $\pm DC15V$



扭矩测量范围0.01~2000kN.m  
 转速测量范围0.01~100kRPM  
 测量精度 $\pm 0.1\%F.S$   $\pm 0.2\%F.S$   
 可输出电压、电流、频率信号，RS485通讯  
 供电DC24V、 $\pm DC15V$





ZJ-AM型 微量程转矩转速传感器  
 ZJ-AM Micro-range torque speed sensor



ZJ-AF型 法兰式转矩转速传感器  
 ZJ-AF Flange type torque speed sensor



ZJ-A型 标准转矩转速传感器  
 ZJ-A Standard torque speed sensor



ZJ-A型 大量程转矩转速传感器  
 ZJ-A Large range torque speed sensor



ZJ-ZF型 法兰式静态扭矩传感器  
 ZJ-ZF Flange type static torque sensor



ZJ-Z型 轴式静态扭矩传感器  
 ZJ-Z Shaft type static torque sensor



TR-3S 转矩转速功率采集仪  
 TR-3S torque speed power acquisition instrument



转矩转速功率测试软件  
 Torque speed power test software



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