GOLDWIND S48/750 (50Hz)
Technical Specifications

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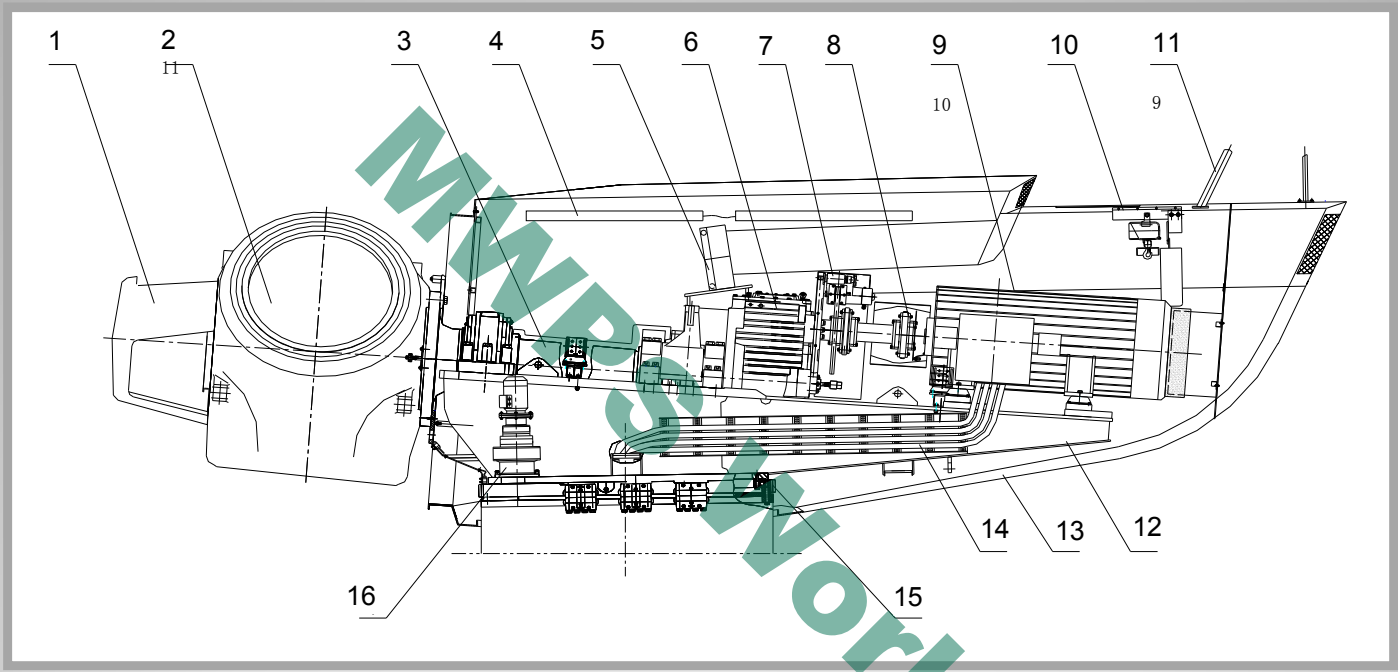
GOLDWIND S48/750 General Overview

Technical Specifications S48/750 (50Hz)

- Rated Power：**750kW**
- Rotor Diameter：**50m**
- Hub Height：**50m**
- Type：**Stall - Upwind**
- Cut-in Wind Speed：**3.5m/s**
- Rated Wind Speed：**14 -15m/s**
- Cut-out Wind Speed：**25m/s**
- Survival Wind Wpeed：**70m/s**
- Life Expectancy：**20+ years**

GOLDWIND S48/750 General Overview



Nacelle Arrangement Drawing

1. Spinner Cap Support 2. Rotor 3. Main Shaft 4. Lighting System
5. Gear Oil Cooling System 6. Gearbox 7. Brakes 8. Coupling
9. Generator 10. Chain Lifter 11. Wind Vane, Anemometer 12. Base Frame
13. Nacelle 14. Power Cable 15. Yaw Bearing 16. Yaw Drive

GOLDWIND S48/750 General Overview

Item	Components	Number	Weights（Unit：t）	
			Single Weight	Gross Weight
Rotor	Tip（HT24）	3	3.3	9.9
	Hub	1	5.0	5.0
Drive system	Main shaft	1	2.1	2.1
	Main bearing	1	0.5	0.5
	Gearbox	1	5.9	5.9
	High speed brake	2	0.14	0.28
	Generator	1	4.4	4.4
Base frame	Base frame	1	4.3	4.3
Yawing system	Yawing bearing	1	0.6	0.6
	Yawing drive	2	0.17	0.34
	Yawing brake dish	1	0.26	0.26
	Yawing brake	5	0.06	0.3
Nacelle	Nacelle overlay	1	1.3	1.3
Control system	Top box	1	0.08	0.08
	Main control box	1	0.48	0.48
Nacelle weight				22.5

Nacelle – Major Components

Operational components:

Control Box - Rotor Locking Pin

Installed components:

Cable Twist Counter - Yawing Sensor, Rotor Sensor - Left Yawing Motor & Gear Redactor

Operational component:

Generator Line-Box - Hydraulic Station Hydraulic System Line-Box

Installed components:

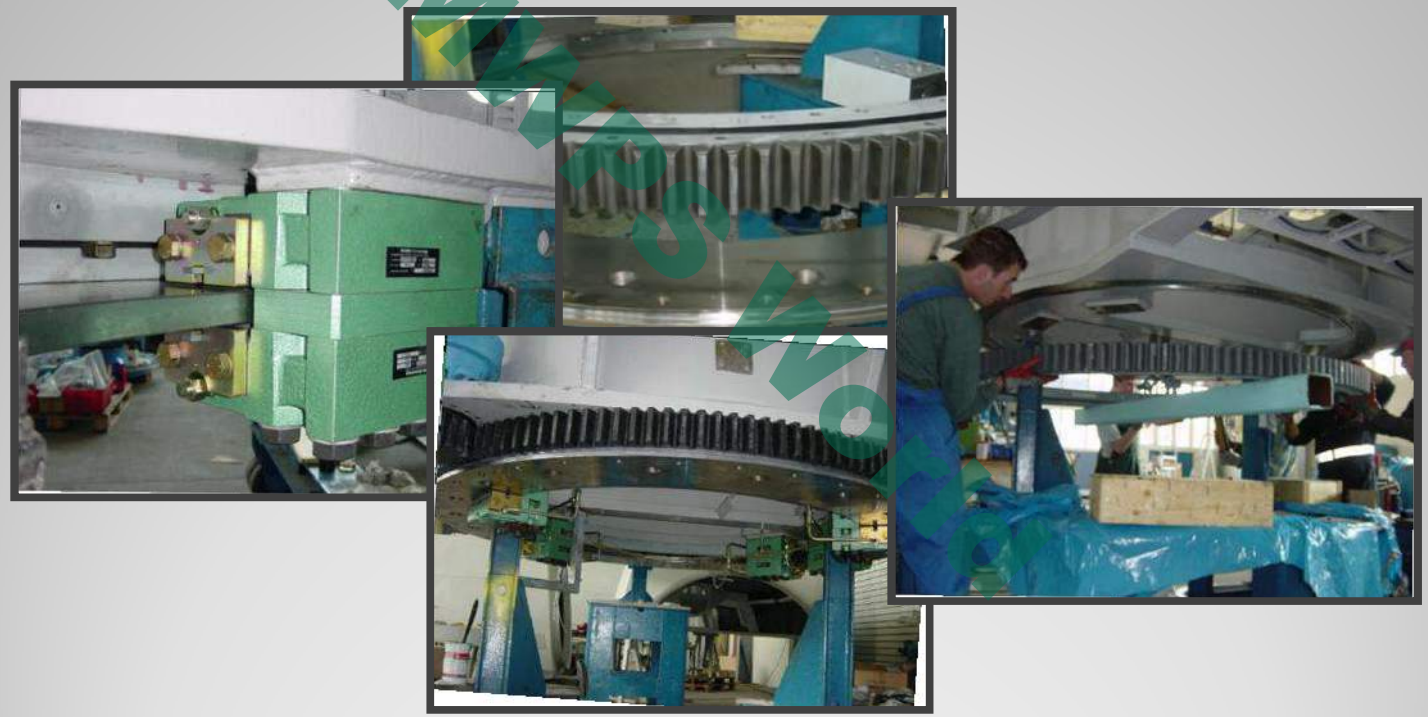
Right Yawing Motor & Gear Redactor 、Hydraulic Station

Nacelle – Upper Part Components

Generator – Gearbox - Main Shaft - Gearbox Oil Cooling Fan – Coupling - 2 High Speed Brakes

Nacelle – Lower Part Components

Yawing bearing - Yawing brake pin - Yawing brake x 5



Gearbox & Main Shaft

Gearbox

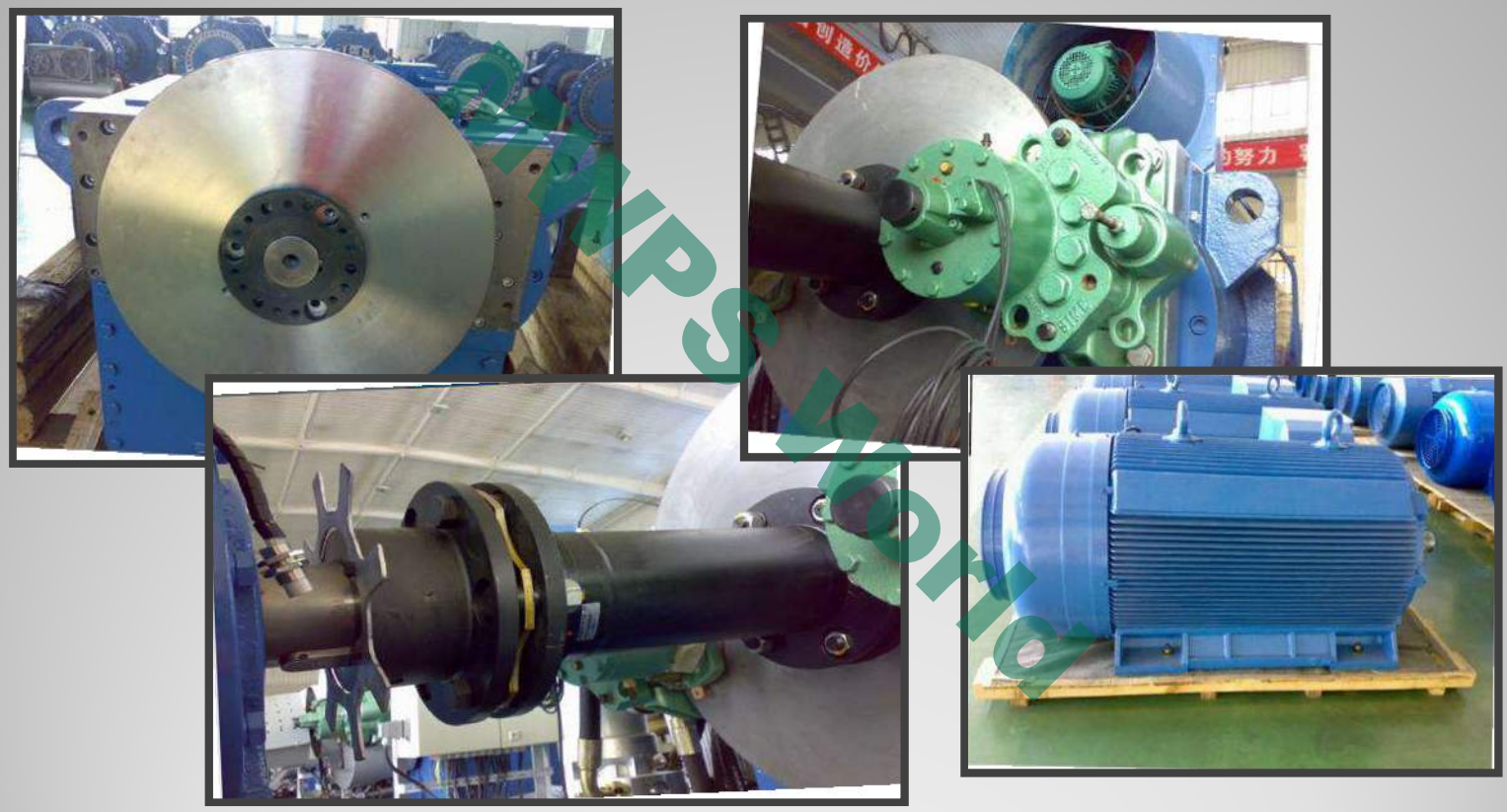
Main Shaft

Main Shaft Components

Main Shaft - Front Sealing Ring - Back Sealing Ring - Rotating Bearing - Bearing Bracket - Canopy - Bearing Brackets

Brake System & Generator

Brake Dish - High Speed Brake – Coupling - Generator



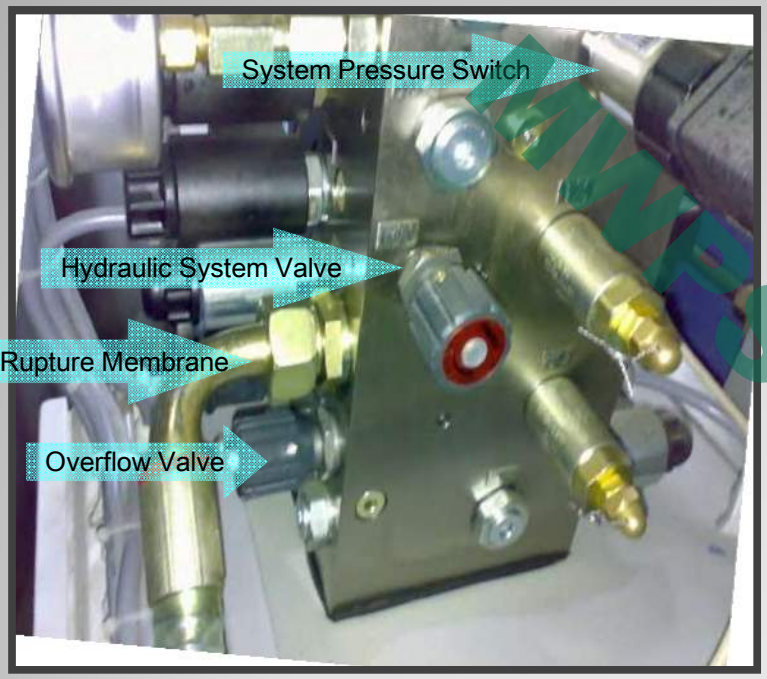
Yawing System

Yawing Motor - Yawing Gear Redactor - Yawing Bearing - Yawing Brake Disc - Yawing Brake

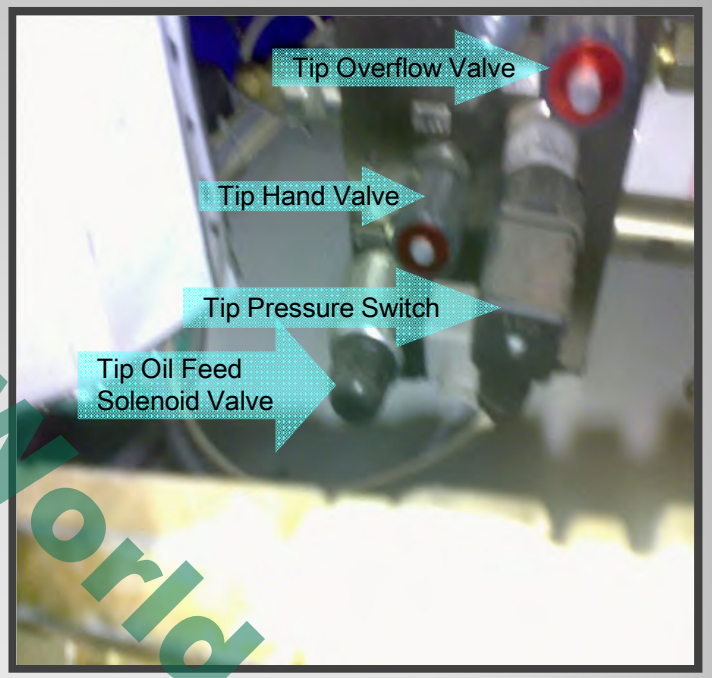
Hydraulic System

Control Tip Brake - Yawing Brake - Drive Brake

Hydraulic Station

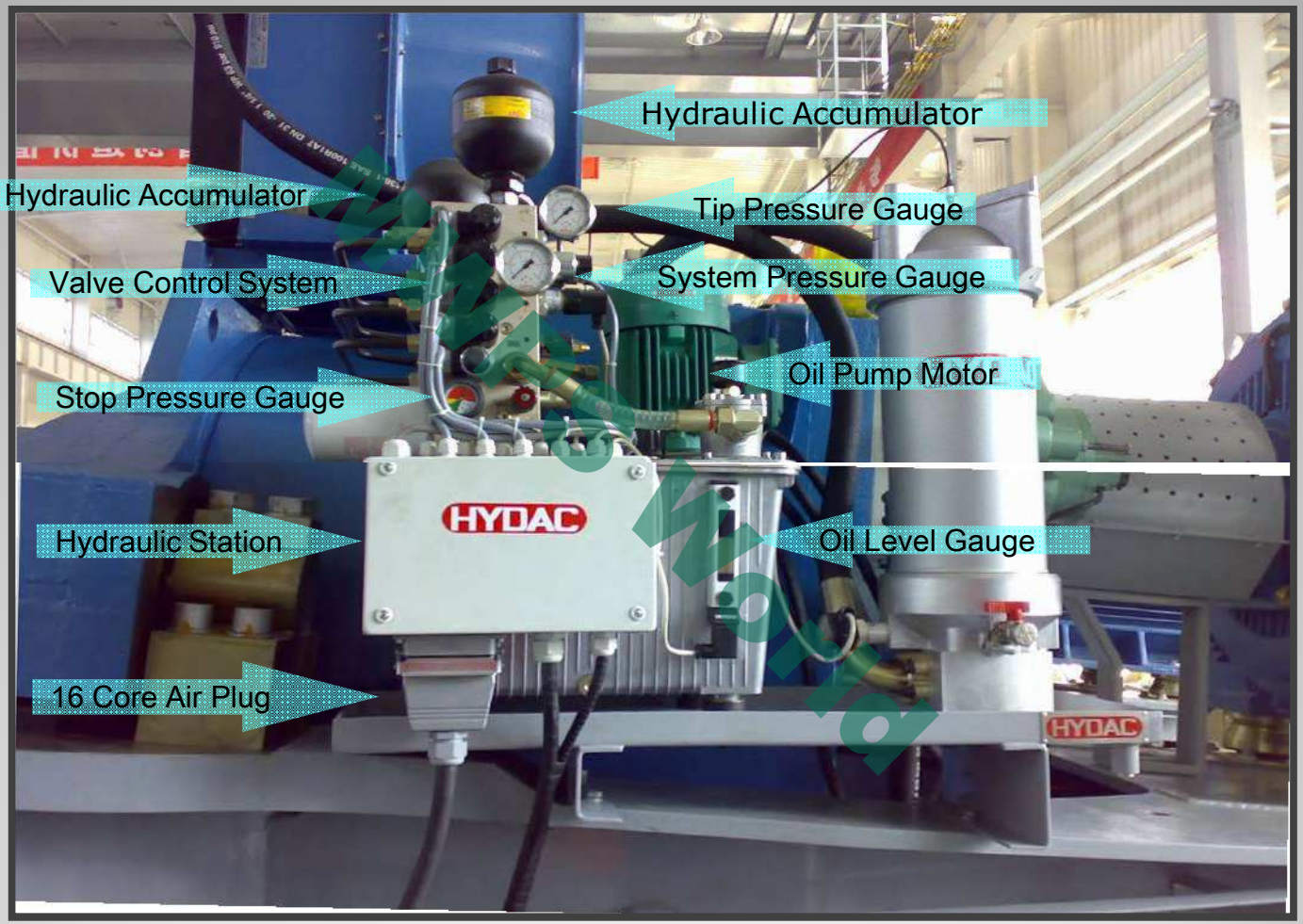


System circuit



Tip circuit

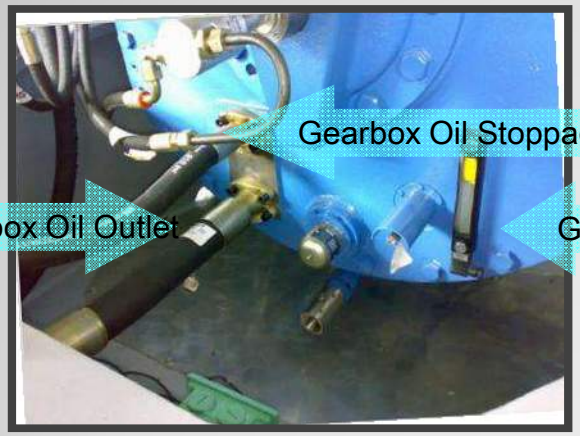
Hydraulic Station



Gearbox Lubrication System

Gear Oil Pump

Gearbox Oil Circuit Filter



Gearbox Oil Stoppage Outlet

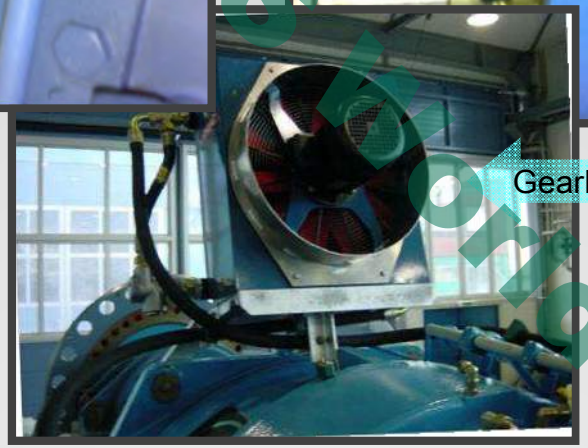
Gearbox Oil Outlet

Gearbox Oil Level Gauge

Gearbox Lubrication System

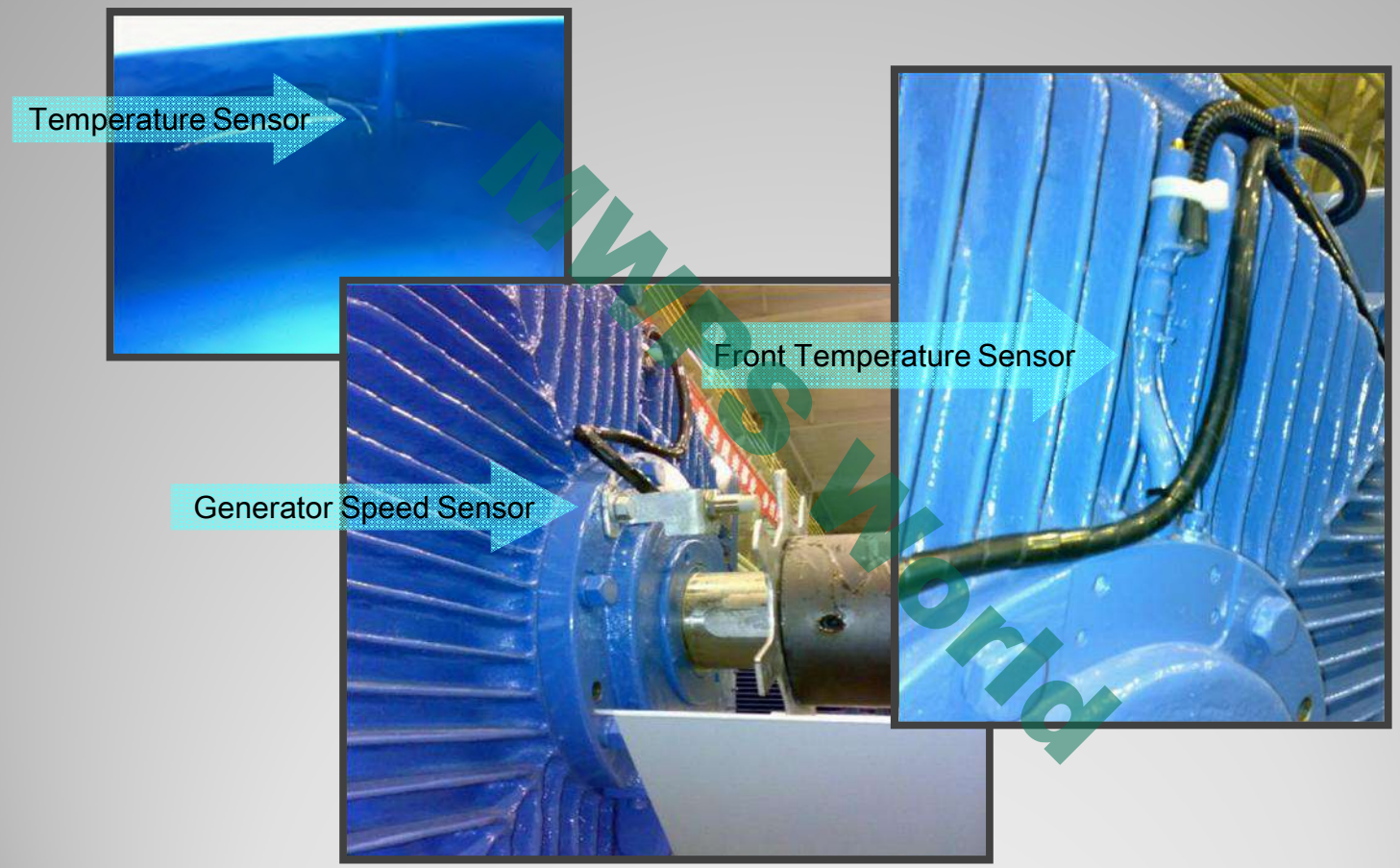
Gearbox Oil Digital Pressure Valve

Gearbox Oil Pressure Valve



Gearbox Oil Cooling Fan

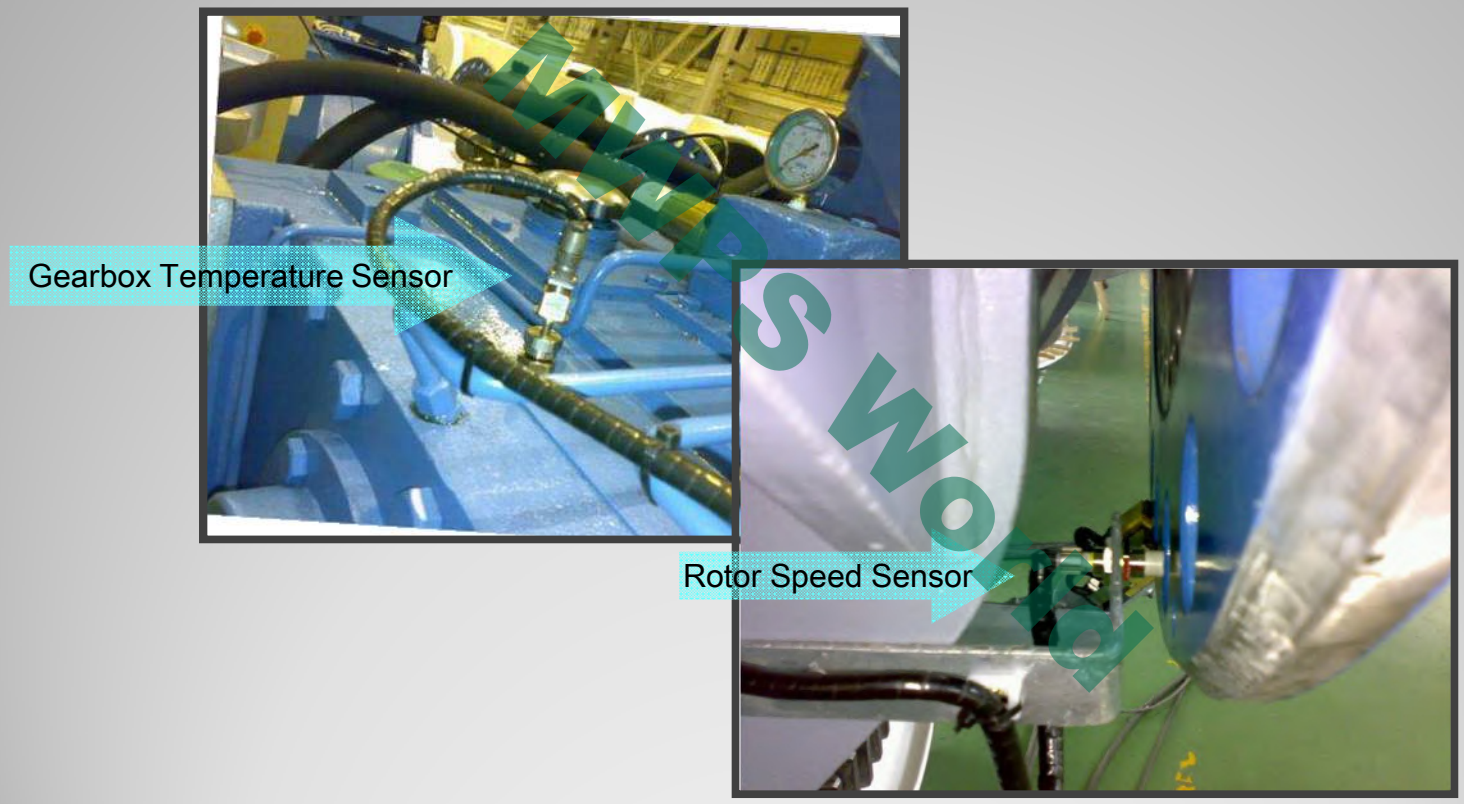
Generator Sensor Components



Yawing Sensor Components

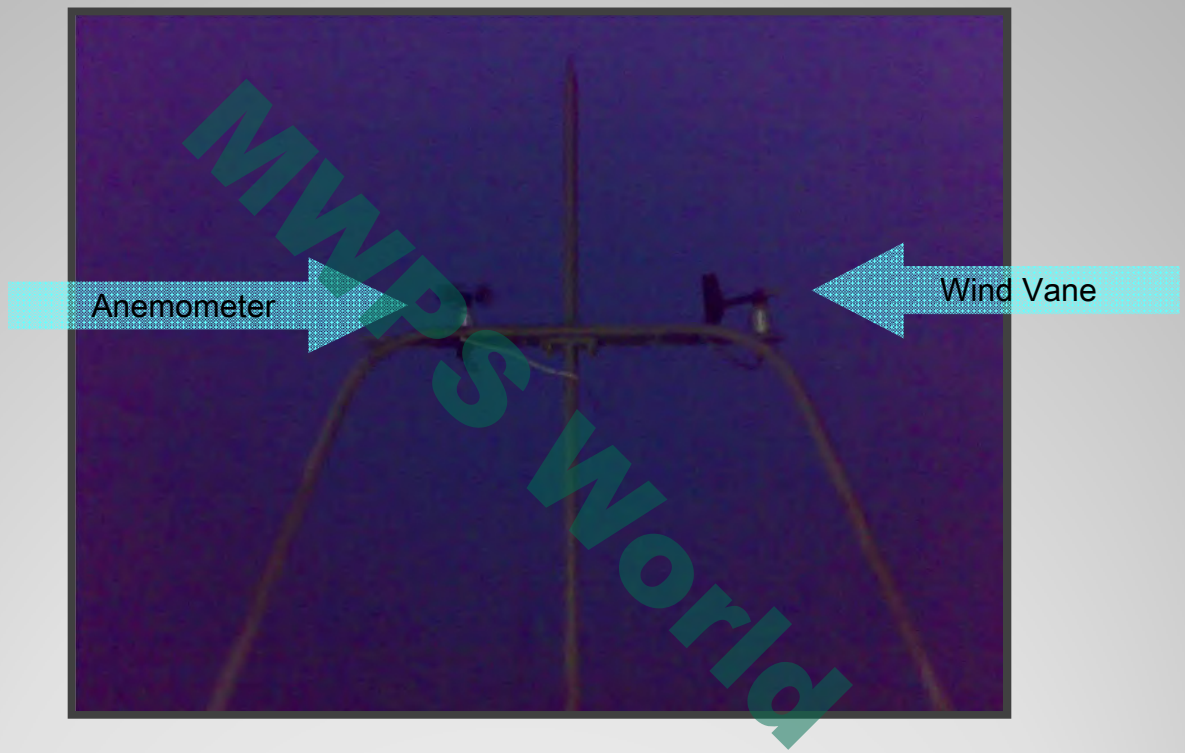
Twist Counter and Yawing Counter prevents nacelle from over turning

Gearbox & Main Shaft Sensors



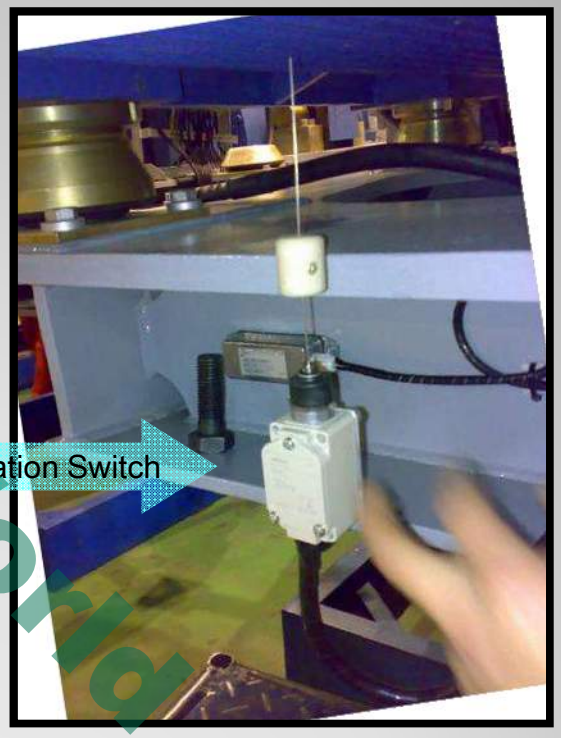
Nacelle Temperature Sensors

Anemometer & Wind Vane



The Anemometer provides data to the Main Control System for wind speed reading and safety controls. The Wind Vane sends data to Yaw Control System to turn turbine into the wind at all times

Vibration Protection System



The Vibration Sensor monitors the wind turbine's vibration levels, frequency & width

The Vibration Switch shuts down the wind turbine when measured vibration exceeds set safety levels

Safety & Protection Components

Lightning Protector - Rain Sealing Cover - Rotor Lock System

The Lightning Protector connects the Rotor to the grounding system to prevent Rotor being damaged by lightning.

The Rain Sealing Cover is mounted between the Main Shaft and Rotor to prevent rain water entering the Nacelle

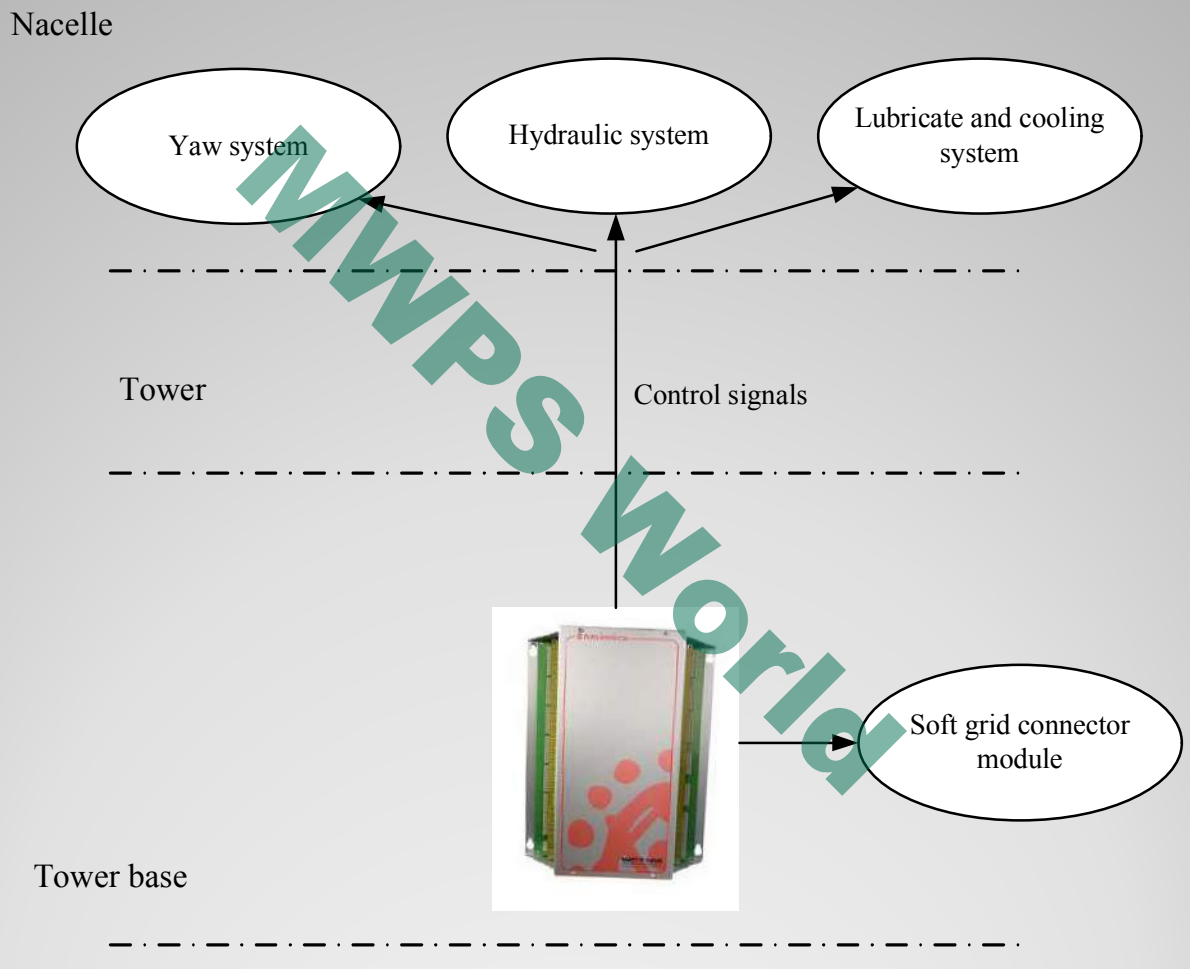
The Rotor Lock prevents the Rotor from turning after shut down in extreme weather conditions

Tower

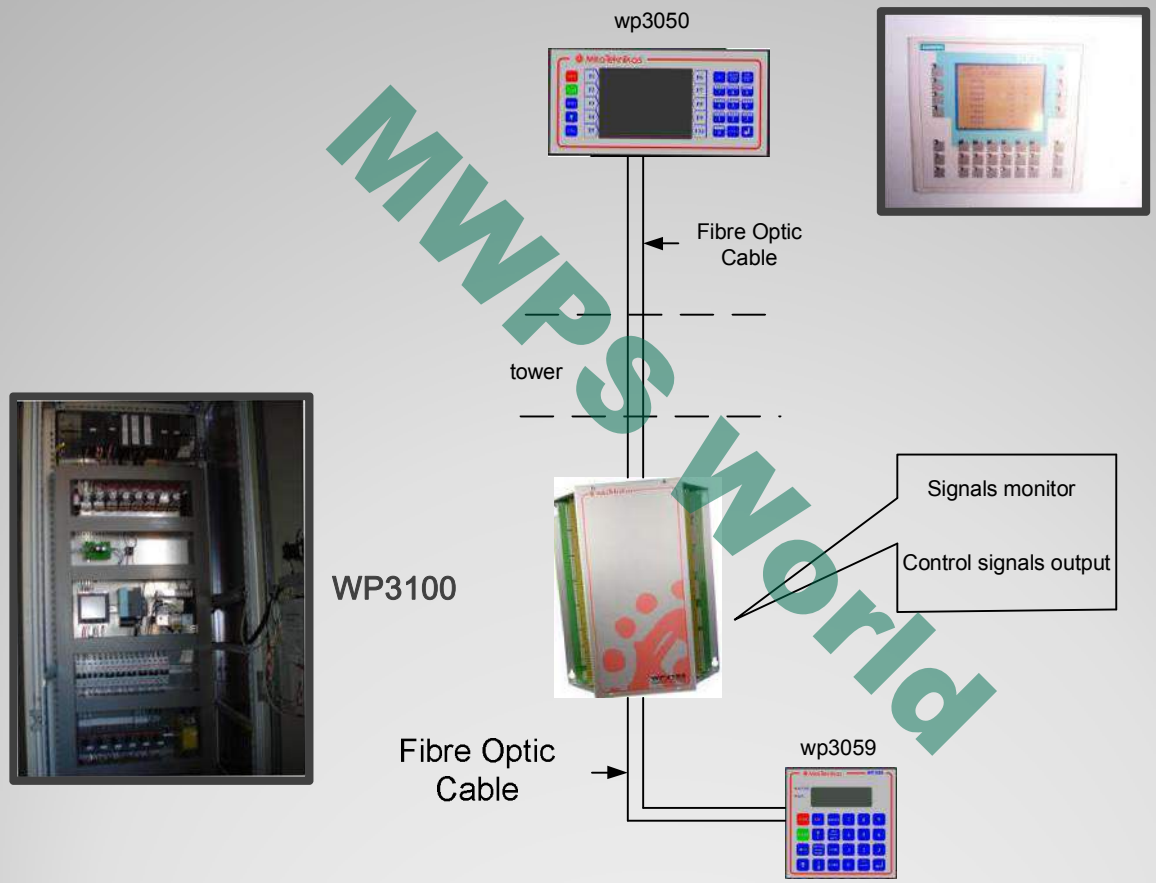
The tower is divided into two sections and includes two working platforms and one ladder.

Note: Three and four section tower versions also available for transportation to difficult or space restricted sites

Control System



Controller Interface



Goldwind S48/750 wind turbine technical parameter

Item		Unit	Specification
Wind turbine	Manufacturer		Goldwind science & technology Co., Ltd
	Safety class		IEC Class Ⅰ
	Type		Goldwind S48/750(60Hz)
	Rated power	kW	750
	Power adjustable type		Stall
	Rotor diameter	m	48
	Hub height（suggestion）	m	50
	Cut-in wind speed	m/s	3.5
	Rated wind speed	m/s	14～15
	Cut-out wind speed（10 minutes average）	m/s	25
	Life	Y	20
	Survival wind speed（3 seconds average ）	m/s	70
Grid	Voltage	V	690±10%
	Frequency	Hz	50±2%
	Voltage unstable extent		≤2%
	Max grid interruptive duration	Day	7
	Interruptive time	time/year	20
Rotor	Type		HT24
	Blade material		Reinforced Fiber Glass Resin
	Number		3
	Direction		Horizontal axis
	Rotational	r/min	21.7
	Inclination angle	°	5
	Cone angle	°	0
	Wind direction		Upwind
	Rotational direction (upwind)		Clock-wise
Gearbox	Type		FDG-00R1

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Goldwind S48/750 wind turbine technical parameter

	Item		Unit	Specification
	Steps			Two stage with planetary and spur gear
	Transmission ratio			1:83.916
	Rated power		kW	825
	Rated torque (input)		kN.m	363
	Lubrication			Mobil SHC XMP 320
	Lubricative type			Pressure-Forced
Generator	Type			3 phase Asynchronous Generator
	Rated power		kW	750
	Rated voltage		V	690
	Rated current		A	690
	Rated rotational speed		r/min	1822
	Rated power coefficient			0.90
	Connection			Δ
	Insulation level			H
	Protection level			IP54
	Cooling system			IC411
	Center height		mm	450
	Work style			S1
Yawing System	Type			Active yawing
	Driving system			1.5kW four stage planetary gearbox generator
	Bearing			External Gear Ring Four Points Ball Bearing
	Yaw generator	Rated power	kW	1.5
		Rated voltage	V	400/690
		Rated current	A	4.25/2.46
		Rated rotational speed	r/min	835
		Power factor		0.68
		Connection		Δ/ Y
		Insulation level		F
		Protection level		IP55
		Work style		S4
		Electromagnetic brake moment	N.m	30
	Reducer	Rated input power	kW	1.5

GOLDWIND

MWPS Powering The World

Goldwind S48/750 wind turbine technical parameter

		Rated input rotational speed	r/min	835
		Rated output rotational speed	r/min	1.116
		Transmission ratio		748
		Rated input torque	N.m	17.15
	Brake	Pressure range	bar	140～160
		Urn diameter	mm	80

	Item	Unit	Specification
	Frictional coefficient		≥0.4
Control system	Type		Computer control
Tower	Type		Conical tubular steel tower 、three segments
	Height	m	47.28
Brake and lighting protection	Primary Brake System		3 Aerodynamic Tip
	Secondary Brake System		2 Brake Discs on High-Speed Shaft
	Lighting protection design standard		IEC61024/61312/61400,GB50057-1994
	Lighting protection		Blade tip arrester, nacelle arrester, electric element
High speed brake	Brake moment	N.m	6283.2
	Rated moment on high speed end of gearbox	N.m	3927
Hydraulic pump generator	Rated power	kW	1.27
	Rated voltage	V	690
	Rated current	A	1.7
	Rated rotational speed	r/min	1680
	System flux	L/min	3.7
Lubricant pump generator	Rated power	kW	4
	Rated voltage	V	690
	Rated current	A	6.3
	Rated rotational speed	r/min	1120
Radiator generator	Rated power	kW	1.73
	Rated voltage	V	690
	Rated current	A	2.4
	Rated rotational speed	r/min	1130

Weights & Dimensions

Description	Dimension (m)	Weight (t)	Quantity	Total(t)
Nacelle	6.7 x 3.1 x 2.4	23	x 1	**23.00**
Hub	2.41x 2.15x 1.57	4.5	x 1	**4.50**
Blade	2.35 x 1.44 x 24	3.4	x 3	**10.20**
Cabinet	2.05 x 0.77 x 2.14	0.8	x 1	**0.80**
Blade tip	3.5x0.984 x 0.152	0.2	x 3	**0.60**
Tower (two sections)	23.5 x 2.17 x 2.43	16.21	x 1	**16.21**
	22 x 2.43 x 3.2	27.65	x 1	**27.65**
Base ring	**1.6 x 3.2 x 3.2**	**5.33**	**x 1**	**5.33**

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