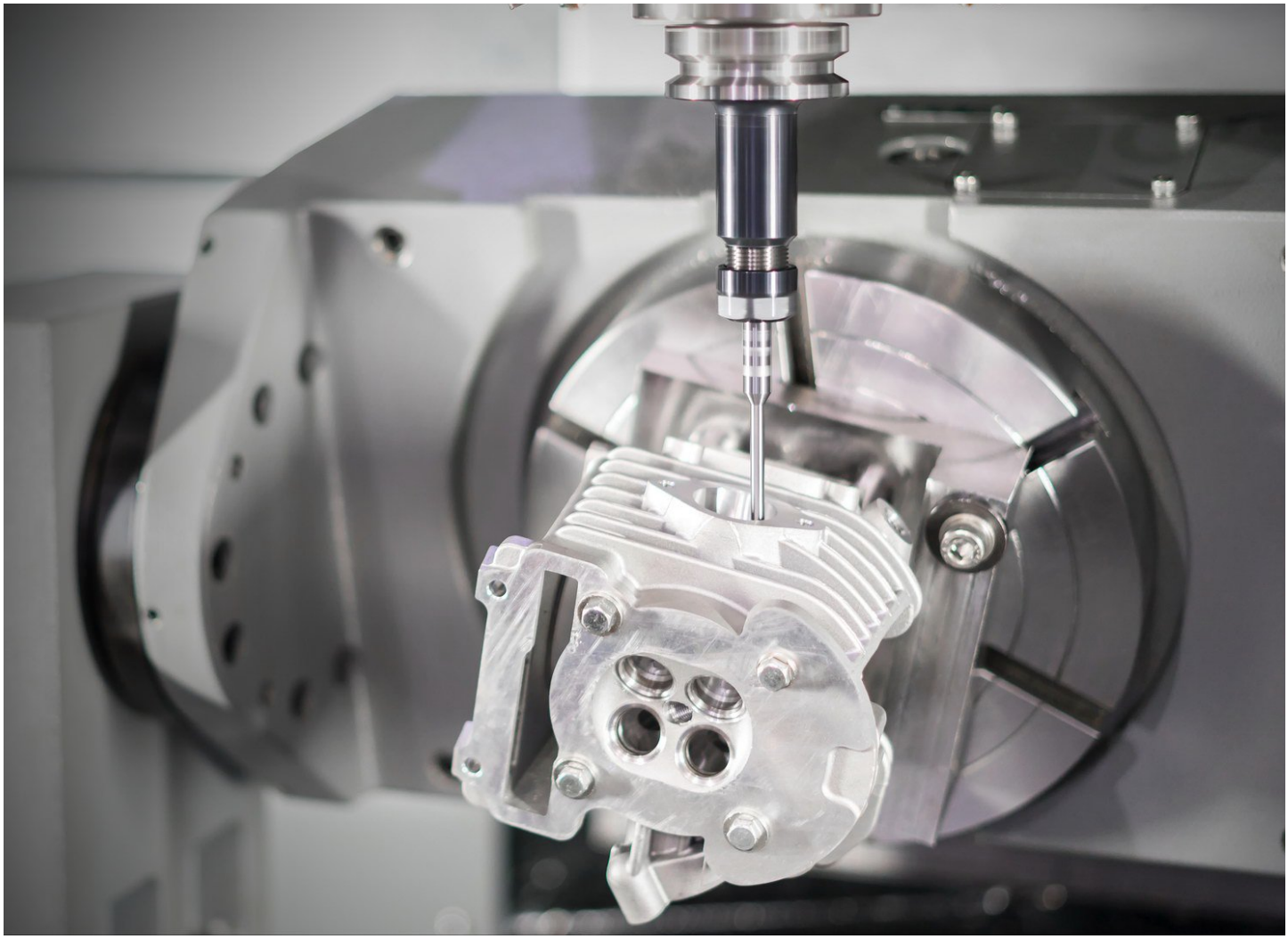
SEALION MACHINE

5-AXIS MACHINING CENTER

SHANGHAI SEALION MACHINE TOOL CO., LTD

YOUR MACHINE,MY MISSION!

5-AXIS MACHINING CENTER



1 EXCELLENT PRECISION STABILITY

The basic components are made of high-strength cast iron, and the secondary aging treatment makes the machine have excellent precision stability.

2 OPTIMIZED STRUCTURAL DESIGN

The finite element analysis of the basic components enables the machine to have excellent performance in both dynamic and static conditions.

3 REASONABLE STRUCTURAL LAYOUT

Compact structure and reasonable layout, effectively saving customer space.

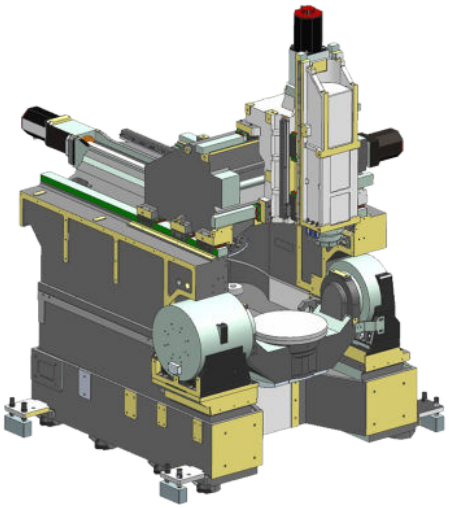
4 QUALITY KEY COMPONENTS

The key components are internationally well-known brands, which greatly improve the reliability of machine tools.

5 COMPLETE PRODUCT SPECIFICATIONS

The product specifications are complete, to meet the machining needs of different industries, suitable for the machining of various materials such as cast iron and steel.

ADVANTAGE



1 PRODUCT HIGHLIGHT

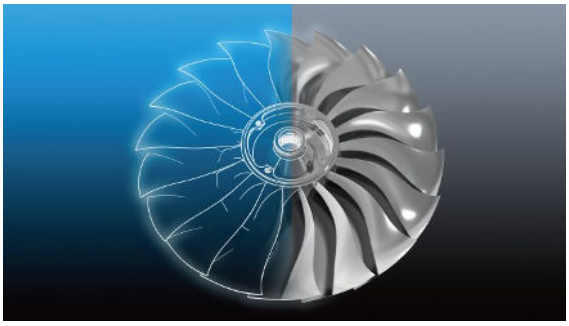
Optimal spindle support;
Drawing on the classic structure of vertical coordinate boring, it has better spindle rigidity;
CNC rotary swing table realizes double wall support;
Y-axis with four-rail support and centrally located main drive;
The ring tool magazine is integrated with the machine bed for a simple and space-saving structure.

2 DIRECT-DRIVE TECHNOLOGY

Good dynamic responsiveness;
No backlash, no transmission mechanical wear;
Adopt torque motor as the main drive of rotary coordinate;
U/UMT type C-axis is equipped with low/high speed torque motors respectively to accomplish milling and turning processing with high precision.

3 HIGH DYNAMIC RESPONSE TECHNOLOGY

Optimization of the dynamic performance of machine tool design moving parts;
Emphasis on high stiffness, lightweight design and dynamic matching of mechanical moving parts;
A variety of functional components can be selected to optimize the motion coordinate parameters;
To make the dynamic performance of the machine tool to meet the user's needs.



4 CENTER OF GRAVITY DRIVE

Stronger, smoother drive;
Cradle-type rotary table center of gravity drive;
Effectively dampens vibration and eliminates backlash;
Providing users with ideal machining performance.

Item		Unit	C400
Travel	X Travel	mm	500
	Y Travel	mm	500
	Z Travel	mm	450
	A Rotation Angle	deg	-120~+120
	C Rotation Angle	deg	n×360
	X-axis Travel from Table Center	mm	-250~+250
	Y-axis Travel from Table Center	mm	-250~+250
	Max Distance of Spindle Nose to Table Face	mm	550
	Min Distance of Spindle Nose to Table Face	mm	100
Table(OP)	Tabel Type	/	Direct Drive
	Tabel Size	mm	Φ475
	Max Table Load	kg	500
	Max Turning Diameter	mm	Φ500
	Max Workpiece Height	mm	370
	Collision circle at 0° position	mm	Φ610
	T-Slot Type	mm	8 Nos of 12H8
	Table Lock Mode	/	Pneumatics
	Brake Torque A/C	N.m	2500/1500
	A/C Max Torque	N.m	2700/1350
	A/C Rated Torque	N.m	900/450

Item		Unit	C400
Spindle	Type	/	Mechanic/BT40
	Rated Power	kw	7.5
	Spindle Speed	rpm	12000
Spindle (OP)	Spindle Type/Taper Type	/	Electric Spindle/HSK-A63
	Diameter of Spindle Sleeve	mm	Φ150
	Spindle Rated Power	kw	20
	Spindle Rated Torque	N.m	S1:47.7/S6(40%)57.3
	Spindle Speed	rpm	20000
Tool (OP)	Tool Type	/	Horizontal Umbrella Type/Chain Type
	Tool Capacity	T	20/30/40
	Max Tool Diameter/Length	mm	Φ60/250
Feeding	X/Y/Z Rapid Speed	m/min	32/32/32
	A/C Max Speed	rpm	200/200
	X/Y/Z Screw	mm	R4012/R4012/R4012
	X/Y/Z Guideway	mm	35 /35/35 Roller Guideway
Other	Machine Weight	T	7

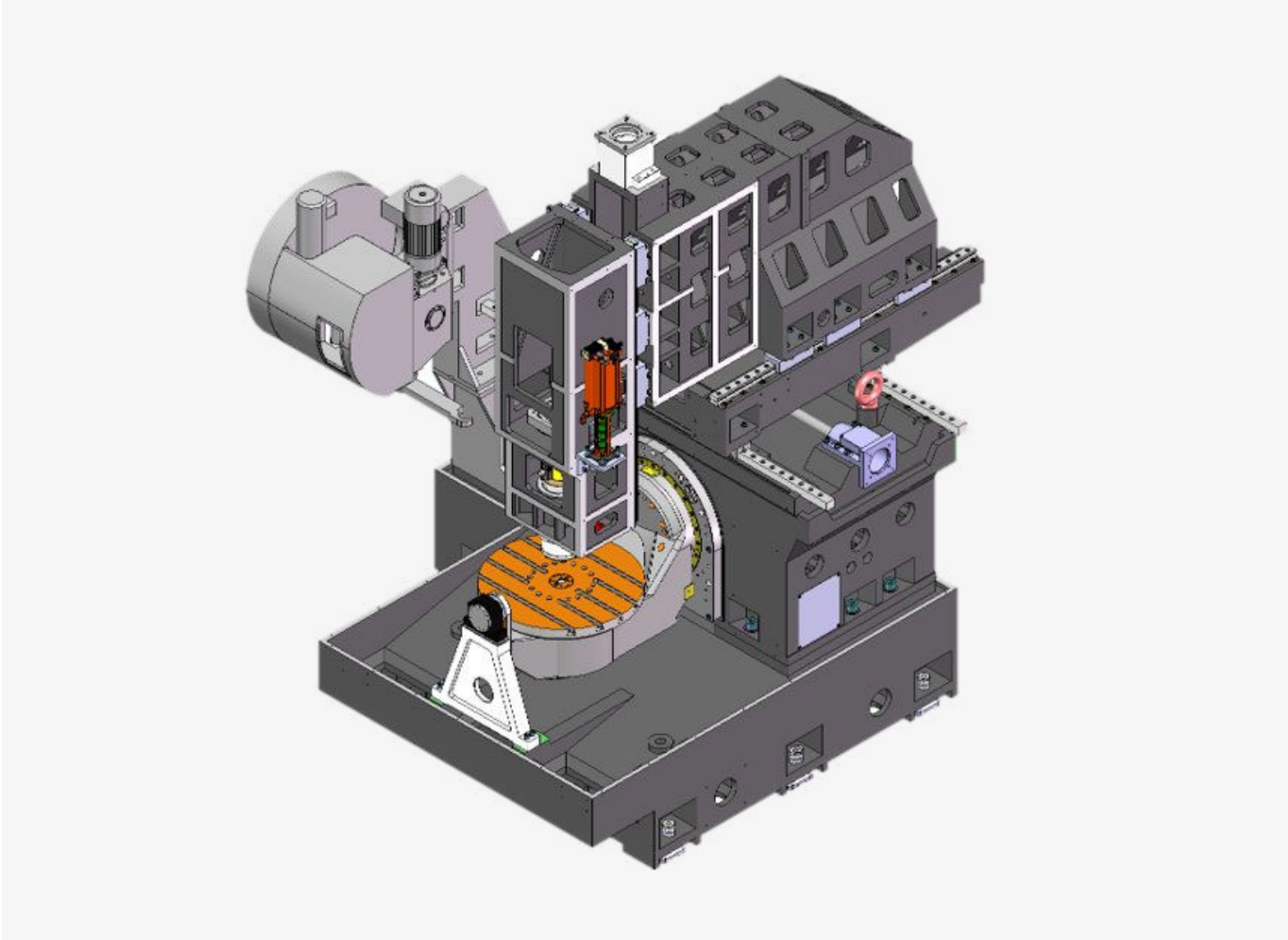
Item		Unit	C500/650
Travel	X Travel	mm	600
	Y Travel	mm	710+230 (Tool Change Travel)
	Z Travel	mm	500
	A Rotation Angle	deg	120
	C Rotation Angle	deg	360
	Distance between C Face to A Rotation Center	mm	80
	C Max Swing Diameter	mm	Φ700
	A Max Swing Diameter	mm	Φ860
	Distance between Spindle Face to Table (Table 0°) Z Direction	mm	150~650
	Distance between Spindle Face to Table (Table 90°) Z Direction	mm	70~570
	Distance between Spindle Center to Table (Table 0°) Y Direction	mm	-310 ~ 400
	Distance between Spindle Center to Table (Table 90°) Y Direction	mm	-230 ~ 480
Speed of XYZ	X/Y/Z Rapid Speed	m/min	36-48
Turning Table (C axis)	Table Diameter	mm	500(OP 650)
	Table Load	kg	350/500
	Rated/Max Rotation Speed	rmp	100/150
	Rated/Max Torque	N.m	183/318
	Position/Repeatability Accuracy	arc.sec	8/4
A Axis	Rated/Max Turning Speed	rmp	30/60
	Rated/Max Torque	N.m	940/2000
	Position/Repeatability Accuracy	arc.sec	10/6

Item		Unit	C500/650	
Maximum Size of Workpiece (diameter × height)		mm	Φ700×500	
Spindle	Spindle Type	mm	Φ170 Built-in Spindle	Φ190 Built-in Spindle
	Spindle Taper	mm	HSK A63	HSK A63
	Max Spindle Speed	r/min	20000	16000
	Main Motor Power	kw	20	30
	Main Motor Torque (continuous)	N.m	47.3	100
X/Y/Z	X Linear Guideway (Width/Slider Number)	mm	45/2 (Roller Guideway)	
	Y Linear Guideway (Width/Slider Number)	mm	45/3 (Roller Guideway)	
	Z Linear Guideway (Width/Slider Number)	mm	45/2 (Roller Guideway)(OP:3 Slider)	
	X Ballsrew	mm	40×12/16	
	Y Ballsrew	mm	40×12/16	
	Z Ballsrew	mm	40×12/16	
Tool	Capacity	Nos	20/30/40	
	Tool Changing Time(T-T)	s	4	
	Max Tool Diameter (Full/Adjacent Empty)	mm	80/120	
	Max Tool Length	mm	300	
	Max Tool Weight	kg	8	
XYZ Accuracy	Position Accuracy	mm	0.005/300	
	Repeatability Position Accuracy	mm	0.003/300	
Other	Width × Length	mm	2200×4500	
	Machine Weight	t	10	

Item		Unit	C800
Travel	X Travel	mm	800
	Y Travel	mm	950
	Z Travel	mm	600
	A Rotation Angle	deg	-120~+120
	C Rotation Angle	deg	n×360
	X-axis Travel from Table Center	mm	-400~+400
	Y-axis Travel from Table Center	mm	-550~+400
	Max Distance of Spindle Nose to Table Face	mm	720
	Min Distance of Spindle Nose to Table Face	mm	120
Table(OP)	Tabel Type	/	Direct Drive
	Tabel Size	mm	Φ850
	Max Table Load	kg	1200
	Max Swing Diameter	mm	Φ1100
	Max Workpiece Height	mm	550
	Collision circle at 0° position	mm	Φ990
	T-Slot Type	mm	8 Nos of 12H8
	Table Lock Mode	/	Pneumatics
	Brake Torque A/C	N.m	8400/4200
	A/C Max Torque	N.m	7800/3900
	A/C Rated Torque	N.m	2200/4400

Item		Unit	C800
Spindle	Type	/	Mechanic/BT40
	Rated Power	kw	15
	Spindle Speed	rpm	12000
Spindle (OP)	Spindle Type/Taper Type	/	Electric Spindle /HSK-A63
	Diameter of Spindle Sleeve	mm	Φ150/Φ170
	Spindle Rated Power	kw	20
	Spindle Rated Torque	N.m	S1:47.7/S6(40%)57.3
	Spindle Speed	rpm	20000
Tool (OP)	Tool Type	/	Horizontal Umbrella Type/Chain Type
	Tool Capacity	T	20/30/40
	Max Tool Diameter/Length	mm	Φ75/300
Feeding	X/Y/Z Rapid Speed	m/min	30/18/30
	A/C Max Speed	rpm	60/70
	X/Y/Z Ballscrew	mm	R5512/R4012/R4012
	X/Y/Z Guideway	mm	45/45 /45 Roller Guideway
Other	Machine Weight	T	14

OXC SERIES OXHEAD TYPE 5 AXIS MACHINE CENTER



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Item	Unit	OXC400
Table Size	mm	Φ400
X Travel	mm	800（Left: 460 Right: 340)
Y Travel	mm	360
Z Travel	mm	400
B/C Travel	mm	±110°/360°
Distance of Spindle Center to Gudieway	mm	183.5
Distance of Spindle Nose to Table Face	mm	150-550
T-slot (Number-Size × Space)	/	8-14×45
Spindle Taper(Type/Size/Speed)	/	BT40/Φ120-12000
Tools	/	Standard BT40-24T Disc Tools
X/Y/Z Roller Guideway	/	4012/4012/4012
X/Y/Z Guideway	/	35 Roller Guideway
X/Y/Z Rapid Speed	m/min	36/36/36
X/Y/Z Motor Connection	/	Direct Drive
Main Motor Power	kw	7.5/11
XYZ Motor Torque	N·m	22/22/22
Height of Machine Bed Blocks	mm	40
Table Load (Vertical/Horizontal)	kg	120/220
Machine Weight	t	7.5

Item	Unit	OXC500
Table Size	mm	Φ550
X Travel	mm	820（Left: 550 Right: 320)
Y Travel	mm	450
Z Travel	mm	400
B/C Travel	mm	±110°/360°
Distance of Spindle Center to Gudieway	mm	156
Distance of Spindle Nose to Table Face	mm	200-600
Spindle Taper(Type/Size)	/	HSK-A63
Spindle Speed	r/min	20000
Spindle Torque NM(S1/S6)	/	35/42
Tools	/	Standard 24T Disc Tools
X/Y/Z Roller Guideway	/	4012
X/Y/Z Guideway	/	45/35/35 Roller Guideway
X/Y/Z Rapid Speed	m/min	24/24/24
X/Y/Z Motor Connection	/	Direct Drive
Main Motor Power	kw	11
XYZ Motor Torque	N·m	23/23/27
Height of Machine Bed Blocks	mm	50
Table Load (Vertical/Horizontal)	kg	300
Machine Weight	t	8.5

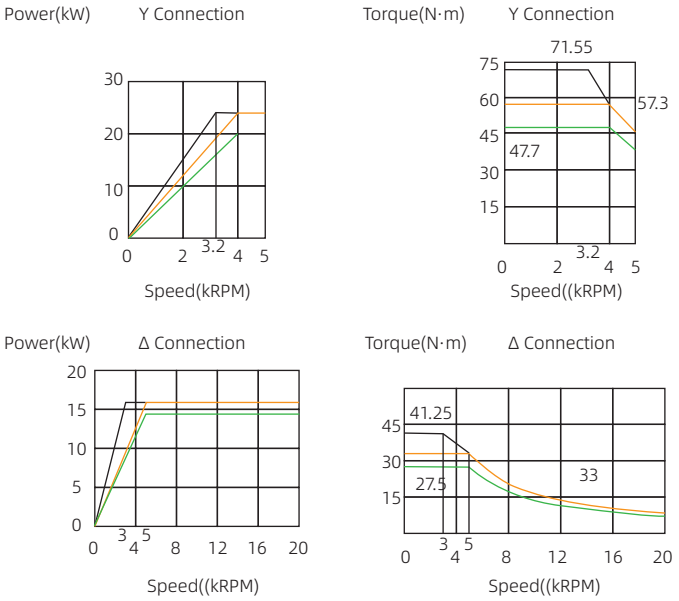
Item	Unit	OXC650
Table Size	mm	Φ650
X Travel	mm	820（Left: 550 Right: 320)
Y Travel	mm	520
Z Travel	mm	500
B/C Travel	mm	±110°/360°
Distance of Spindle Center to Gudieway	mm	187
Distance of Spindle Nose to Table Face	mm	150-650
Spindle Taper(Type/Size)	/	BT40/Φ150
Spindle Speed	r/min	15000
Spindle Torque NM(S1/S6)	/	35/42
Tools	/	Standard BT40-24T Disc Tools
X/Y/Z Roller Guideway	/	4012
X/Y/Z Guideway	/	45 Roller Guideway
Rapid Speed	m/min	24/24/24
X/Y/Z Motor Connection	/	Direct Drive
Main Motor Power	kw	11
XYZ Motor Torque	N·m	22/22/22
Height of Machine Bed Blocks	mm	50
Table Load (Vertical/Horizontal)	kg	300
Machine Weight	t	11

20KW

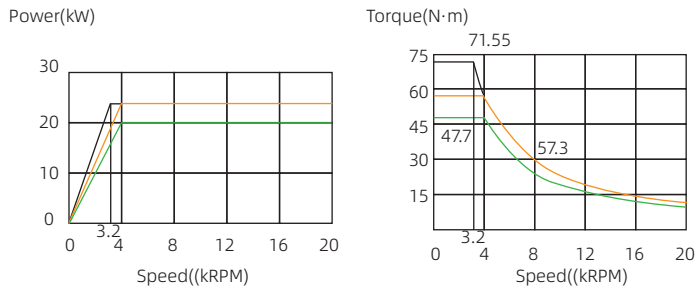
POWER & TORQUE DIAGRAM

— Power:S3(15%)
— Power:S6(40%)
— Power:S1
— Torque:S3(15%)
— Torque:S6(40%)
— Torque:S1

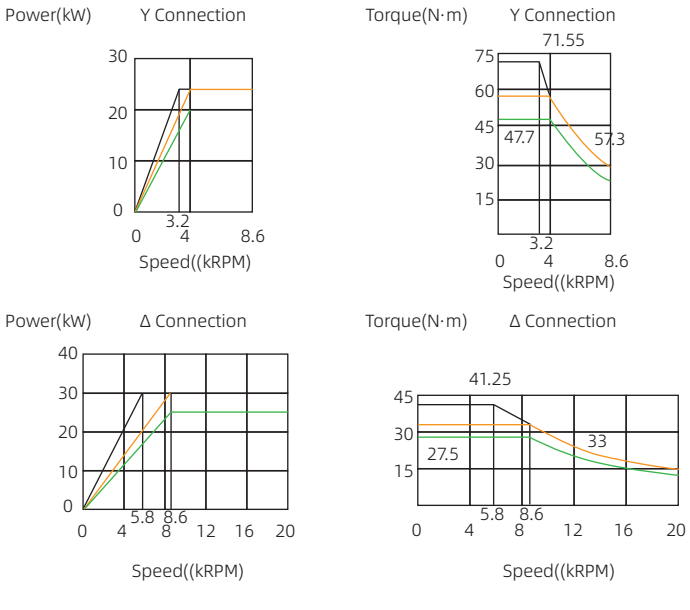
220VAC Y-Δ Changing -Change Speed 5000rpm



380VAC Y Connection



380VAC Y-Δ Changing -Change Speed 8600rpm

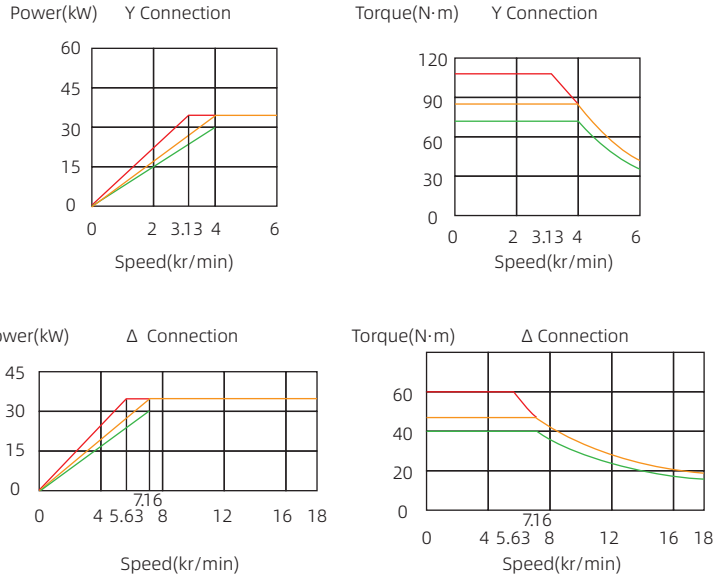


30KW

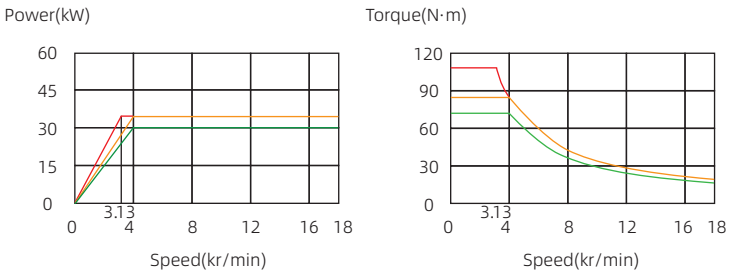
POWER & TORQUE DIAGRAM

- Power:S3(15%)
- Power:S6(40%)
- Power:S1
- Torque:S3(15%)
- Torque:S6(40%)
- Torque:S1

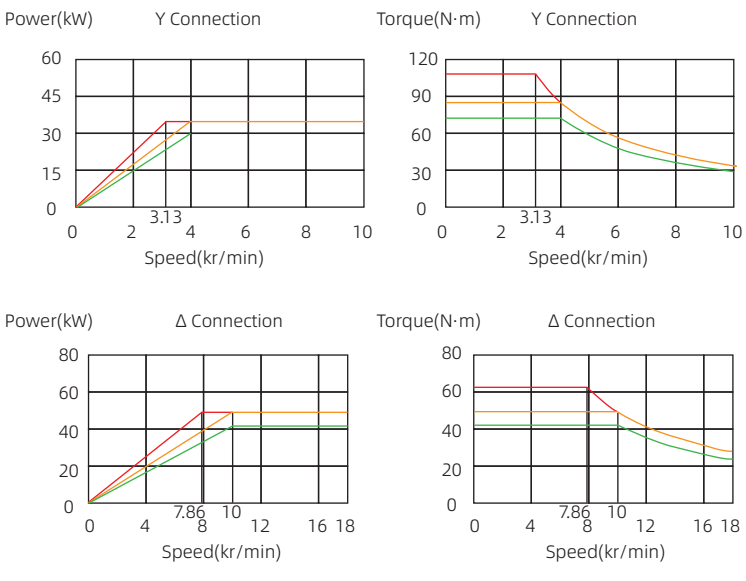
220VAC Y-Δ Changing -Change Speed 6000rpm



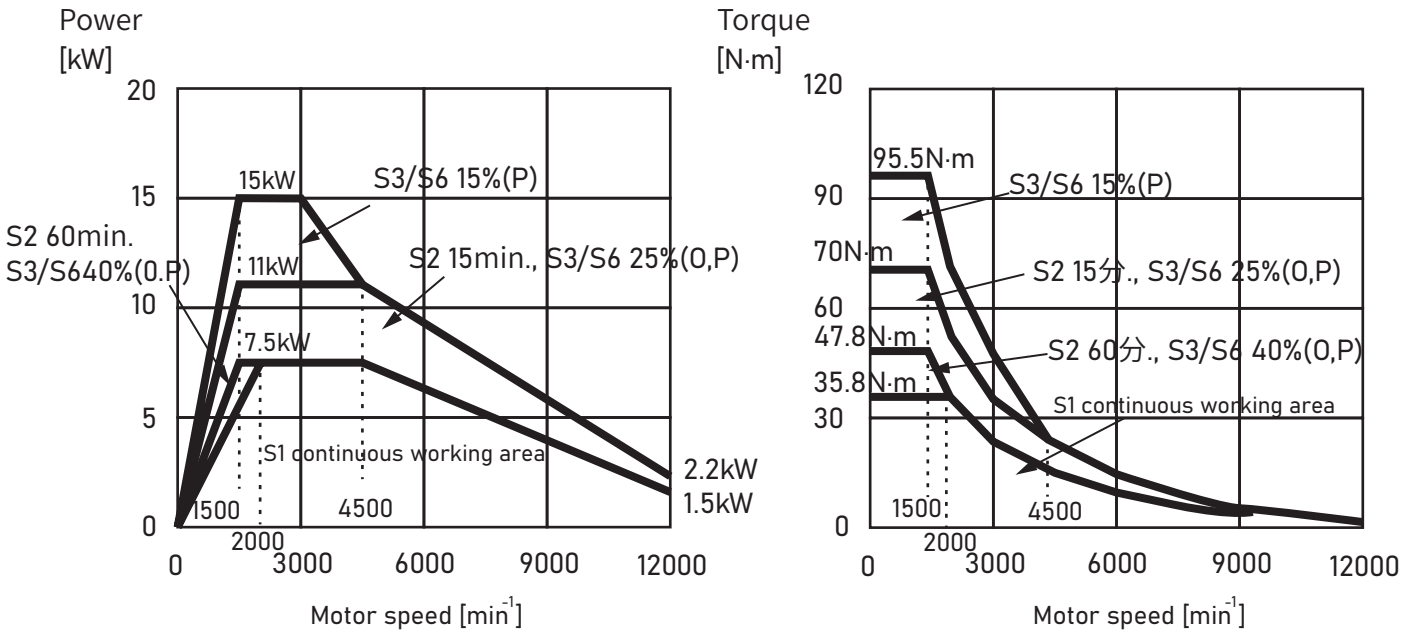
380VAC Y Connection



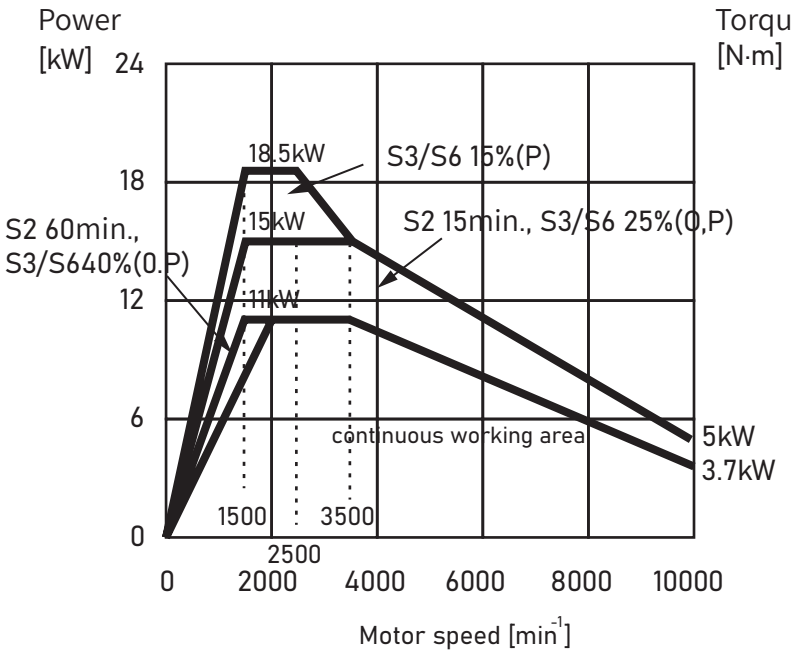
380VAC Y-Δ Changing -Change Speed 10000rpm

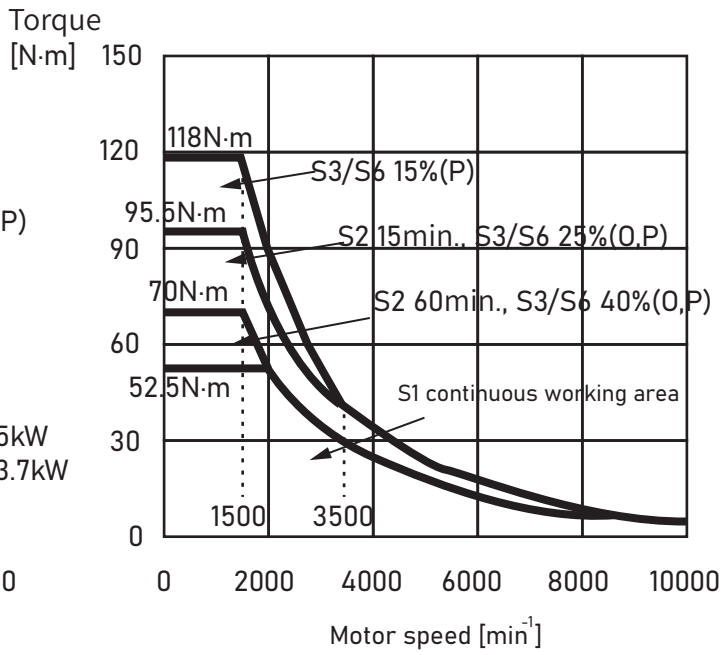


βil 8/12000-B	
Rated power (kW)	7.5
Short time rated power (kW)	S2 11/S3 15
Max acceleration power (kW)	2000
Rated power max speed (r/min)	16.5
Continuous rated torque (Nm)	35.8
Rotational inertia (kgm^2)	0.0179
Corresponding amplifier	αiSP 15-B βiSVSP*-15-B
Characteristic nameplates	A06B-1230-K446#SOP
Motor order number	A06B-2446-Bxyz



βil 12/10000-B	
Rated power (kW)	11
Short time rated power (kW)	S2 15/S3 18.5
Max acceleration power (kW)	2000
Rated power max speed (r/min)	20.4
Continuous rated torque (Nm)	52.5
Rotational inertia (kgm^2)	0.0275
Corresponding amplifier	αiSP 15-B βiSVSP*-18-B
Characteristic nameplates	A06B-1230-K446#SOP
Motor order number	A06B-2447-Bxyz



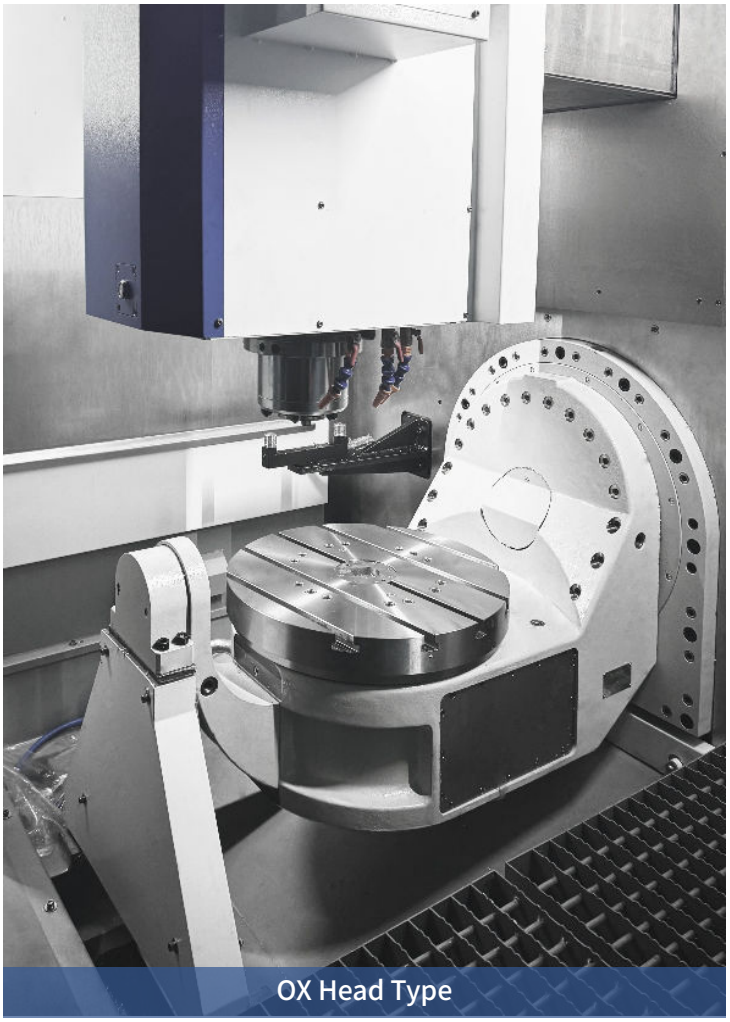


Item	385-100-500
Rated Torque	500N.m
Max Torque	1500N.m

Item	485-160
Rated Torque	1230N.m
Max Torque	3700N.m

STANDARD

- Siemens 840D CNC System
- Direct Drive Spindle
- THK Ballscrew
- THK Linear Guideway
- NSK Bearings
- DD Motor for AC axis
- Fully Protection Cover
- ATC System
- Auto-Feed Lubrication System
- Advanced Electric System
- Renishaw TS27R Tool Presetter
- Chip Conveyor
- Spindle Oil Cooling System
- LED Light
- 3-Color Light
- Air Gun
- Coolant Gun
- Flushing System
- Foundation Pads



OX Head Type

OPTIONAL

- Heidenhain TNC640 System
- Heidenhain Linear Scale
- Heidenhain Rotray Encorder for A/C
- Renishaw OMP60 Workpiece Measurement
- Renishaw Edge Finding
- Mist Control
- Coolant Through Spindle
- Auto Door
- Roller Cam for A/C Axis

SEALION MACHINE

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Add

T2-306, No 500 Xinlong Road,
Shanghai, China

Tel

+86-21-60128108

E-mail

steven@sealionmachine.com

Web

www.sealionmachine.com