www.sbhm.kr

ISO9001 OHSAS 18001

Total Solution Provider

SUNBONG HYDRO MACHINERY CYLINDER

SUN BONG
HYDRO M/C CO., LTD.

1st place of cylinder in the domestic marine shipbuilding industry and continuously concentrates on technical development and quality improvement to be a global top in the field of cylinder

SUNBONG

HYDRO MACHINERY CYLINDER

Since the very beginning of this company that requested technical support to advanced companies in 2006, all executives and employees have made a great effort for establishing a specialized company in discovering new materials and steel for low temperature, standardizing cylinder by specifications, certifying classification survey, and constructing cylinder facilities for all processes through constant innovation of technology, improvement of construction method, design and manufacturing of special cylinder. Sun Bong Hydro M/C Co., Ltd. is in the 1st place of cylinder in the domestic marine shipbuilding industry and continuously concentrates on technical development and quality improvement to be a global top in the field of cylinder. Sun Bong Hydro M/C Co., Ltd. that has grown despite of several crisis situations will become a "total solution provider" beyond the marine & offshore field. We will do our best for customer's satisfaction with excellent products and compliance with the delivery date to make a return for your support.

History

2006'S
- Established Sun Bong Hydro M/C Co., Ltd.
- Chosen as a subcontractor of Oriental Precision & Engineering Co., Ltd.

2007'S
- Obtained an order of 500/850 tons spooling-winch of total marine solution

2008'S
- Certified by ICR ISO 9001
- Approved by GL-WPS
- Approved by DNV-WPS
- Approved by BV-WPS

2009'S
- Chosen as a company having GL-approved factory
- Approved by RINA-WPS
- Approved by KR-WPS
- Approved by LR-WPS

2011'S
- Chosen as an official global vender company for NOV(National Oilwell Varco) Cylinder
- Chosen as an official global vender company for Aker Solution Cylinder

2012'S
- Obtained an order of FWD & AFT and crane/telescope cylinder of warship H7038 of DSME Co., Ltd.
- Obtained an order of burner boom cylinder of ENSCO

2013'S
- Obtained an order of Viking Inert Gas Riser Tension Cylinder Ø419 x 16EA
- Obtained an order of Ocean Rig Burner Boom Cylinder

2014'S
- Obtained an order of Maersk Venturer Drill Ship Burner Boom Cylinder Ø300
- Obtained an order of Inpex Ichthys H6054 Locking Cylinder 52EA
- Obtained an order of Hawe Electronic Semiconductor Cylinder 408EA

2015'S
- Obtained an order of brake hoisting winch 56 ea of S736, 10000 tons floating crane of Hyundai Samho Heavy Industries Co., Ltd.
- Certified by DNV-OHSAS 18001
- Certified by DNV-ISO 9001
- Obtained venture business confirmation
- Obtained INNO-BIZ confirmation
- Established R&D laboratory

High technology to meet Customer's needs at client's satisfaction.

Capabilities

Design

Designing Cylinder Assembly and Sub Part and Choosing Materials According to Specifications Required By Customers. Structure Analysis, optimum design using by 3D Modeling and 3G simulation program. • Design Program : Auto Cad, 3D Modeling

Manufacturing

System : raw materials purchasing(Pipe, Round Bar, Plate),Cuting, Manufacture, Polishing, Boring, Honing, Welding, Cleaning, Assembly

Equipment : Lathe, CNC, Milling Machine, Band Saw, Radial Drilling Machine, Welding Machine, Cleaner

Hydro Test

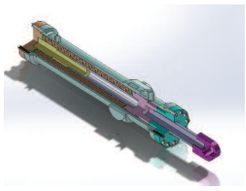
System : Operation, Visual, Dimension Inspection, Leakage Test, Pressure Test

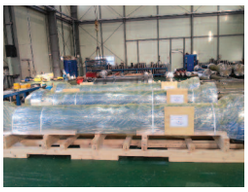
Equipment : Hydro Test Unit(Bed, Hydro Pump, Oil Storage Tank), Oil Degasifier(NAS,ISO)

Inspection

System : Component Inspection, Complete Product Inspection, Nondestructive Inspection, Class Inspection, Customer Inspection

Equipment : Test Indicator, Bore Gauge, Calliper Gauge, Surface Roughness Tester, Hardness Tester, Digital Micrometer, Digital Clamp Meter, DC Ammeter, DC Volt Meter, Coating Thickness Tester





Facilities

Machinery	Size/Capacity	Quantity
Overhead Crane	15ton	1
	10ton	3
Lathe	1300 x 10000L	1
	950 x 6000L	1
	750 x 4000L	1
	750 x 5000L	1
	600 x 4000L	2
	600 x 2000L	2
CNC	760 x 720L	1
	760 x 600L	1
	750 x 4000L	1
	750 x 720L	1
	480 x 300L	1

Machinery	Size/Capacity	Quantity
Milling Machine	2100 x 500	2
	1100 x 280	1
Band Saw	550 x 400	2
Radial Drilling Machine	1600L0L	1
	1200L	1
	1100L	1
Welding Machine	FCAW(co2)	4
	GTAW(Tig)	2
Tube Cleaner	4000 x 12000L	1
Ultrasonic Cleaner	1600 x 900L	1
	850 x 650L	1
Hydro Unit	600bar	1
Oil Degasifier	2500ℓ /hour	1

Certificates

Class	Grade	Thickness Range	Pipe Outside Diameter	Welding Process	Position
CCS	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136.5mm&above	GTAW+FCAW	1G
NK	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136.5mm&above	GTAW+FCAW	1G
RINA	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136.5mm&above	GTAW+FCAW	1G
KR	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136mm&above	GTAW+FCAW	1G
	A106Gr.C+S355J2	9mm to 36mm	Ø91mm&above	GTAW+FCAW	1G
ABS	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136mm&above	GTAW+FCAW	1G
	A106Gr.C+S355J2	9mm to 36mm	Ø91mm&above	GTAW+FCAW	1G
BV	A106Gr.B+A106Gr.B	14.3mm to 57.2mm	Ø136.6mm&above	GTAW+FCAW	1G
	A106Gr.C+S355J2	9mm to 36mm	Ø91mm&above	GTAW+FCAW	1G
LR	A106Gr.C+S355J2	9mm to 36mm	Ø91mm&above	GTAW+FCAW	1G
	EH36+EH36	5mm & above	Over Ø500mm	FCAW	1F
DNV	A106Gr.B+A106Gr.B	14mm to 56mm	Ø136mm&above	GTAW+FCAW	1G
	A106Gr.C+S355J2	9mm to 36mm	Ø91mm&above	GTAW+FCAW	1F
	EH36+EH36	20mm to 80mm	Over Ø500mm	FCAW	1F
	EH36+SUS630	8mm to 38mm	N/A	FCAW	1F
	SUS316+SUS316	7.5mm to 30mm	Over Ø57.1mm	FCAW	1G


inno-biz

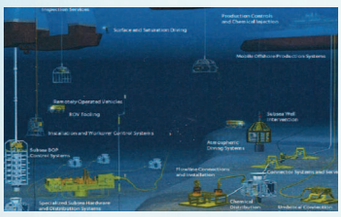
venture busimess

OHSAS 18001

ISO9001:2009

R&D Laboratory l R&D Performance

ROV Launch and Recovery System(LARS)



•Piston Accumulator •Active Heave Compensator(AHC) •Accumulator Station

offshore Telescopic Gangway System



•Extention Hydraulic system •Main Hydraulic system •General Safety Alarm system
•Deluge system

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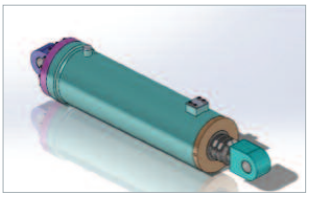
Total Solution Provider

SUN BONG HYDRO M/C CO., LTD.

OVERVIEW



Sun Bong Hydro M/C Co., Ltd. manufactures marine & offshore cylinder having a long lifespan despite of poor marine environment for handling super heavy cargo over 50 tons, concentrate on the R&D, and designs and produces optimized pressure, installation form, and stroke according to structural characteristics. Based on the performance, technical skill, and competitiveness, our company enters into Japanese and Chinese steel industries, semiconductor industry, and other industries such as power plant

VITAL COMPONENTS

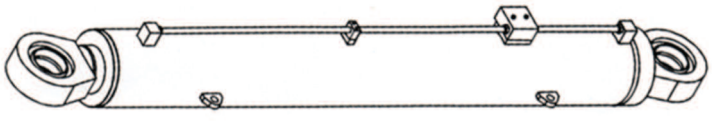
Componen	Material	Maker	Country Of Origin
Tube	A106Gr.B, St52.0, STPG370,STKM13C, EH36, SM490YB, A350LF2, S355J2, SUS316	HYST,JFE,Pyungsan	Korea, Japan, China
Rod	SM45C, SCM440, SNCM439,A350LF2, S355J2,SUS316, SUS630, SUS304	SeAH Special Steel	Korea
Piston, Rod Cover	SM45C, SCM440, SNCM439,A350LF2, S355J2, SUS316	SeAH Special Steel	Korea
Head Cover, Clevis,Rod End	SM490A&B, DH36, EH36, SS400, S355J2	POSCO, Dongkuk	Korea
Piston-Seal	Urethan	Merkel	Germany
Rod Packing	Urethan &PTFE	Merkel	Germany
Waering	C380	Simlit	Germany
O-Ring, Etc	NBR	NOK	Japan
Bearing	SUJ	Elges	Germany

STANDARD

No	Model	Tube Indaia (mm)	Rod Outdia (mm)	Stroke (mm)	Eye Dia (mm)	Retraction Length (mm)	Extension Length (mm)	Retraction Force (kgf)	Extension Force (kgf)
1	SB 120	120	80	1,451	60	1,955	3,406	16,336	29,405
2	SB 135	135	90	1,702	70	2,337	4,039	20,676	37,216
3	SB 150	150	100	1,959	70	2,660	4,619	25,525	45,946
4	SB 160	160	105	2,057	80	2,755	4,812	29,763	52,276
5	SB 165	165	110	2,057	80	2,755	4,812	30,886	55,594
6	SB 175	175	120	2,144	90	2,914	5,058	33,132	62,537
7	SB 180	180	125	2,318	100	3,112	5,430	34,255	66,162
8	SB 195	195	130	2,381	110	3,247	5,628	43,138	77,648
9	SB 210	210	145	2,381	120	3,247	5,628	47,120	90,054
10	SB 210	210	145	2,649	120	3,584	6,233	47,120	90,054
11	SB 230	230	160	2,649	120	3,584	6,233	55,748	108,024
12	SB 240	240	165	2,714	120	3,620	6,334	62,027	117,621
13	SB 250	250	170	2,877	120	3,701	6,578	68,612	127,627
14	SB 260	260	180	2,985	140	3,793	6,778	71,880	138,042
15	SB 270	270	190	3,096	140	3,866	6,962	75,147	148,864
16	SB 280	280	200	3,447	160	4,405	7,852	78,414	160,096
17	SB 290	290	210	3,447	160	4,405	7,852	81,681	171,735
18	SB 300	300	210	3,704	160	4,746	8,450	93,729	183,783
19	SB 310	310	220	3,860	160	5,010	8,870	97,405	196,240
20	SB 320	320	240	3,974	180	5,101	9,075	91,483	209,104
21	SB 330	330	240	4,219	180	5,212	9,431	104,756	222,378

Marine Part

The main luffing cylinder is designed and manufactured to be mainly installed in provision crane, hose handling crane, cargo pump room maintenance crane, life boat & rescue boat davit of general merchant ships (container ship, crude oil tanker, liquefied natural gas carrier, and bulk ship) and equipped with cutting edge designs such as high corrosion
resistance and water repellency. In particular, it is designed according to 3 levels of temperature, 0℃, -20℃, and -40℃, and all materials are used according to each temperature after material test and tracked for management. The inner part of cylinder is designed to have total different structure compared to other machines for ground use and general industries; particularly, as impact load on the cylinder is increased according to the bearing of crane, the inner part of cylinder should be equipped with low noise induction and high abrasion resistance; especially, the inner part should be sufficiently strong to obtain safety of inertia force generated by spinning the crane. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.



• Provision Crane Cylinder

• Free Fall Life Boat Davit Cylinder

• Hose Handling Crane Cylinder

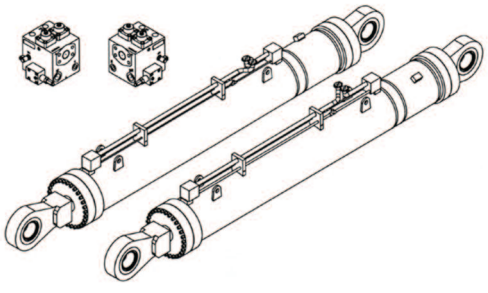
• Knuckle Crane Cylinder

• Winch brake Cylinder

OFFSHORE PART

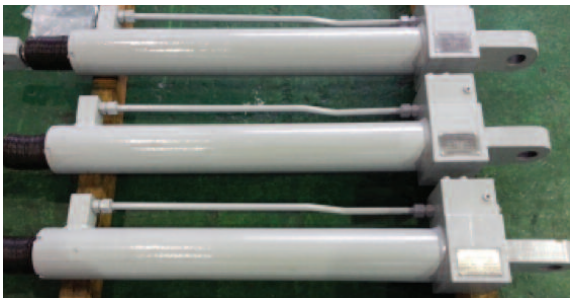
|A-Frame Cylinder|

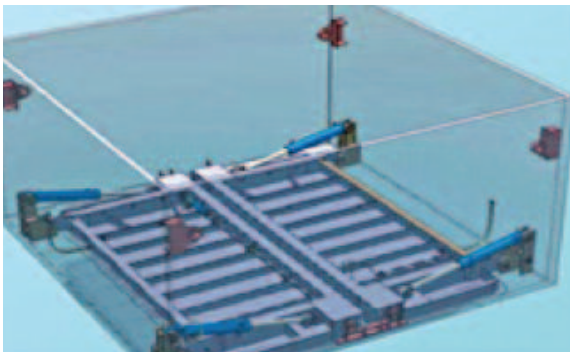
Main cylinder and traversing cylinder for A-frame requires high load capacity and high corrosion resistance; 1 ea of cylinder requires approximately over 800 tons of maximum output. As the A-frame installed in the stern of ship with high corrosion resistance is mainly used for underwater missions and thus the cylinder is exposed to the seawater for a long period, it is designed and manufactured to have high corrosion resistance and also stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.

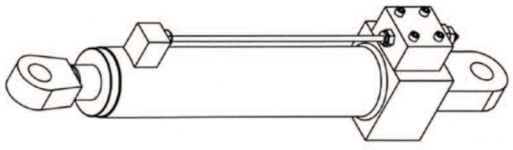


|Moonpool Cylinder|

Moonpool cylinder is installed in the bottom of rig ship for underwater missions; as the cylinder rod is always exposed to the seawater for a long time, it is designed and manufactured to have corrosion resistance and stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.



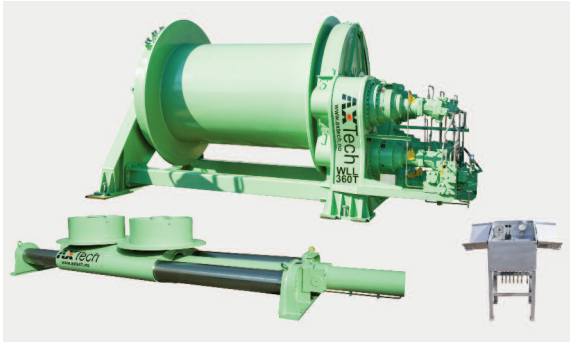


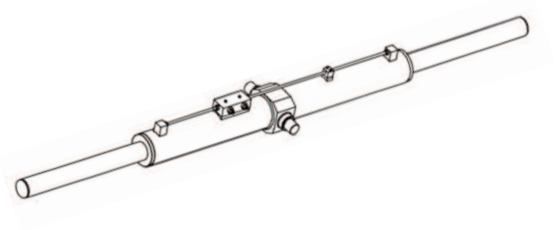


OFFSHORE PART

| Heavy Spooling Winch Cylinder |

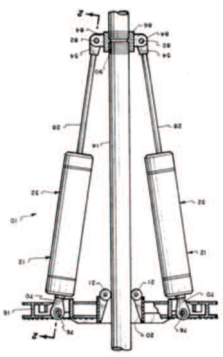
In contrast with general anchor and mooring winch, this cylinder is used for spooling in winch having high load capacity with about 850 tons of output, requiring higher corrosion resistance and abrasion resistance than other ships in particular, it is difficult to be disassembled after installing in the ship, and thus it requires high quality confidence.





| Riser Tensioner Cylinder |

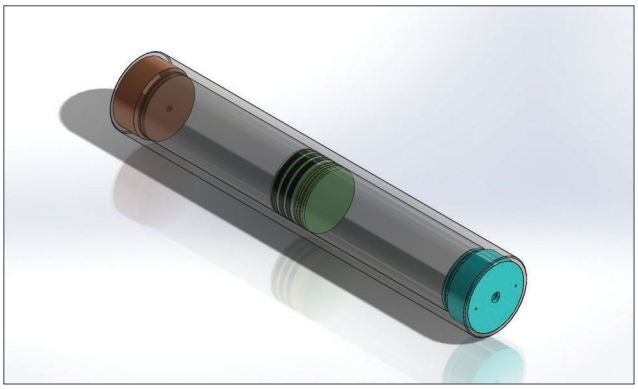
Riser tensioner cylinder prevents buckling of pipe and shaking in drilling of rig ship under the sea and it is used for underwater missions as the cylinder rod is always exposed to the seawater for a long time, it is designed and manufactured to have corrosion resistance and stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.

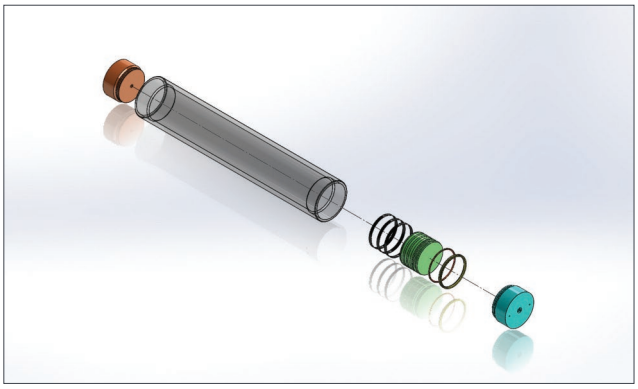


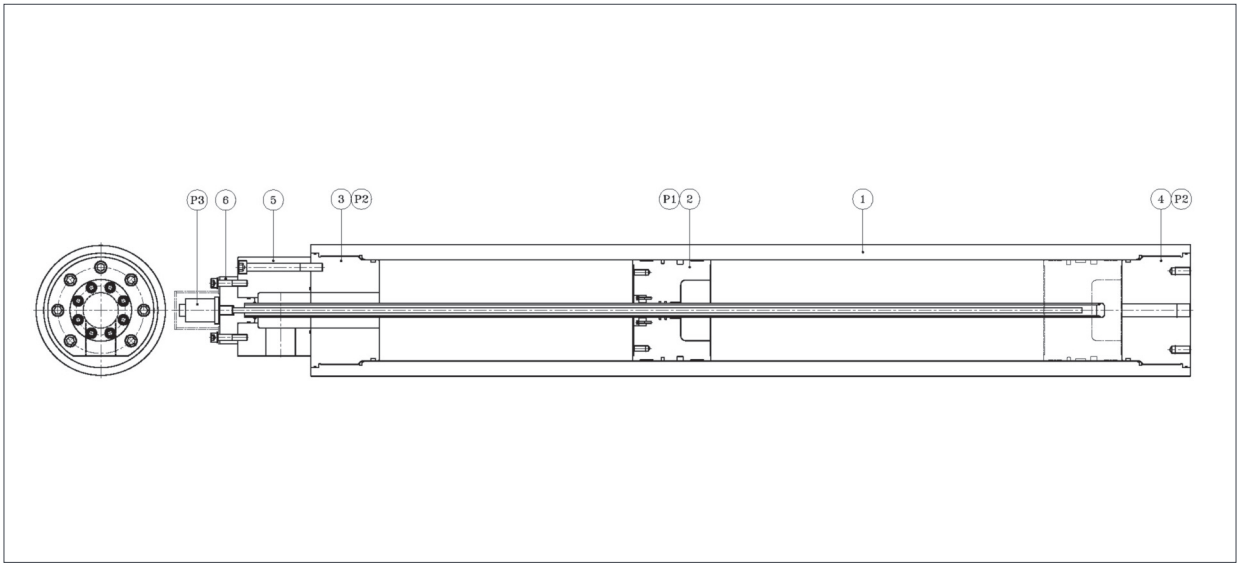
OFFSHORE PART

|Piston Accumulator|

Offshore heave compensator is a structure that bears dynamic load such as ocean wave and wind, and influenced by vibration during operation. Piston accumulator is a part of A.H.C(Active Heave Compensation) System to control heave motion. Piston accumulator is used to A-frame, winch, ROV-LARS(Launch and Recovery System), crane. Piston accumulator is manufactured special structural steel with authorized certification by class.(ABS, DNV GL, BV, KR Etc..) Piston accumulator is applied to various categories of industries. Our product is satisfied with high level of inspection system and experience of design and analysis and customized delivery system by customers.



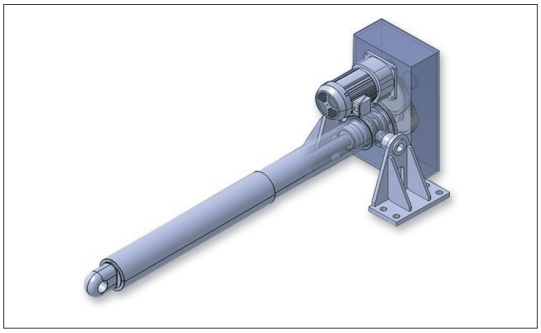


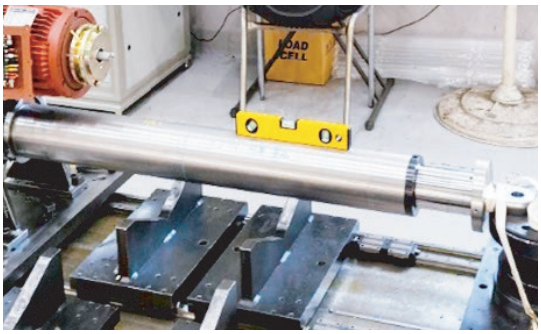


ELECTRIC ACTUATOR

Electric actuators are easy to handle because they do not use hydraulic or pneumatic pressure, and high-performance operation is guaranteed because the ball screw rotation range is used.

Electric Actuator is a product that operates by combining a motor, reduction gear, and screw. Because it uses a motor to generate power, it is also called POWER CYLINDER and ELECTRIC CYLINDER. Compared to hydraulic and pneumatic cylinders, there is no need for a separate hydraulic pump, hydraulic pipe, or power unit. It is a simple and economical product. In addition, it has very little speed change in response to temperature and load changes, noise is also low, and manual operation is possible, so it is a product that can respond to any situation.





1 Eco-friendly
2 Minimization of energy consumption
3 No need for hydraulic pump/power unit/hydraulic piping.
4 Minimal installation area and low noise
5 There is no fear of oil leakage, so it is compact and clean.

Electric Actuator Installation

• Electric Actuator

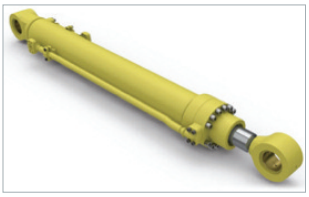
• Electric Actuator

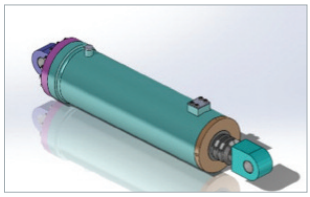
• Electric Actuator

Total Solution Provider

SUN BONG HYDRO M/C CO., LTD.

OVERVIEW





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Piston, Rod Cover	SM45C, SCM440, SNCM439,A350LF2, S355J2, SUS316	SeAH Special Steel	Korea
Head Cover, Clevis,Rod End	SM490A&B, DH36, EH36, SS400, S355J2	POSCO, Dongkuk	Korea
Piston-Seal	Urethan	Merkel	Germany
Rod Packing	Urethan &PTFE	Merkel	Germany
Waering	C380	Simlit	Germany
O-Ring, Etc	NBR	NOK	Japan
Bearing	SUJ	Elges	Germany

STANDARD

No	Model	Tube Indaia (mm)	Rod Outdia (mm)	Stroke (mm)	Eye Dia (mm)	Retraction Length (mm)	Extension Length (mm)	Retraction Force (kgf)	Extension Force (kgf)
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20	SB 320	320	240	3,974	180	5,101	9,075	91,483	209,104
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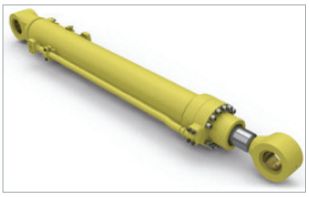
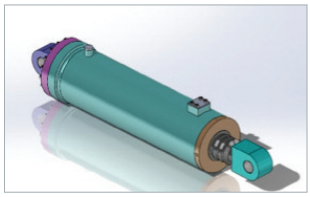
Total Solution Provider

ソンボン油圧機械(株)

概要





当社は、50トン以上の超重量物の取り扱い及び厳しい海洋環境で長い寿命を維持することができる造船＆海洋用シリンダーを生産、技術を確保することに注力しており、構造物の特性に最適化された圧力、装着形態、ストローク長さの設計及び生産能力を保有しています。これまでの実績と技術力、競争力を基に日本、中国の鉄鋼産業、半導体産業、発電所など、その他の産業にも進出しています。

重要構成品

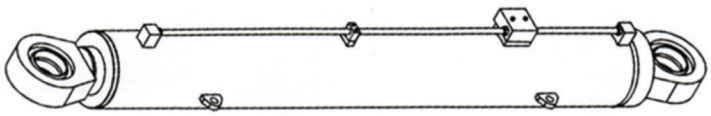
Componen	Material	Maker	Country Of Origin
Tube	A106Gr.B, St52.0, STPG370,STKM13C, EH36, SM490YB, A350LF2, S355J2, SUS316	HYST,JFE,Pyungsan	Korea, Japan, China
Rod	SM45C, SCM440, SNCM439,A350LF2, S355J2,SUS316, SUS630, SUS304	SeAH Special Steel	Korea
Piston, Rod Cover	SM45C, SCM440, SNCM439,A350LF2, S355J2, SUS316	SeAH Special Steel	Korea
Head Cover, Clevis,Rod End	SM490A&B, DH36, EH36, SS400, S355J2	POSCO, Dongkuk	Korea
Piston-Seal	Urethan	Merkel	Germany
Rod Packing	Urethan &PTFE	Merkel	Germany
Waering	C380	Simlit	Germany
O-Ring, Etc	NBR	NOK	Japan
Bearing	SUJ	Elges	Germany

標準品

No	Model	Tube Indaia (mm)	Rod Outdia (mm)	Stroke (mm)	Eye Dia (mm)	Retraction Length (mm)	Extension Length (mm)	Retraction Force (kgf)	Extension Force (kgf)
1	SB 120	120	80	1,451	60	1,955	3,406	16,336	29,405
2	SB 135	135	90	1,702	70	2,337	4,039	20,676	37,216
3	SB 150	150	100	1,959	70	2,660	4,619	25,525	45,946
4	SB 160	160	105	2,057	80	2,755	4,812	29,763	52,276
5	SB 165	165	110	2,057	80	2,755	4,812	30,886	55,594
6	SB 175	175	120	2,144	90	2,914	5,058	33,132	62,537
7	SB 180	180	125	2,318	100	3,112	5,430	34,255	66,162
8	SB 195	195	130	2,381	110	3,247	5,628	43,138	77,648
9	SB 210	210	145	2,381	120	3,247	5,628	47,120	90,054
10	SB 210	210	145	2,649	120	3,584	6,233	47,120	90,054
11	SB 230	230	160	2,649	120	3,584	6,233	55,748	108,024
12	SB 240	240	165	2,714	120	3,620	6,334	62,027	117,621
13	SB 250	250	170	2,877	120	3,701	6,578	68,612	127,627
14	SB 260	260	180	2,985	140	3,793	6,778	71,880	138,042
15	SB 270	270	190	3,096	140	3,866	6,962	75,147	148,864
16	SB 280	280	200	3,447	160	4,405	7,852	78,414	160,096
17	SB 290	290	210	3,447	160	4,405	7,852	81,681	171,735
18	SB 300	300	210	3,704	160	4,746	8,450	93,729	183,783
19	SB 310	310	220	3,860	160	5,010	8,870	97,405	196,240
20	SB 320	320	240	3,974	180	5,101	9,075	91,483	209,104
21	SB 330	330	240	4,219	180	5,212	9,431	104,756	222,378

Marine Part

The main luffing cylinder is designed and manufactured to be mainly installed in provision crane, hose handling crane, cargo pump room maintenance crane, life boat & rescue boat davit of general merchant ships (container ship, crude oil tanker, liquefied natural gas carrier, and bulk ship) and equipped with cutting edge designs such as high corrosion
resistance and water repellency. In particular, it is designed according to 3 levels of temperature, 0℃, -20℃, and -40℃, and all materials are used according to each temperature after material test and tracked for management. The inner part of cylinder is designed to have total different structure compared to other machines for ground use and general industries; particularly, as impact load on the cylinder is increased according to the bearing of crane, the inner part of cylinder should be equipped with low noise induction and high abrasion resistance; especially, the inner part should be sufficiently strong to obtain safety of inertia force generated by spinning the crane. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.



• Provision Crane Cylinder

• Free Fall Life Boat Davit Cylinder

• Hose Handling Crane Cylinder

• Knuckle Crane Cylinder

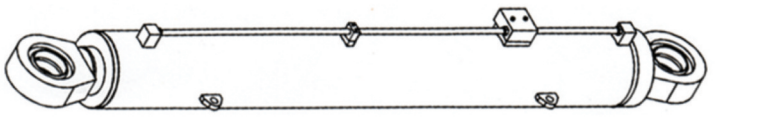
• Winch brake Cylinder

造船用

一般商船(Container Ship、Crude Oil Tanker、Liquefied Natural Gas Carrier、Bulk Ship)のProvision Crane、Hose Handling Crane、Cargo Pump Room Maintenance Crane、Life Boat＆Rescue Boat Davitに主力して設置しているMain Luffing Cylinderで、海洋環境の特性に合わせて高耐食性及び防水性などの先進設計を適用して設計製作します。特にデザインの温度によって0℃、-20℃、-40℃三つの温度条件で製作し、用いられるすべての材料は、使用前に材料試験を行ってから、各温度に合わせて使用及び追跡管理します。シリンダーの内部設計では、陸上及び一般産業機械の構造とは全く異なる構造を持っており、特にクレーン姿勢によってシリンダーに加わる衝撃荷重が大きくなるので、シリンダーの内部は低騒音性、高耐摩耗性を確保する必要があります。特にクレーンの回転時に発生する慣性力に対する安全を確保するために、内部には十分な強度が反映されて設計を行います。船級機関の図面承認と製品検査を受けた後、お客様に引き渡ります。

• Provision Crane Cylinder

• Free Fall Life Boat Davit Cylinder



• Hose Handling Crane Cylinder

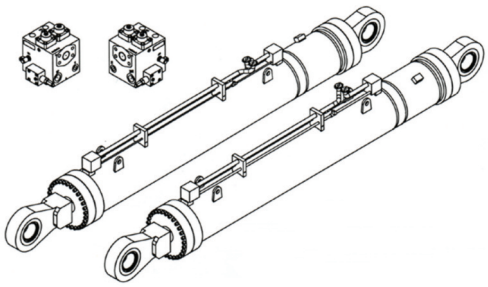
• Knuckle Crane Cylinder

• Winch brake Cylinder

OFFSHORE PART

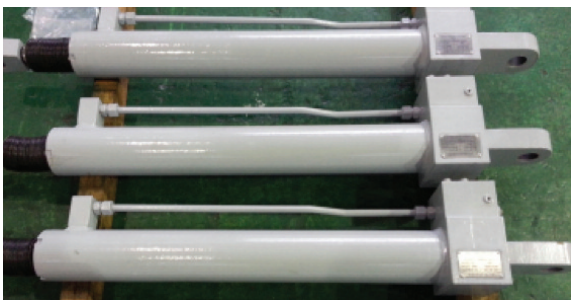
|A-Frame Cylinder|

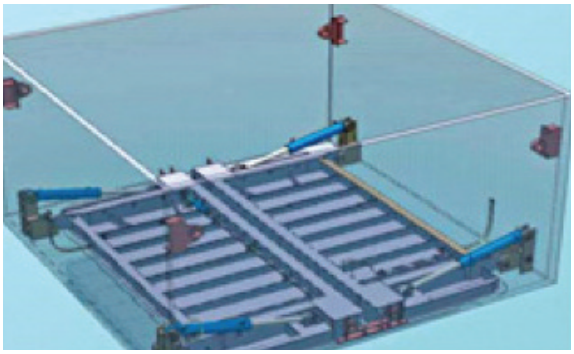
Main cylinder and traversing cylinder for A-frame requires high load capacity and high corrosion resistance; 1 ea of cylinder requires approximately over 800 tons of maximum output. As the A-frame installed in the stern of ship with high corrosion resistance is mainly used for underwater missions and thus the cylinder is exposed to the seawater for a long period, it is designed and manufactured to have high corrosion resistance and also stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.

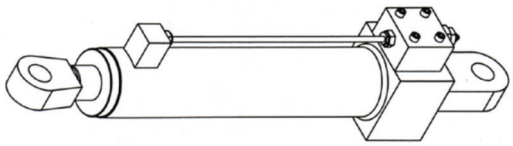


|Moonpool Cylinder|

Moonpool cylinder is installed in the bottom of rig ship for underwater missions; as the cylinder rod is always exposed to the seawater for a long time, it is designed and manufactured to have corrosion resistance and stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.



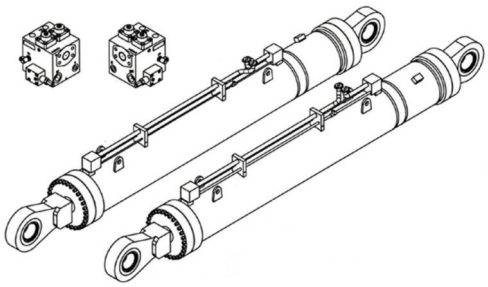




海洋用

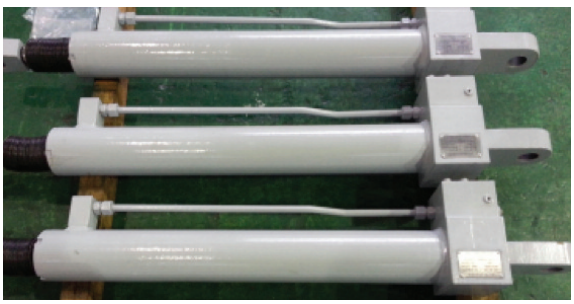
|A-Frame Cylinder|

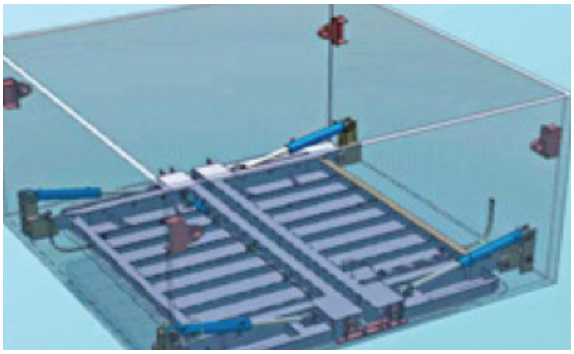
A-Frame用のMain Cylinder及びTraversing Cylinderは、非常に高荷重及び高耐食性を必要とするシリンダーで、最大出力は、シリンダー一つ当り約800トン以上の力を必要とします。高耐食性の船尾に装着されるA-Frameは、主に海底作業用として用いられるので、シリンダーは、海上で長期間海水にさらされることを考え、これに対する耐食性を確保して設計します。また、高荷重に対するすべての応力計算が分析されて設計製作します。船級機関の図面承認と製品検査を受けてから、お客様に引き渡ります。

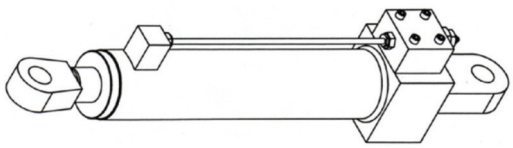


|Moonpool Cylinder|

Moonpool Cylinderは、リグ線の底面船体に設置されるシリンダーで、海上作業用として用いられ、海上で長期間にわたって作業することになるので、シリンダーロッドは、常に海水にさらされることを考え、耐食性を確保して設計します。また、高荷重に対するすべての応力計算が分析されて設計製作します。船級機関の図面承認と製品検査を受けてから、お客様に引き渡ります。



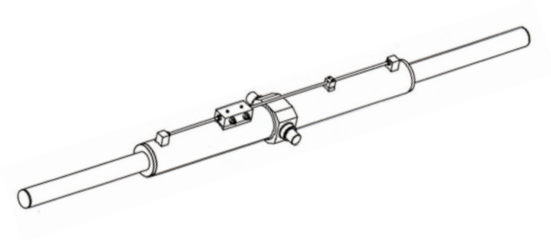


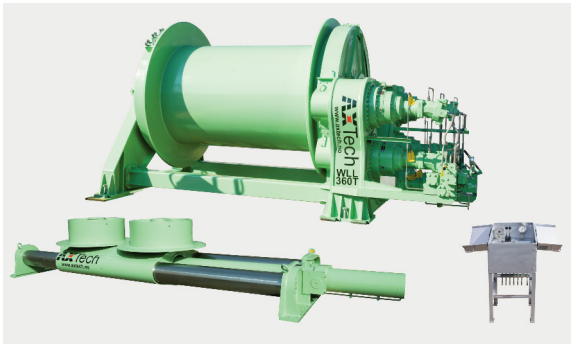


OFFSHORE PART

| Heavy Spooling Winch Cylinder |

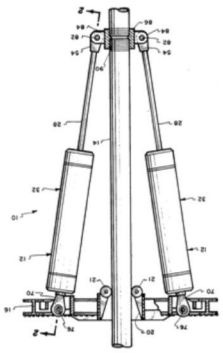
In contrast with general anchor and mooring winch, this cylinder is used for spooling in winch having high load capacity with about 850 tons of output, requiring higher corrosion resistance and abrasion resistance than other ships in particular, it is difficult to be disassembled after installing in the ship, and thus it requires high quality confidence.





| Riser Tensioner Cylinder |

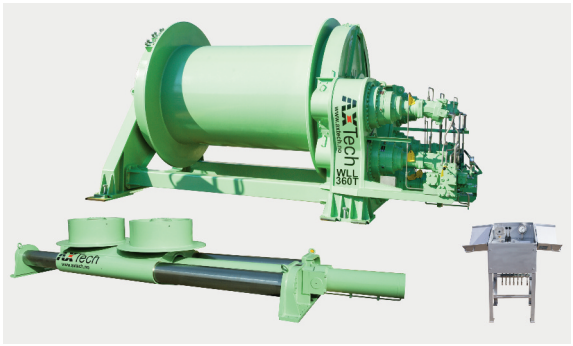
Riser tensioner cylinder prevents buckling of pipe and shaking in drilling of rig ship under the sea and it is used for underwater missions as the cylinder rod is always exposed to the seawater for a long time, it is designed and manufactured to have corrosion resistance and stress analysis is performed to achieve high load capacity. After drawing approval and product inspection by the ship's classification organization, the products are delivered to customers.

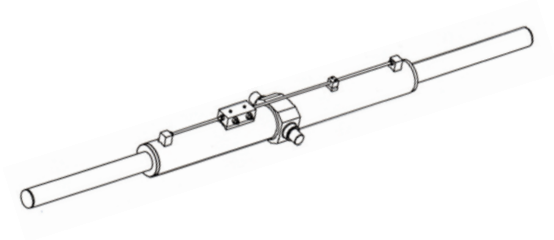


海洋用

|Heavy Spooling Winch Cylinder|

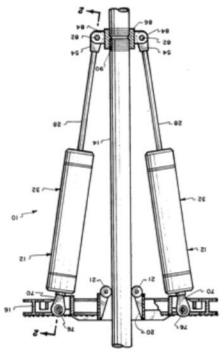
般のAnchor、Mooring Winchとは違って、高荷重850トン程度の出力を持つwinchにSpooling用として用いられるシリンダーで、運航線より高い耐食性と高耐摩耗性を必要とします。特に、構造上、船に取付けられた以降にはシリンダーの分解作業が非常に難しいため、非常に高い品質信頼性を必要とします。





|Riser Tensioner Cylinder|

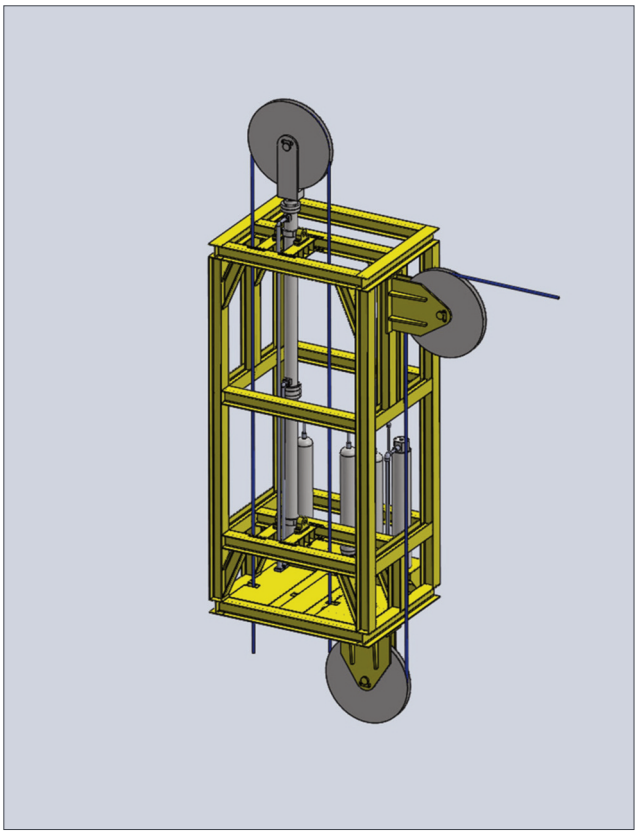
Riser Tensioner Cylinderは、リグ線の海底ドリリング作業時にパイプ座屈、揺れを防ぐTensioner cylinderで、海上作業として用いられ、シリンダーロッドは、海上で長期間にわたって作業をするため、常に海水にさらされることを考え、耐食性を確保して設計します。また、高荷重に対するすべての応力計算が分析されて設計製作します。船級機関の図面承認と製品検査を受けてから、お客様に引き渡ります。

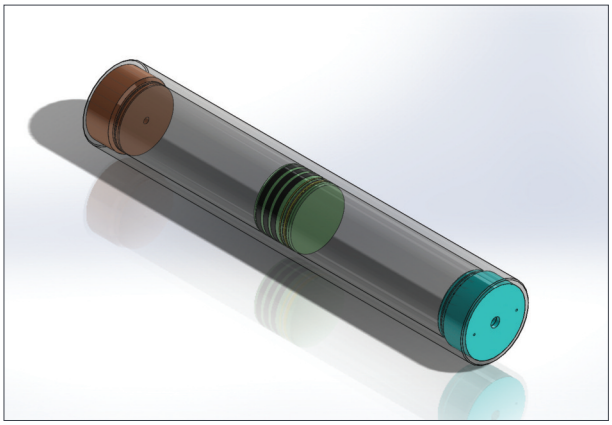


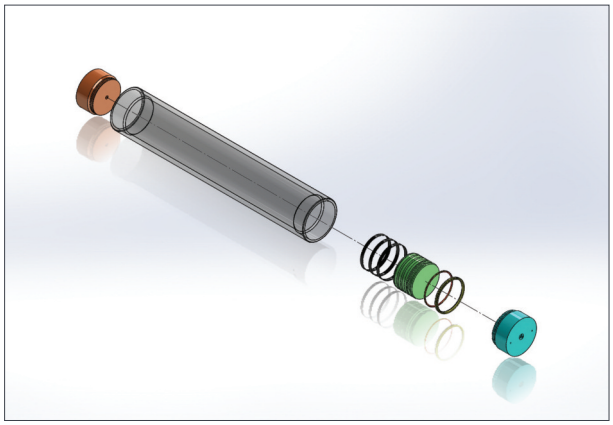
OFFSHORE PART

|Piston Accumulator|

Offshore heave compensator is a structure that bears dynamic load such as ocean wave and wind, and influenced by vibration during operation. Piston accumulator is a part of A.H.C(Active Heave Compensation) System to control heave motion. Piston accumulator is used to A-frame, winch, ROV-LARS(Launch and Recovery System), crane. Piston accumulator is manufactured special structural steel with authorized certification by class.(ABS, DNV GL, BV, KR Etc..) Piston accumulator is applied to various categories of industries. Our product is satisfied with high level of inspection system and experience of design and analysis and customized delivery system by customers.







海洋用

|ピストンアキュムレーター|

Offshore Heave Compensatorは装備が大洋で作動中、波と風による動荷重や振動による影響から装備を保護する装置です。ピストンアキュムレーターはこのような動きを制御するためのA.H.C(Active Heave Compensation)システムの一部分です。ピストンアキュムレーターはA-FrameのWinch、ROV-LARS(Launch and Recovery System)、クレ-ンなどに適用され、船級(ABS、DNV、GL、BV、LR、KR、ETC…)によって認証を得た素材で製作されます。ピストンアキュムレーターは様々な産業分野に使われています。当社の製品は 厳格な品質システム、長年の経験による熟練した設計能力、最も適した納期によりお客様への要求に100パ-セント満足していただけます。