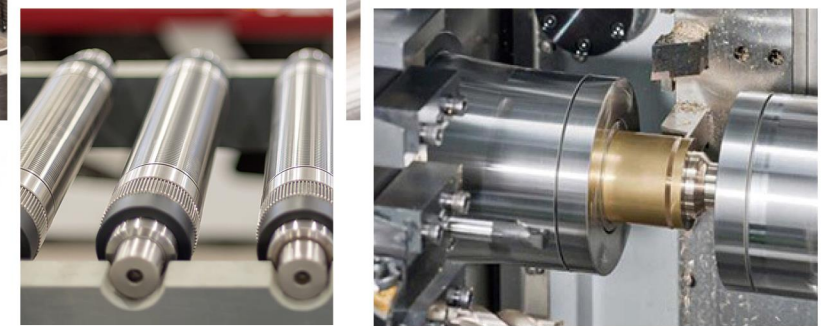


PREMIUM HYDRAULIC CYLINDER

Truck cab tilt cylinder | Excavator cylinder | Forklift cylinder | Tractor cylinder



COMPANY INTRODUCE



INTRODUCTION

KSC(K-Cylinder) was launched in the South Korean market in 2000 by providing many heavy equipment and OEM parts. We ventured into the online market in 2007 to serve nearby countries and we have successfully expanded our business from Asia to Africa and Europe.

We supply every equipment in its best condition as if it were to be used by our own company. Through the years, quality products meet our valued customers from Korea and worldwide. KSC's vast growth is an asset for businesses requiring heavy duty machineries.

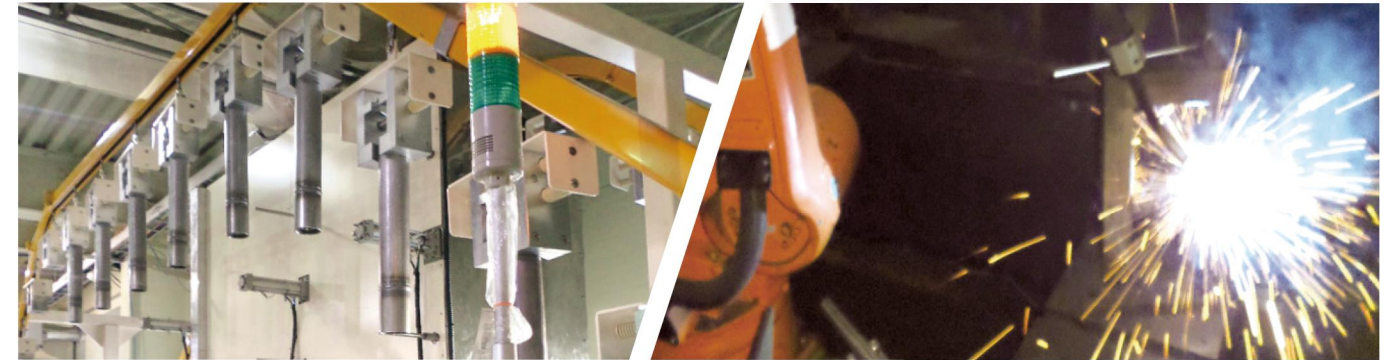
From undercarriage, engine parts, ground engaging tools, bolts and nuts, filters, bearings, gaskets and seals, pumps, electrical parts, air inlet and exhaust, cooling systems, power train, chassis, and other miscellaneous products, name it and we'll get it for you.

Brand new and second hand parts are certainly in exceptional conditions. We at KSC know the value of our customers' standards.

Representative : *Charles Choi*

PROCESS INTRODUCTION

MANUFACTURE&TEST EQUIPMENT



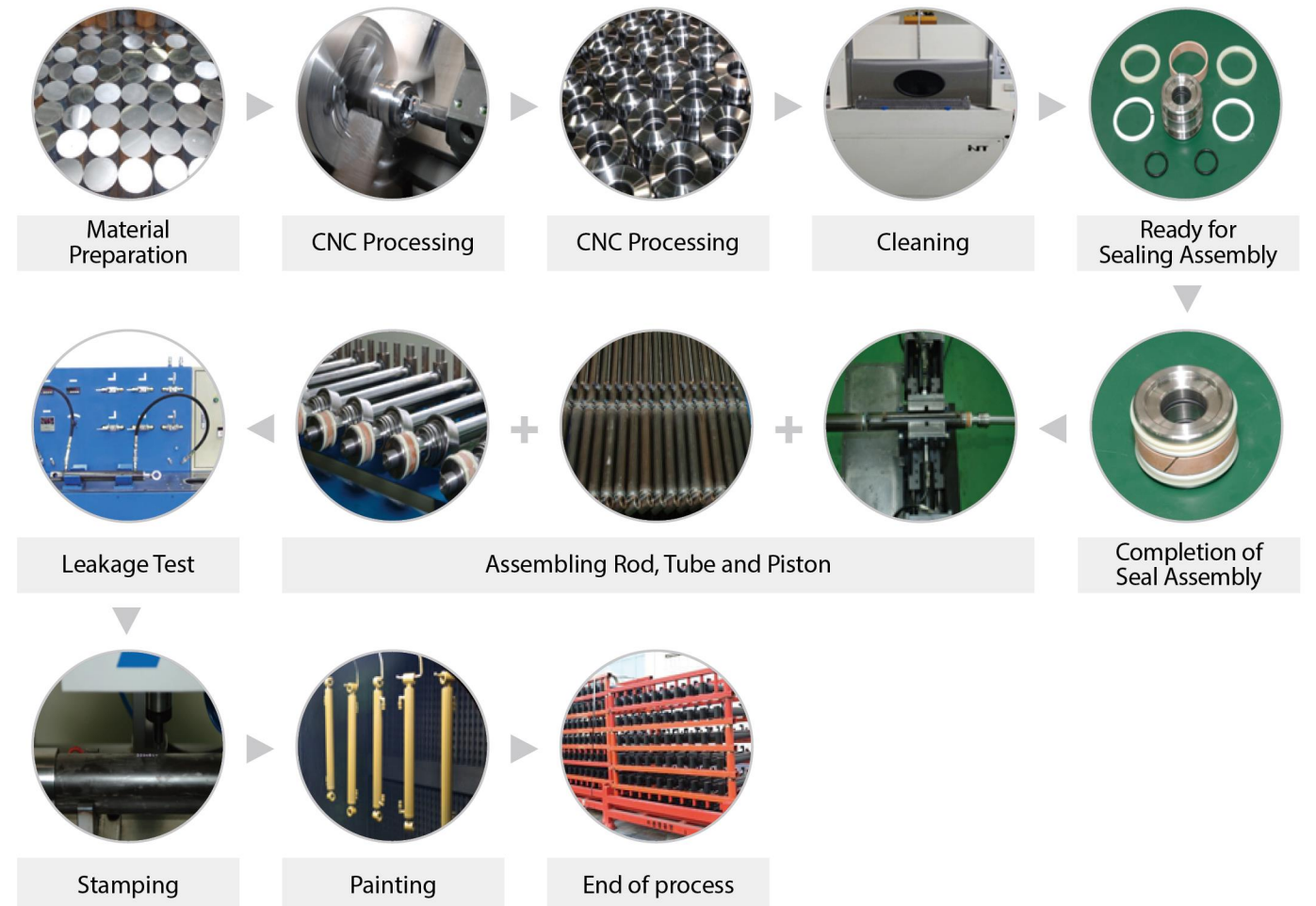
Product Facilities

We have installed both automation line for motor and production line specialized for hydraulic and pneumatic parts which are necessary to establish production system of multiple items in order to meet customers' needs at all items.

Research&Development

We have solid technical know-how in DC motor design and are particularly prominent in the field of hydraulic circuit design and manufacturing. We are doing our best to conduct continuous research and development and provide low-cost, high-quality products.

PROCESS INTRODUCTION



HYDRAULIC&PNEUMATIC CYLINDER

▪ ADVANTAGES OF ROLLER TUBING



KSC(K-Cylinder) focus on manufacturing all kinds of cylinders used for Machinery, Equipment, Metallurgy, Water Conservancy, Truck, etc.

We also can design or do OEM in accordance with client's special requirements. we have our own professional design team, advanced production equipments, and strict quality control system to improve the reliability, safety and economy of products.

- Piston type hydraulic cylinder
- Plunger type hydraulic cylinder
- Telescopic type hydraulic cylinder
- Welded hydraulic cylinder
- Tie rod hydraulic cylinder
- Double acting hydraulic cylinder
- Single acting hydraulic cylinder
- Multistage hydraulic cylinder

▪ CUSTOM HYDRAULIC CYLINDER & PNEUMATIC CYLINDER



1. Material: ST52, CK45 or Stainless Steel, etc.
2. Application: machinery, mine, shipping, metallurgy, water conservancy, offshore, etc.
3. Working length: 50mm to 16,000mm
4. Tube ID range: 40 to 1,000mm(½-40")
5. Piston diameter range: 12 to 500mm(½-20")
6. Working pressure: Max 700 bar
7. Seal type: Hallite, parker, Merkel or in accordance with client's requirement.
8. Painting: follow with customer requirement.
9. Certificate: DNV, ABS, Lloyds, BV, SGS, GL, etc.

SKIVED&ROLLER BURNISHED TUBE

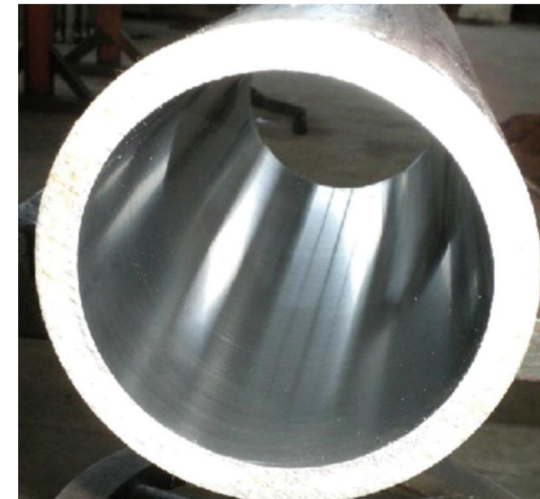
▪ ADVANTAGES OF ROLLER TUBING



SRB Tube has maximum concentricity thanks to the narrower outer and inner diameter tolerances and uniform wall thickness.

It is a precision steel tube. Controlled mechanical properties and smooth inner and outer surfaces lead to excellent machining results.

▪ SKIVED&ROLLER BURNISHED TUBE



1. Steel grade: ST52, CK45, 20#, 45#, 4140, 16Mn, 42CrMo, Q345B, Q345D, Stainless Steel 304/316, Duplex 2205, Alloy Steel etc.
2. ID: 65mm~350mm
3. Length: Max 12m
4. Straightness: 0.5/1,000
5. Roughness(Ra): ≤0.2
6. Tolerance EXT: DIN2391
7. Tolerance INT: ISO H8
8. Type: seamless, cold drawing, skived&roller burnished
9. Conservation: anti rust oiled coating on the inside and outside of the surface, plastic caps at both ends.
10. Package: bundle with steel strip and knitting strip, or wooden case.

▪ FURTHER PRODUCTS STEEL CONSTRUCTION

Stainless Steel Hydraulic Cylinder	304/316
Stainless Steel Honed Tube	304/316
Stainless Steel Chrome Rod	304/316
Castings and Forgings	-
Flanges	-

CYLINDER TUBE | HONED TUBE

■ CYLINDER RAW MATERIALS



Raw materials are produced in small factories, the largest raw material manufacturers. We have experienced technicians and skilled workers and provide you with high quality and efficient products.

We have advanced equipments: cold drawing machine, honing machine, skiving&roller burnishing machine, centerless grinding machine, straightening machine, polishing machine, etc. Delivery on time and best after-sale service.

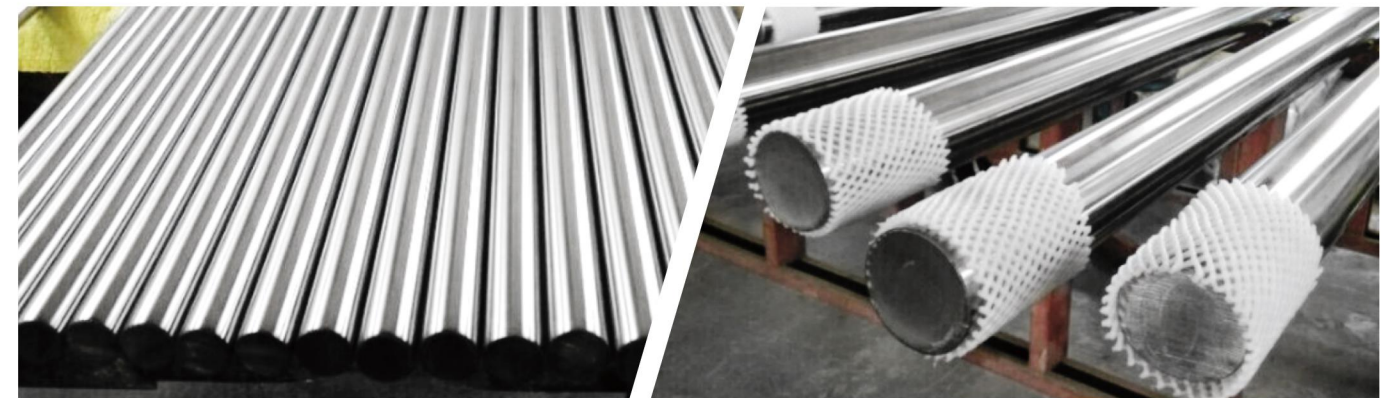
- Honed Tube
- Chrome Plated Honed Tube
- Internal Honed with External Hard Chrome Plated Tube
- Internal Honed and Hard Chrome Plated Tube
- Skived&Roller Burnished Tube

■ SEAMLESS HONED TUBE, CYLINDER TUBE

Inside Dia(mm)	ID Tolerance(mm)			WT Tolerance(mm)
	H8	H9	H10	
≤30	+0.033/0	+0.052/0	+0.084/0	± 7.5% >210mm ± 10%
30~≤50	+0.039/0	+0.062/0	+0.100/0	
50~≤80	+0.046/0	+0.074/0	+0.120/0	
80~≤120	+0.054/0	+0.087/0	+0.140/0	
120~≤180	+0.063/0	+0.100/0	+0.160/0	
180~≤250	+0.072/0	+0.115/0	+0.185/0	
250~≤315	+0.081/0	+0.130/0	+0.210/0	
315~≤700	+0.089/0	+0.140/0	+0.230/0	

1. Material: ST52, CK45, 4140, 16Mn, 42CrMo, E355, Q345B, Q345D, Stainless Steel 304/316, Duplex 2205, Alloy Steel etc.
2. Delivery Condition BK+S
3. ID: 20~1,500mm
4. Length: Max 13m
5. Types: Seamless. Cold Drawn
6. Straightness: 0.5/1,000
7. Roughness(Ra): 0.2~0.4u
8. Tolerance EXT: DIN2391
9. Tolerance INT: H8
10. Conservation: anti rust oiled inside and outside surface, plastic caps in both ends.
11. Package: bundle with steel strip and knitting strip, or wooden case.

■ CERAMIC, NICKEL AND CHROME PLATED PISTON RODS



- Hard chrome plated rod(HRC 15-20)
- Hardened and tempered chrome plated rod(HRC 28-30)
- Induction and hardened chrome plated rod(HRC 55-60)
- Hollow chrome bar
- Hollow piston rod
- Cylinder rod

■ ROD SPECIFICATION

ISO f7			
OD(mm)		Tolerance(mm)	
<	≤	≤	≤
6	10	-0.013	-0.028
10	18	-0.016	-0.034
18	30	-0.02	-0.041
30	50	-0.025	-0.05
50	80	-0.03	-0.06
80	120	-0.036	-0.071

COLD DRAWN SEAMLESS PIPE

1. Material: CK45, 4140, 4340, JIS45C, 40Cr, 20MnV6, 42CrMo, SS431, SS430, Duplex2205, Stainless Steel 304/316, etc.
2. Diameter: Ø6~500mm
3. Length: Max 13m
4. Chrome thickness: 20micron(min)
5. Hardness of the chrome layer: 800HV(min)
6. Roughness(Ra): ≤0.2u
7. Straightness: ≤0.2/1,000
8. Diameter Tolerance: ISO f7
9. Roundness: the deviation of roundness is 50% of the diameter tolerance at the most
10. Packing: anti rust oil to be spread on rod surface and each rod to be packed in paper roll and then in wooden case.

▪ COLD DRAWN SEAMLESS PIPE



1. Material: St52, CK45, 16Mn, E355, 4140, Q345B, Q345D, ST35, St37.4, ST45 etc.
2. OD: 8mm to 377mm
3. Length: Max 14m
4. Straightness: 0.5/1,000
5. Standard: DIN2391, DIN2445, EN10305, DIN1629, DIN1630, ASTM A179, GB/T3639, GB/T8163, GB/T8162, GB/8713, etc.
6. Type: pickling, phosphating, cold drawn, normalizing
7. Conservation: anti rust oiled coating on the inside and outside of the surface, plastic caps at both ends.
8. Package: bundle with steel strips, braiding parcel at outside.

Excentricity	
Outer Diameter(mm)	Excentricity(%)
125	5
>125	7

Inside Dia(mm)	Chemical composition(%)					
	C	Si	Mn	P	S	Al
20#	0.17~0.24	0.17~0.37	0.35~0.65	≤0.035	≤0.035	≥-
45#	0.42~0.50	0.17~0.37	0.50~0.80	≤0.035	≤0.035	≥-
Q345B	≤0.2	≤0.5	1.00~1.60	≤0.03	≤0.03	≥-
Q345D	≤0.2	≤0.5	1.00~1.60	≤0.03	≤0.03	≥0.015
25Mn	0.22~0.29	0.17~0.37	0.70~1.00	≤0.035	≤0.035	≥-
27SiMn	0.24~0.32	1.10~1.40	1.10~1.40	≤0.035	≤0.035	≥-
ST52	≤0.22	≤0.55	≤1.6	≤0.025	≤0.025	≥-
SAE1026	0.22~0.28	0.15~0.35	0.60~0.90	≤0.04	≤0.05	≥-

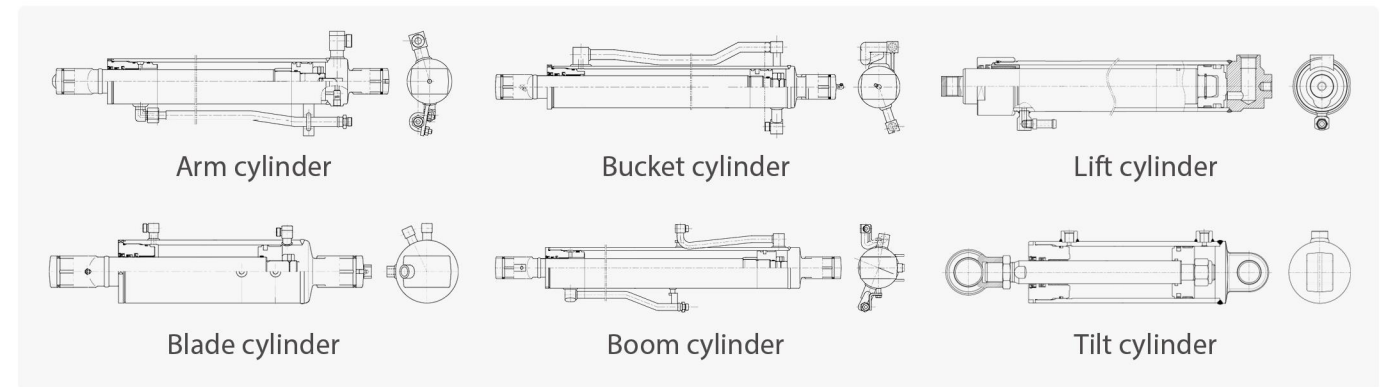
Delivery condition	Cold finished(hard)(BK)		Cold drawn and stress-relieved(BK+S)		
	Tensile strength(Mpa)	Elongation(%)	Tensile strength(Mpa)	Yield strength(Mpa)	Elongation(%)
20#	≥550	≥8	≥520	≥375	≥15
45#	≥640	≥5	≥600	≥520	≥10
16Mn	≥640	≥5	≥600	≥520	≥14
25Mn	≥640	≥5	≥600	≥510	≥15
27SiMn	≥800	≥5	≥760	≥610	≥10
ST52	≥640	≥5	≥600	≥520	≥14
SAE1026	≥640	≥5	≥600	≥510	≥15

CYLINDER COMPONENTS

■ HYDRAULIC CYLINDER COMPONENTS

We check all of the products, using fully equipped facilities and advanced instruments, regarding the performance, structure, size tolerance, roughness, hardness, pressure and sealing to ensure the hydraulic cylinder quality meets the requirements of our different customers.

■ CYLINDER TYPE



TUBE

Skived & burnished or vertical honing tube assures the concentricity and straightness.

EYE

Eye are made of forged high strength steel improve cylinder not only in appearance but in mechanical performance.

BUSHING

Hardened steel bushing or copper bushing.

CAP

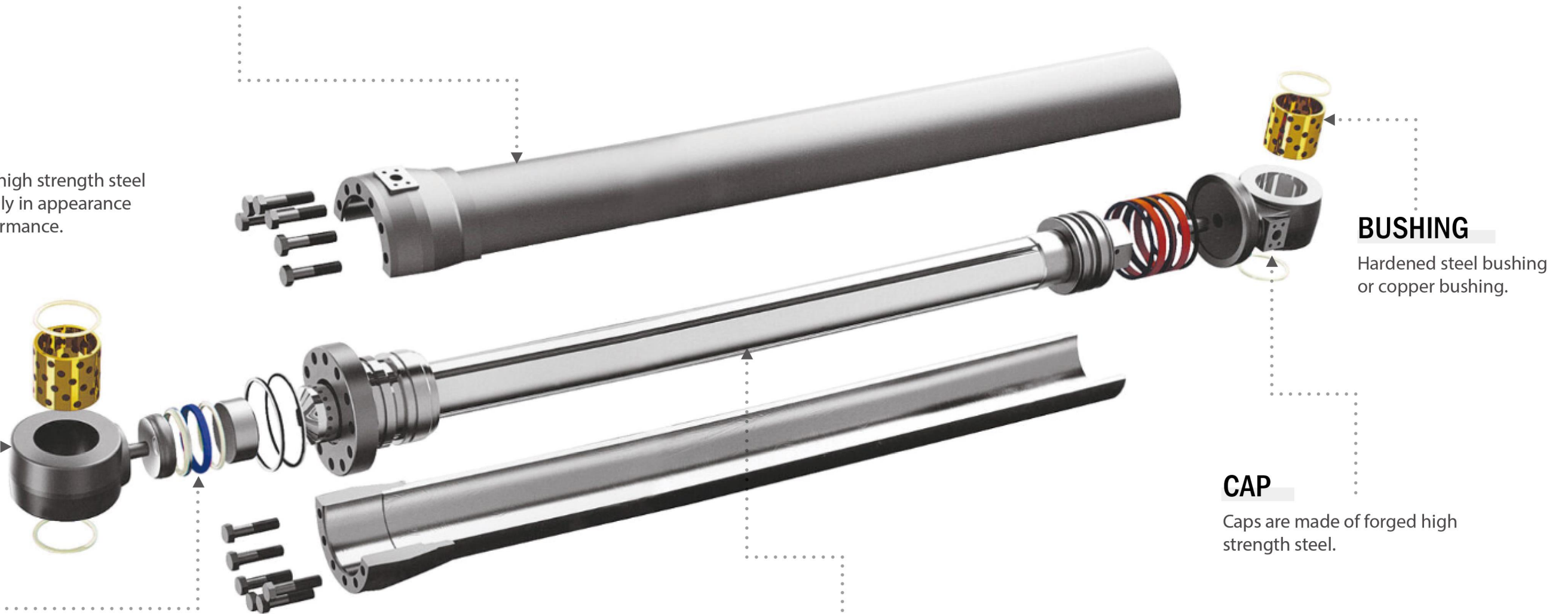
Caps are made of forged high strength steel.

ROD

Induction hardened prior to chrome plating enhances the surface hardness. Enhanced chrome plating improve corrosion resistance and anti-scratch performance.

ROD SEAL

Superior quality named-brand seals improve a longer life and seal effect.

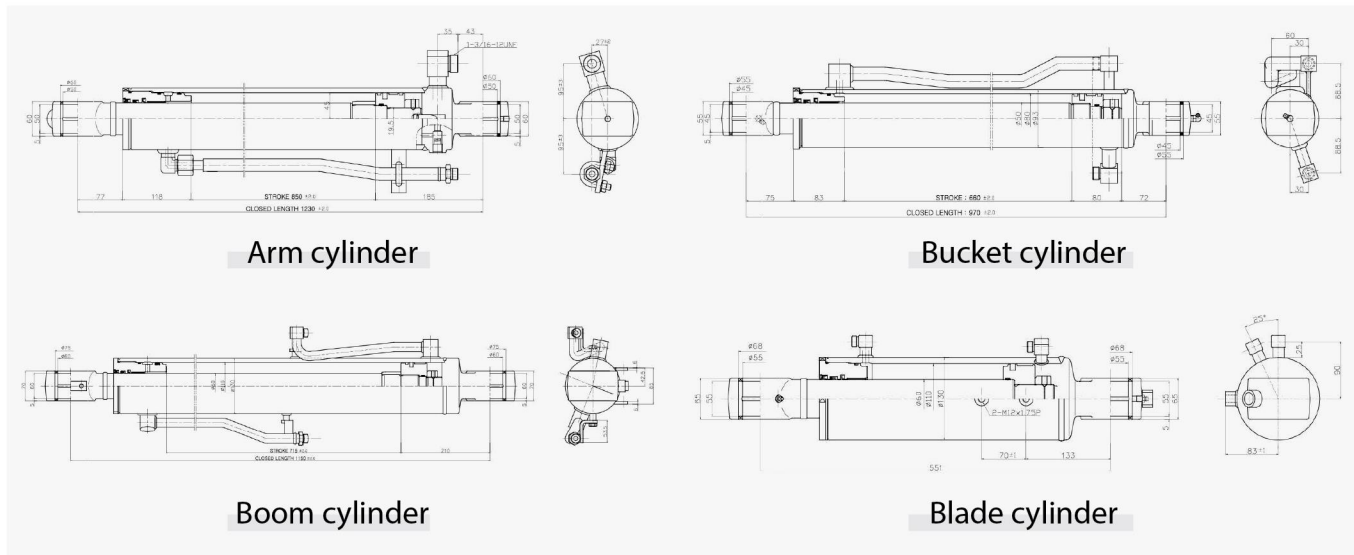


EXCAVATOR CYLINDER

EXCAVATOR CYLINDER PRODUCT



DIMENSION



SPECIFICATION

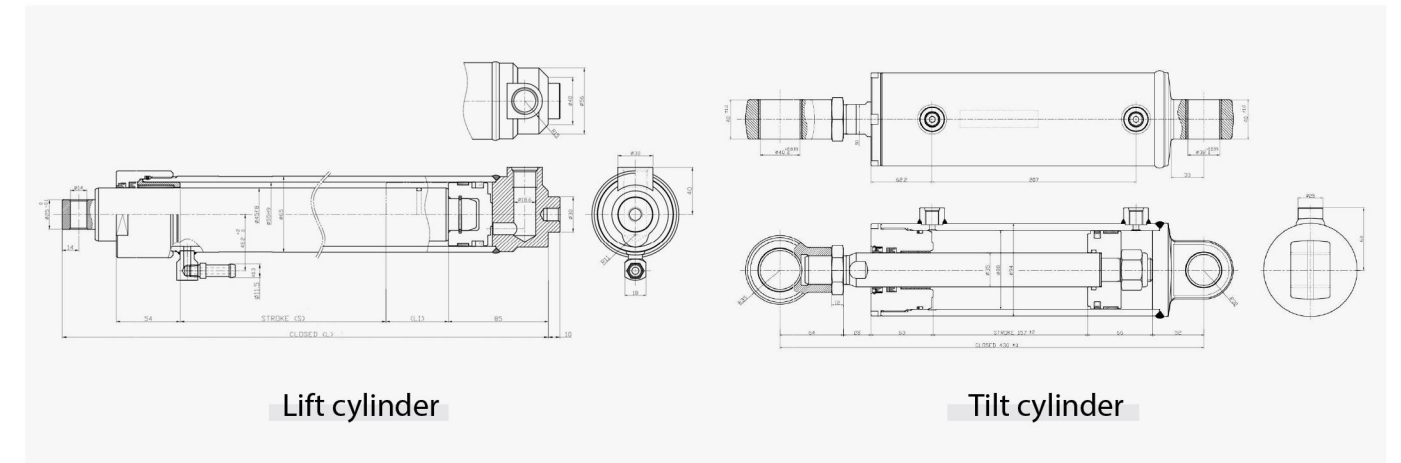
Type	Pressure	Closed Length(mm)	Stroke(mm)	Cushion	
Blade Cylinder	Operating	220kg/m ²	551	214	X
	test	330kg/m ²	551	214	X
Boom Cylinder	Operating	220kg/m ²	1,150	715	O
	test	330kg/m ²	1,150	715	O
Arm Cylinder	Operating	220kg/m ²	1,230	850	O
	test	330kg/m ²	1,230	850	O
Bucket Cylinder	Operating	220kg/m ²	660	970	X
	test	330kg/m ²	660	970	X

FORKLIFT CYLINDER

FORKLIFT CYLINDER PRODUCT



DIMENSION



SPECIFICATION

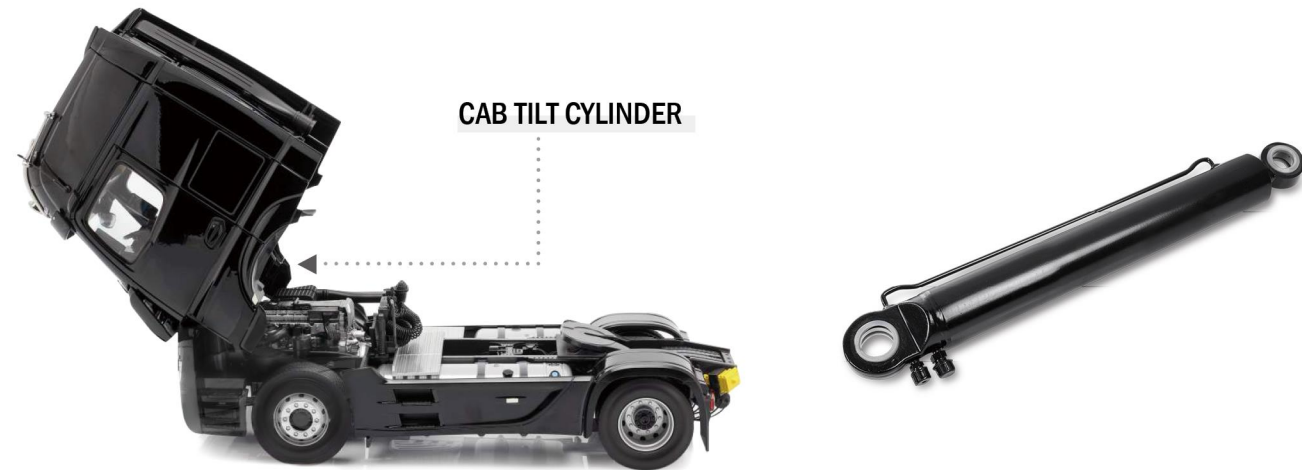
Model	Lift Cylinder	Tilt Cylinder
Working Pressure	18.15Mpa	21.57Mpa
Pressure-Proof test Pressure	26Mpa	26Mpa
Plating	Rod operation part, Hard chromum plating	Rod operation part, Hard chromum plating

DIMENSION SPECIFICATION

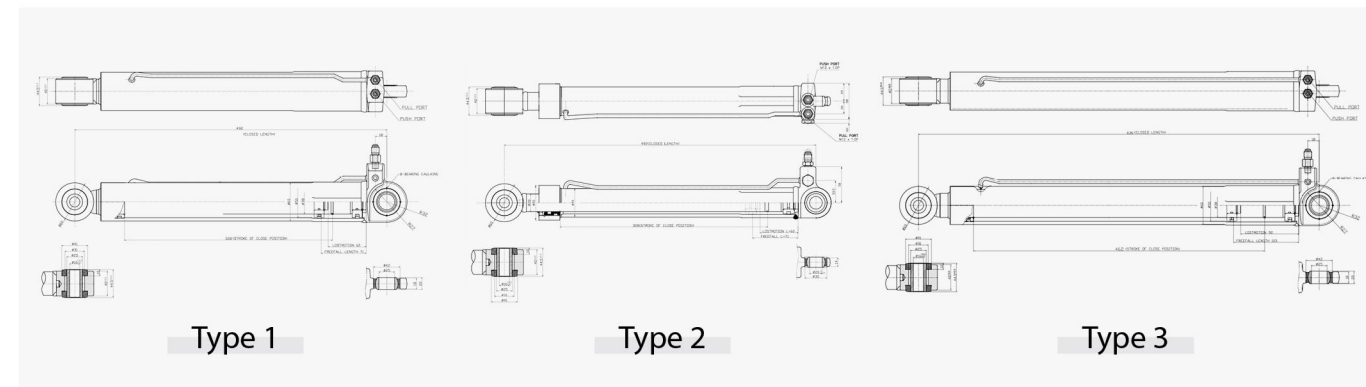
Uploading High	L	S	L1
2,500	1,435	1,250	-
3,000	1,685	1,500	-
3,120	1,745	1,560	-
3,300	1,835	1,650	-
3,500	1,935	1,750	-
3,700	2,035	1,850	-
4,000	2,235	2,000	50
4,500	2,485	2,250	50
5,000	2,735	2,500	50

TRUCK CAB TILT CYLINDER

TRUCK CAB TILT CYLINDER PRODUCT



DIMENSION

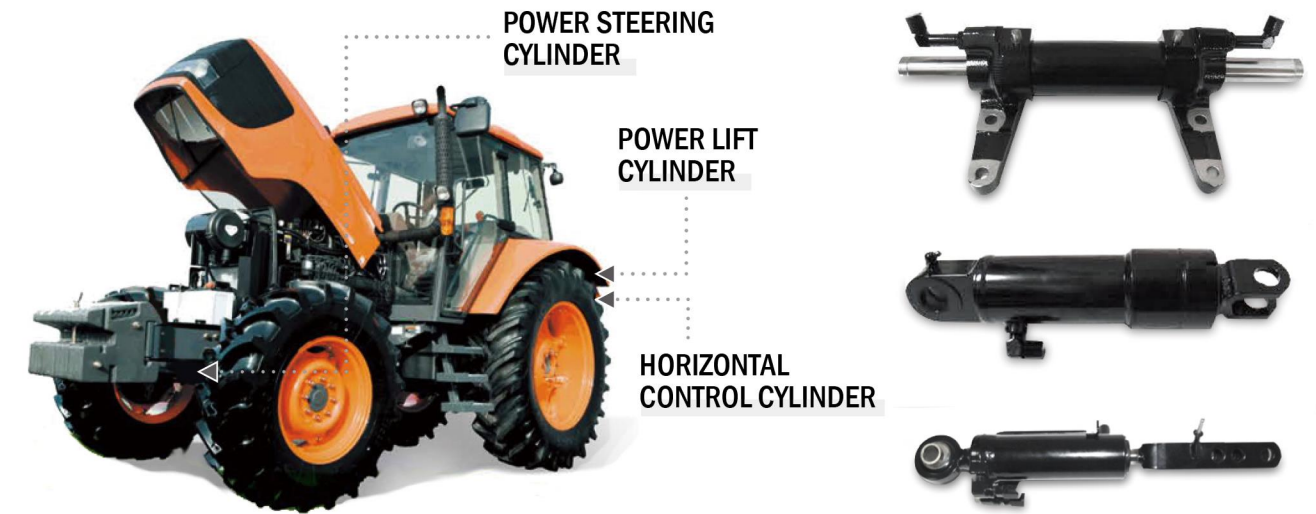


SPECIFICATION

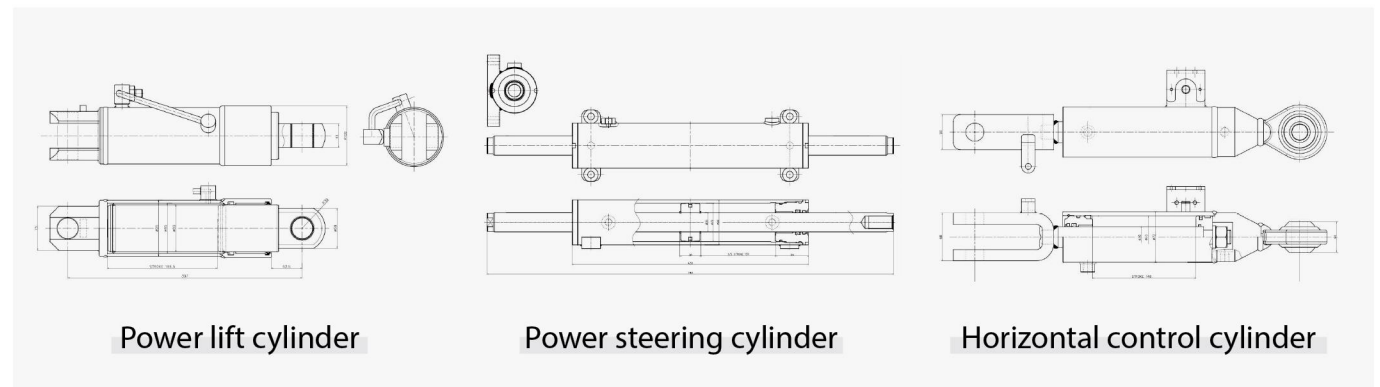
Type	Type 1,2	Type 3
Max. pressure	380kgf/cm ²	380kgf/cm ²
Close length	492 ±3mm	636 ±3mm
Mounting length	515mm	673.8mm
Extension length	820 ±3mm	1,098 ±3mm
Cylinder stroke	328 ±3mm	462 ±3mm
(From close position)		
System stroke	305 ±3mm	424.2 ±3mm
Lost motion	60mm	92mm
Freefall length	71mm	103mm
Finish	Black painted	Black painted

TRACTOR CYLINDER

TRACTOR CYLINDER PRODUCT



DIMENSION



SPECIFICATION

Title	Type	Tube I.D(Ø)	Rated pressure(kgf/cm ²)	Resist pressure(kgf/cm ²)
Power steering cylinder	Single Acting	40	140	180
	Double Acting	70	140	180
Power lift cylinder	Single Acting	55	180	230
	Single Acting	85	180	230
Horizontal control cylinder	Double Acting	60	185	230
	Double Acting	70	185	230

CYLINDER APPLICATION MODEL

MEMO

■ CYLINDER APPLICATION MODEL

Brand	Model
Hitachi	EX60-2/3, EX100, EX120-2A, EX160-3, EX200-1/2/3/5/6/7, EX220-2/3/5, EX225, EX300-3/5, EX350-5, EX400-3/5, EX230, EX270, EX120-2/3, EX800, EX210, EX400-5, EX1200
Komatsu	PC40-5, PC50UU2, PC60-2/5/6, PC100-3/5/6, PC120-3/5/6/6E, PC150-5, PC200-1/2/3, PC200-5/6/7/8, PC220-2/3/5, PC220-6/7/8, PC228, PC210-6/7, PC270-7, PC300-3/5/6/7, PC350-6/7, PC360-7, PC400-3/5/6, PC450-6, PC30-7/8, PC380, PC40-5/6/7, PC45-7, PC460,
Doosan Develon	DX55-5, DX60-7, DX130, DX200-2, DX200-5, DX220-3, DX220-5, DX225-7, DX220-7, DX258-7, DX280, DX300, DX300-5/7, DX290, DX320, DX70, DX215-3, DX330-3, DX350, DX360, DX550CL-7, DX625, DX820, DX921, DX1035
Volvo	EC210B, EC240B, EC260B, EC290B, EC360B, EC460B
Hyundai	R55, R60-5-7, R130, R200-5, R210-5, R220-5, R225-7, R260LC-5, R280, R290, R300, R305-7, R450-5, R215-7, R210LC-3, R335-7, R110, R190C, R215-7
Kobelco	SK07-N1/N2, SK60, SK100-3-6, SK120-1-3-5-6, SK200-1-3-5-6-6E, SK220-3, SK230, SK230-6-6E, SK250-6E, SK250-8, SK300, SK300-2, SK310, SK330-8, SK350-6, SK450-6E, SK09, SK35, SK40, SK115, SK260, SK350-8E
Caterpillar	E70, E110, E120, E120B, E200B, E320, E320B, E320C, E320D, E300B, E300, E312, E312B, E315A, E320BL, E325, E325B, E330L, E330B, E330B, E330C, E330D, E240, E450, E225C, E307, E308, E315
Sumitomo	SH60, SH10, SH120-3, SH200-A1/A2/A3, SH200-3G, SH300, SH300-A2, SH330-A3, LS260, LS280FJ, S430
Kato	HD250-7, HD307, HD400-1-7, HD450-5/7, HD512, HD550-1/7, HD700-2/5/7, HD800-7, HD820, HD820-3, HD900-5/7, HD1023, HD1250-7, HD1430, HD880-2, HD55, HD60, HD110, HD150, HD265

■ CUSTOMER BRAND

