

# Operating Manual

For Rockit 100C-TR Drilling Rig

Serial No. : 2015-001



*Compact*

**ROCKIT**  
**100C-TR**

Chang Shin International

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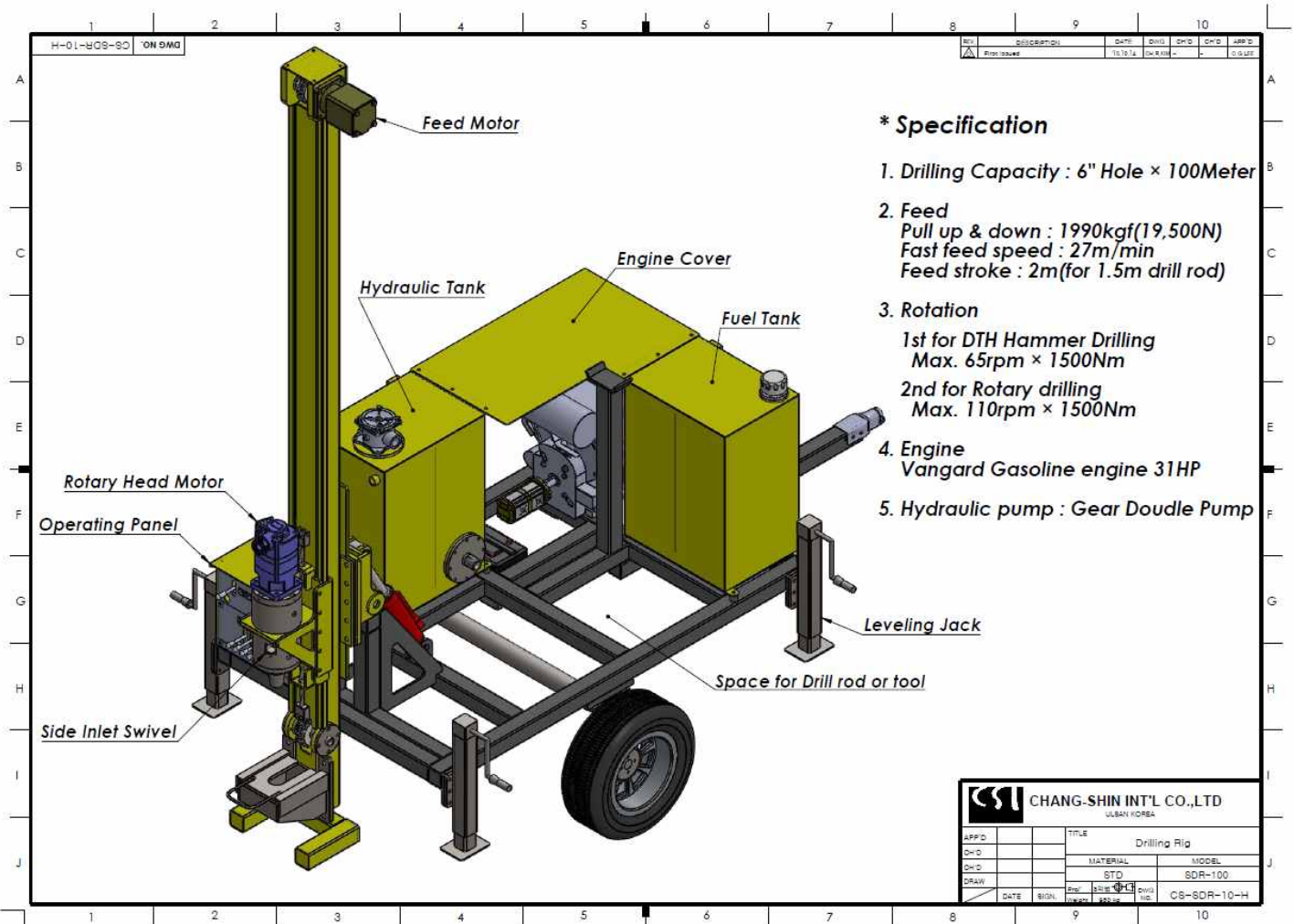
## 4. Part specification

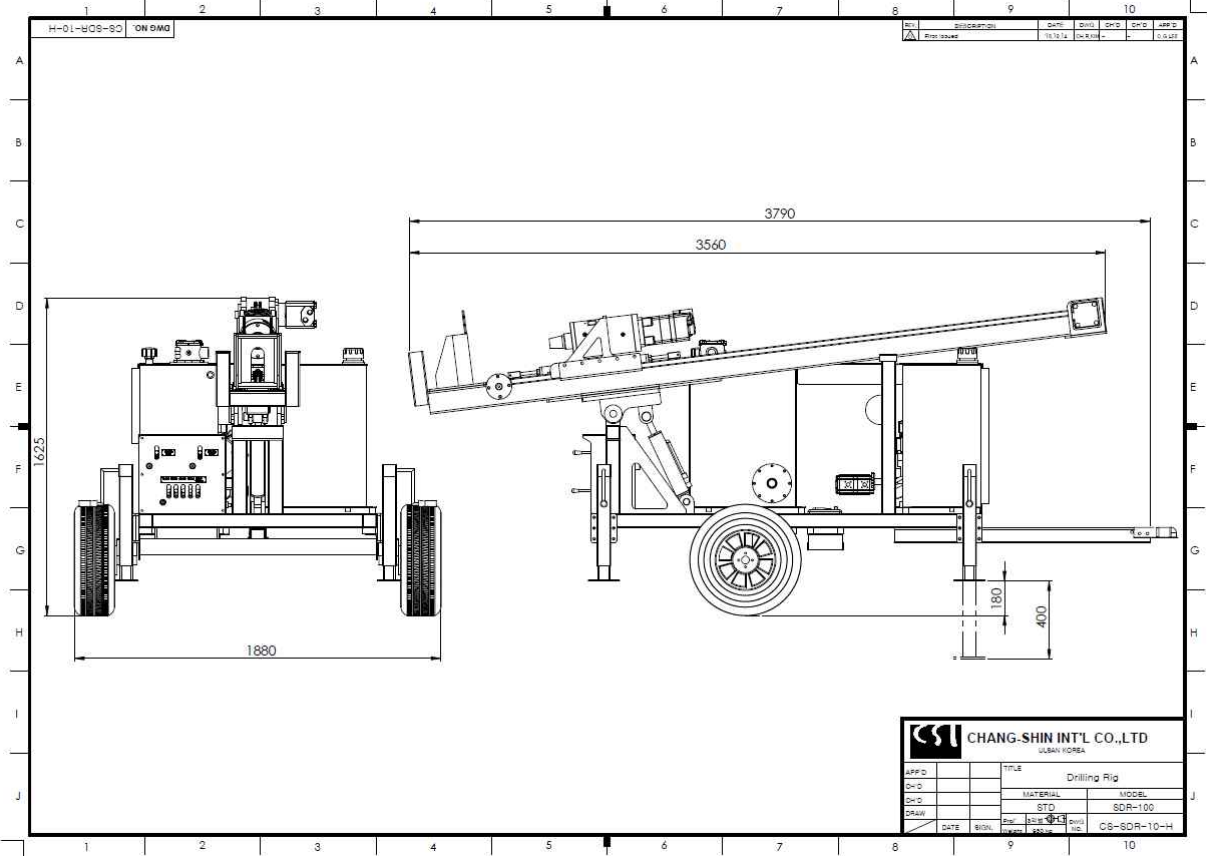
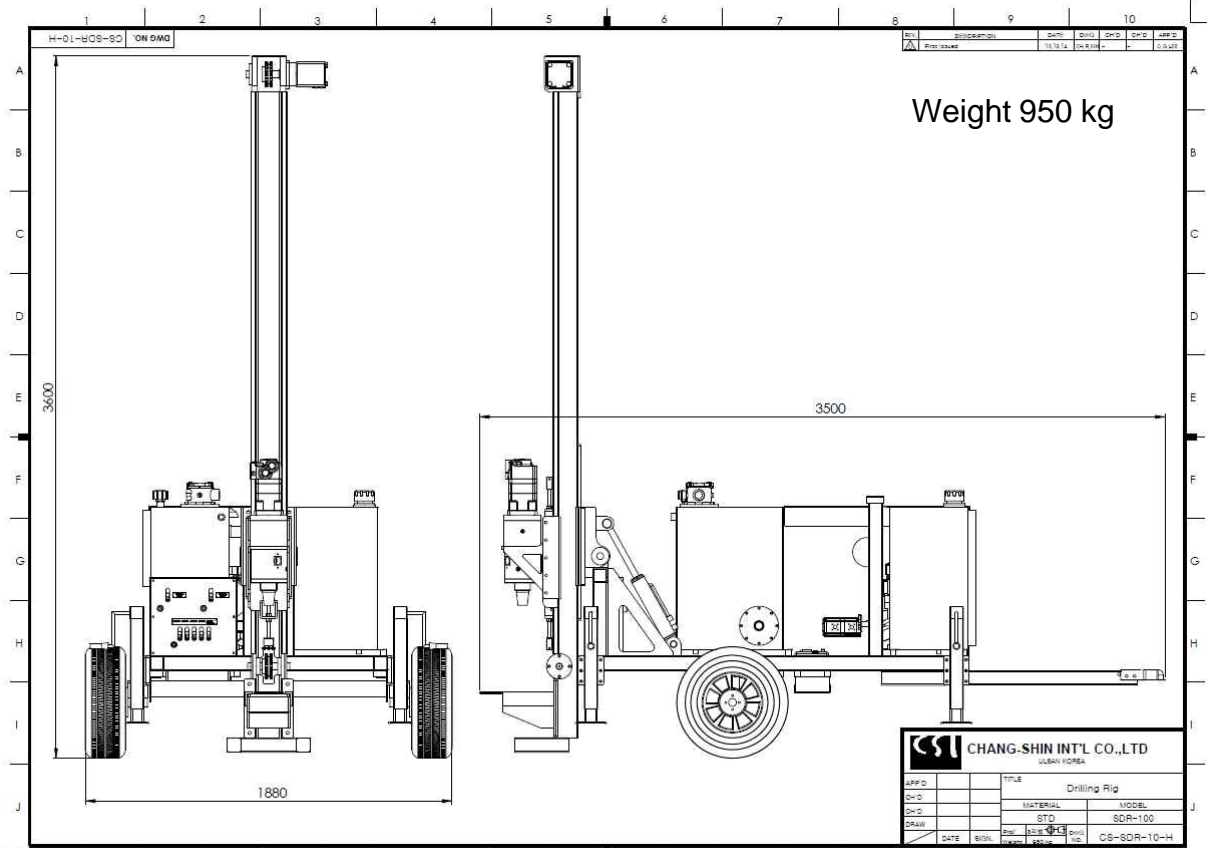
# 1. TECHNICAL SPECIFICATION

## 1-1. GENERAL

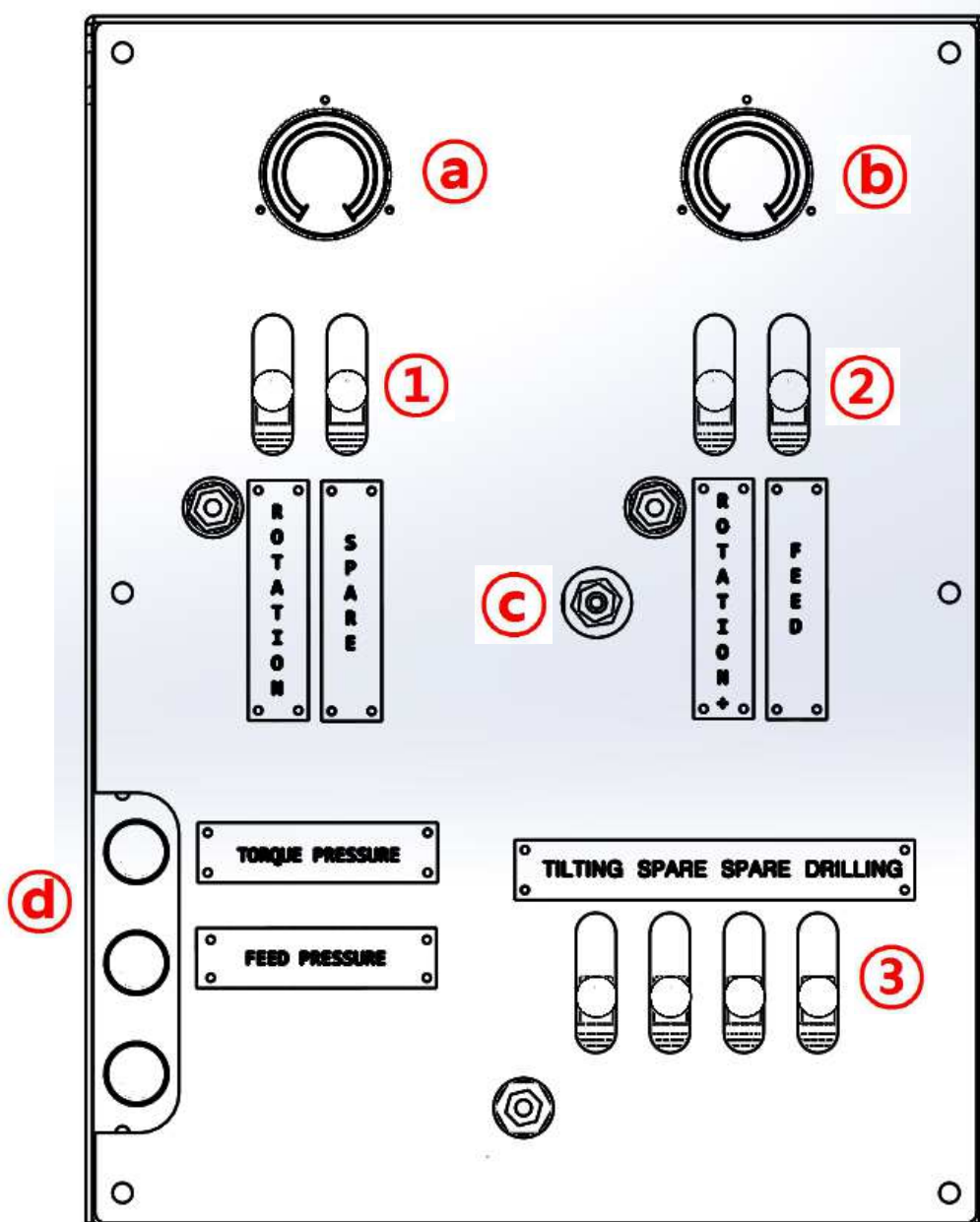
"ROCKIT 100 C-TR" has two-speed shift for DTH Hammer Drilling and Rotary Drilling works. It also equips high efficient gasoline engine and hydraulic pump, so that ROCKIT 100 C-TR shows great feed power & speed in the same class. This is the RIG which is more than just compact.

## 1-2. OVERALL DIMENSIONS & SPECIFICATION





### 1-3. OPERATION



a, b : Hydraulic pressure gauge.

c : Flow control valve for drilling speed.

d : Pressure control for rotation torque, feed force.

Control Lever 1-1 : Rotary head rotation.

Control Lever 1-2 : Spare port.

Control Lever 2-1 : Rotary head rotation speed increasing.

Control Lever 2-2 : Fast feed.


Control Lever 3-1 : Mast tilting.

Control Lever 3-2, 3 : Spare ports.

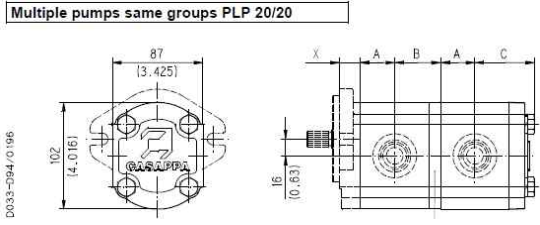
Control Lever 3-4 : Drilling feed.

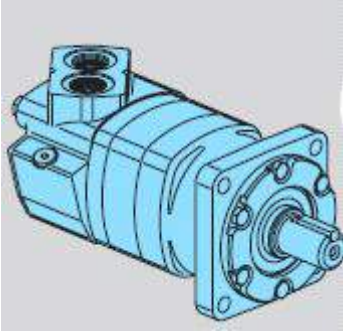
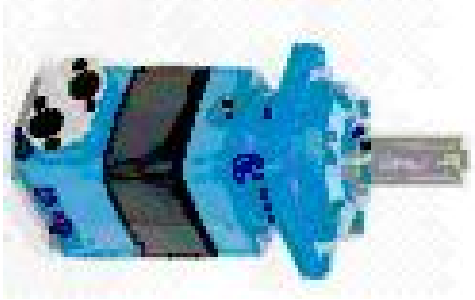
### 1-4. IDENTIFICATION

#### 1-4-1. Engine

	<b>Model</b>	VANGUARD 31HP
	<b>Serial Number</b>	-
	<b>Rating</b>	21.5(16) ps(kW)
	<b>Engine Speed</b>	2,400 rpm
	<b>Displacement</b>	-
	<b>Production Date</b>	-

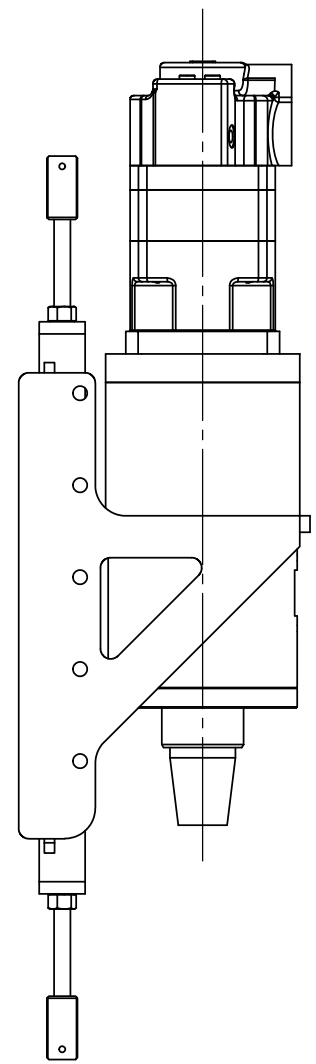
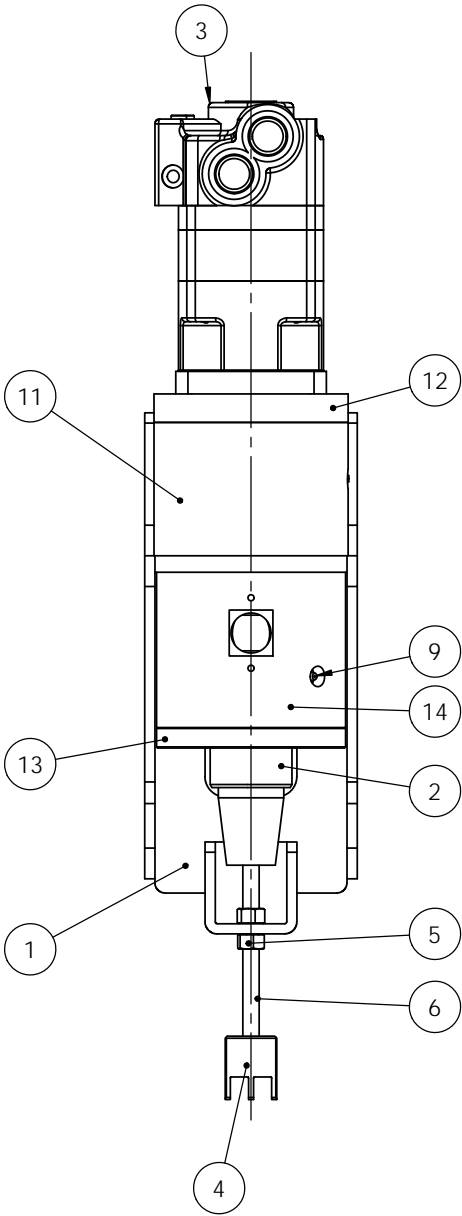
#### 1-4-2. Hydraulic Pumps & Motor

HYDRAULIC PUMP		-
Model Name	PLP20*11.2*11.2	-
Serial No.	-	-
Picture	<p>Multiple pumps same groups PLP 20/20</p> 	

	<b>ROTATION MOTOR</b>	<b>FEED MOTOR</b>
Model Name	EATON 6000*390cc	MT 315cc
Serial No.	-	
Picture		

REV.	DESCRIPTION	DATE	DWG	CH'D	CH'D	APP'D
△	First issued for Approval	'15.10.14	S.J.	JEON	CH.R.KIM	-
△	Issued for Revision (베어링 치수 오류로 인한 도면 개정)	'15.11.16	S.J.	JEON	CH.R.KIM	-
						C.G.LEE

A  
B  
C  
D  
E  
F  
G  
H  
I  
J



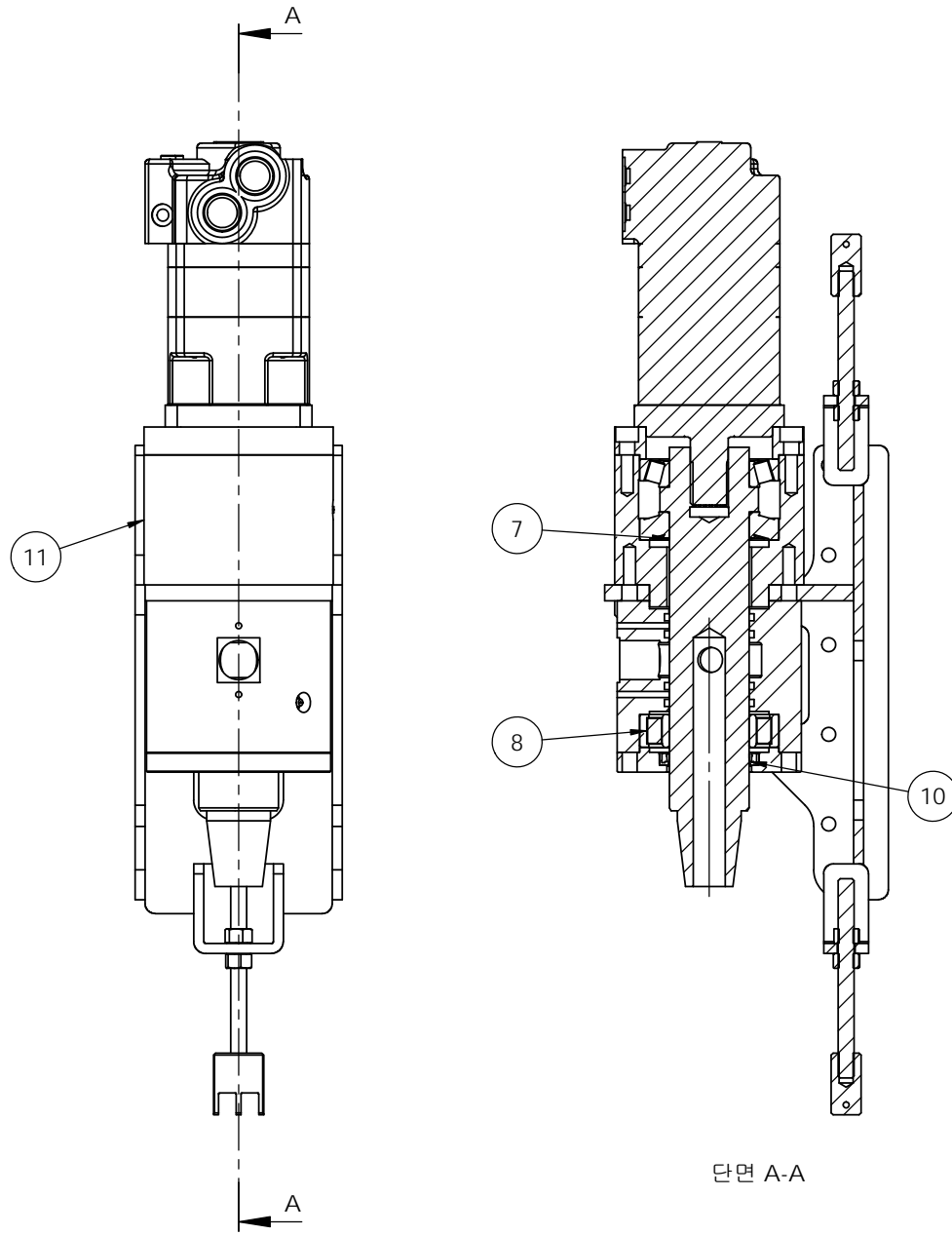
품번	품명	비고	수량
1	Rotary Base		1
2	Rotary_Shaft		1
3	Eaton 6000series_390cc	Rotary Motor	1
4	Chain Connector		2
5	M16 Nut	10	4
6	M16 stud bolt	10.9	2
7	테이퍼 롤러 베어링 30216AJ△	80 140 28.25T	2
8	롤러베어링 NJ2216 E △	80 140 33T	1
9	Grease nipple-1/8"		2
10	Oil Seal TC 80 100 13		1
11	Rotary Head		1
12	Rotary Cover		1
13	Swivel Cap		1
14	Swivel Case		1

**CS** CHANG-SHIN INT'L CO.,LTD  
ULSAN KOREA

APP'D		TITLE	Rotary Head Assem	
CH'D		MATERIAL	-	
CH'D		MODEL	SDR-100	
DRAW		Proj	3각법	DWG NO.
DATE	SIGN.	Weight	-	CS-SDR-10-RH-000



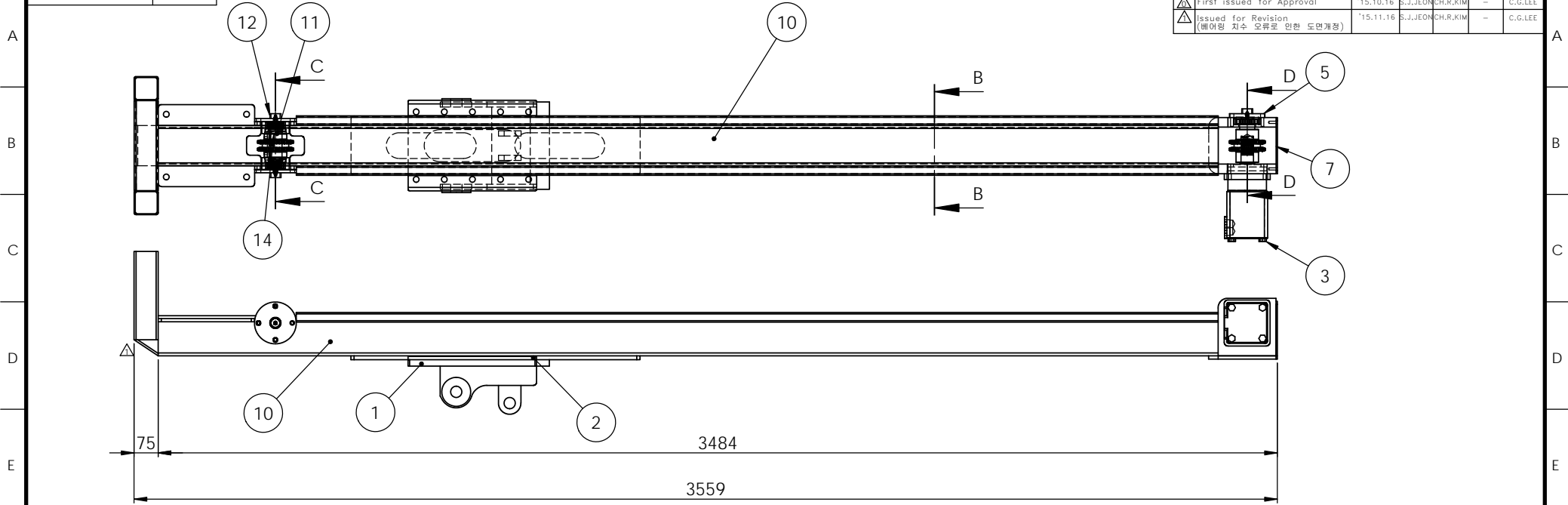
REV.	DESCRIPTION	DATE	DWG	CH'D	CH'D	APP'D
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						C.G.LEE



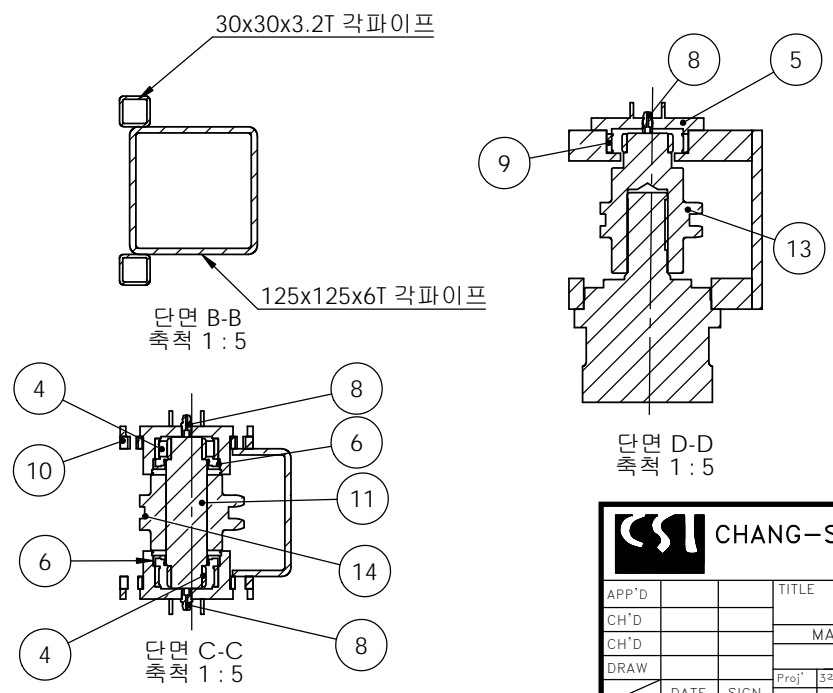
단면 A-A

 <b>CHANG-SHIN INT'L CO.,LTD</b> ULSAN KOREA		TITLE	
		Rotary Head Assem	
APP'D		MATERIAL	MODEL
CH'D		SS400	SDR-100
DRAW		Proj. 3각법	DWG No. CS-SDR-10-RH-00
DATE	SIGN.	Weight	-

REV.	DESCRIPTION	DATE	DWG	CH'D	CH'D	APP'D
△	First issued for Approval	'15.10.16	S.J.JEON	CH.R.KIM	-	C.G.LEE
△	Issued for Revision (보여형 치수 오류로 인한 도면개정)	'15.11.16	S.J.JEON	CH.R.KIM	-	C.G.LEE



품번	품명	비고	수량
1	Mast & Frame Attachment		1
2	Mast & Frame Fixture2		2
3	OMT315	Feed Motor	1
4	자동조심 롤러 베어링 N22206E	△ 30 62 20T	2
5	Bearing Cover2		1
6	Oil Seal TC - 40 - 65 - 10T		2
7	Mast Upper Cover		1
8	Grease nipple-1/8"		3
9	단열 원통 롤러 베어링 NJ 208 E	△ 40 80 18T	1
10	Mast frame		1
11	Lower Chain Shaft		1
12	Lower Bearing Case		2
13	Upper Sprocket		1
14	Lower Sprocket		1
15	Lower Bearing Case Attachment		2



**CS** CHANG-SHIN INT'L CO.,LTD  
ULSAN KOREA

APP'D		TITLE	Mast Frame Assem
CH'D		MATERIAL	MODEL
CH'D			SDR-100
DRAW		Proj	3차법
DATE	SIGN.	Weight	DWG NO.
			CS-SDR-10-MA-00



- (GB) *Operating & Maintenance Instructions*
- (D) *Betriebsanleitung & Wartungsvorschriften*
- (DK) *Drifts- og vedligeholdelsesvejledning*
- (E) *Instrucciones de Mantenimiento & Operación*
- (F) *Instructions d'utilisation et de maintenance*
- (GR) *Οδηγίες Λειτουργίας & Συντήρησης*
- (I) *Istruzioni per l'uso e la manutenzione*
- (N) *Anvisninger for bruk og vedlikehold*
- (NL) *Gebruiksaanwijzing*
- (P) *Instruções de operação e de manutenção*
- (S) *Instruktionsbok*
- (SF) *Käyttö & Huolto-ohjeet*

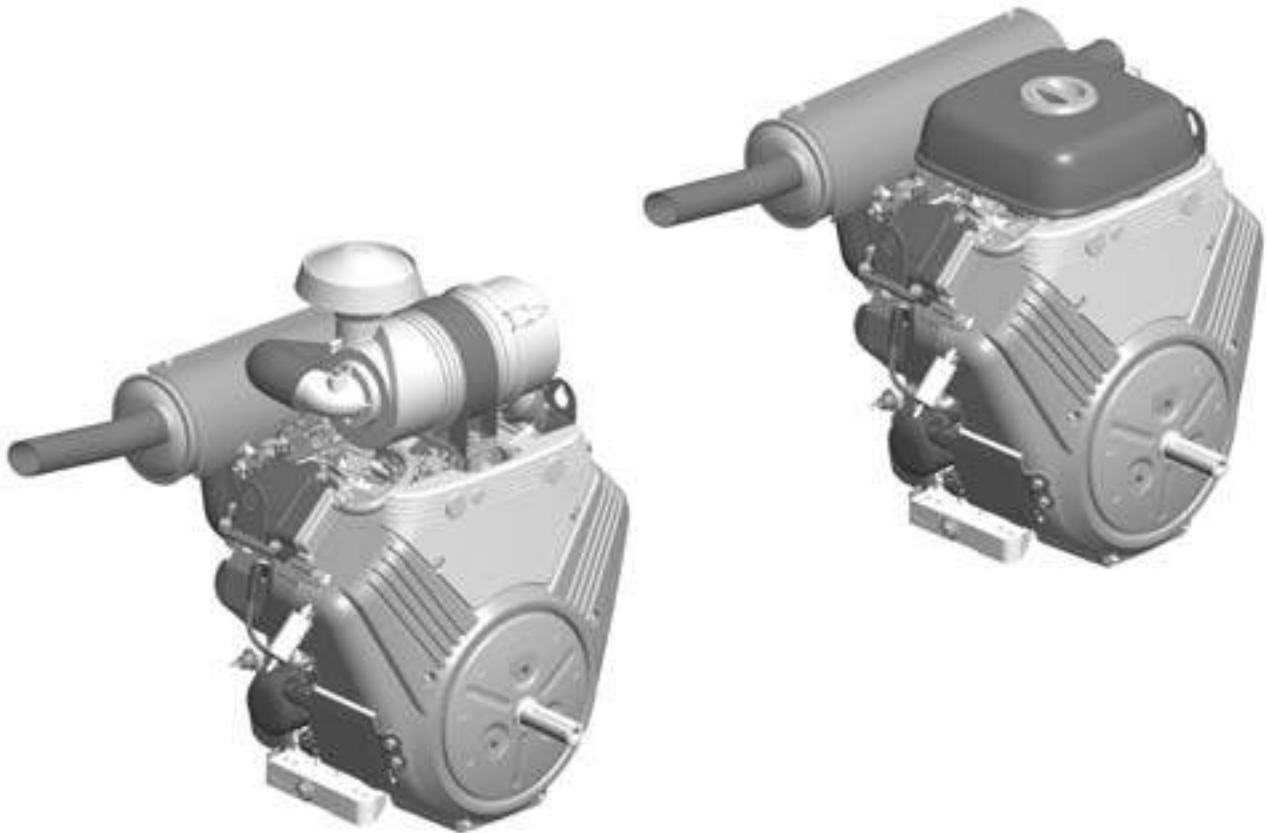


Model 540000

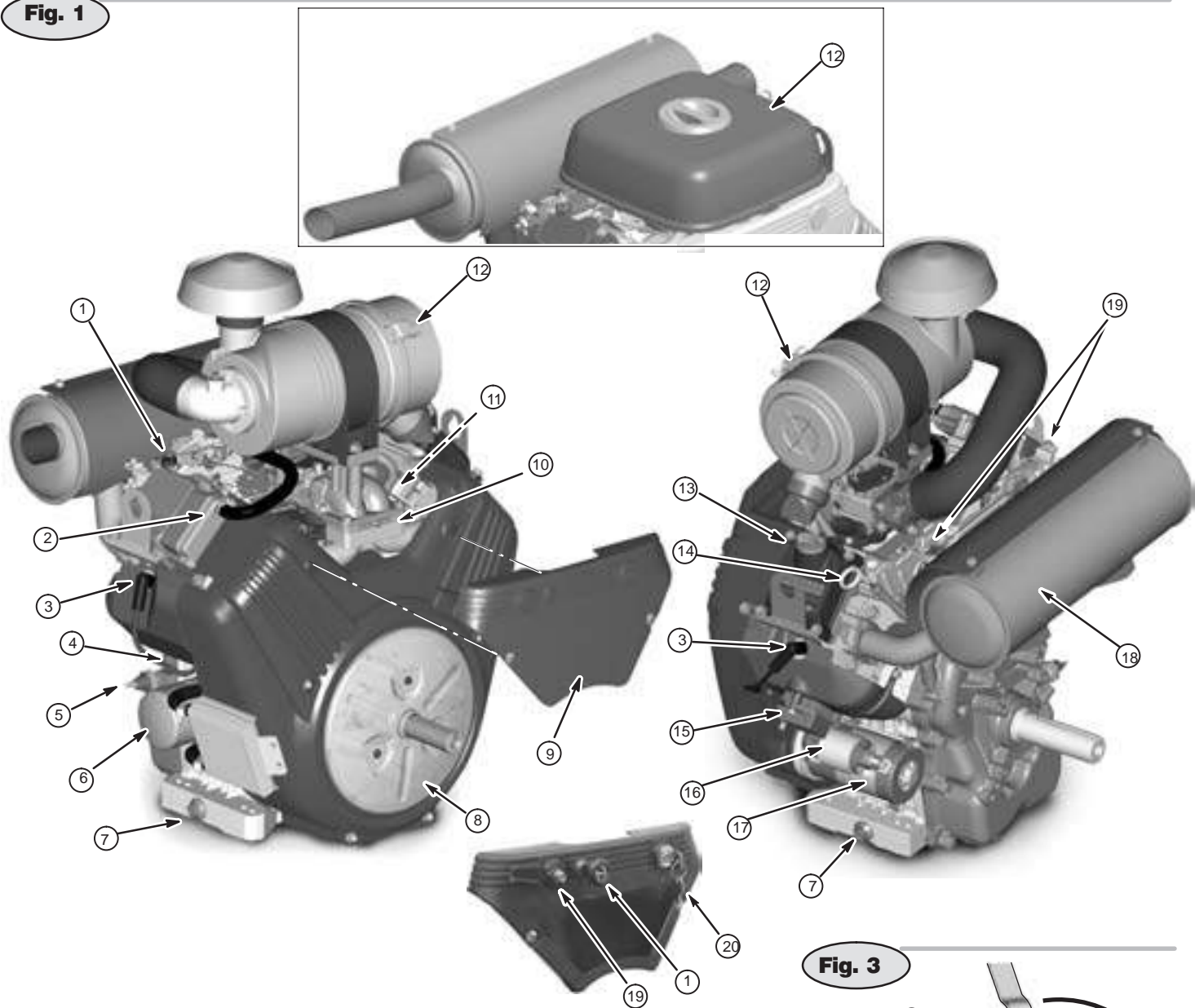
Vanguard

Model 610000

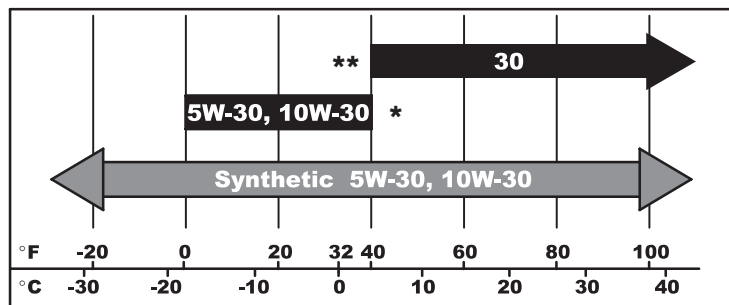
Vanguard



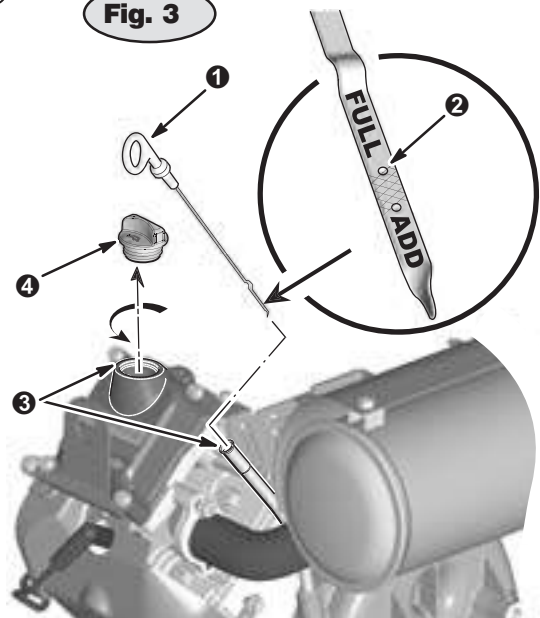
**Fig. 1**



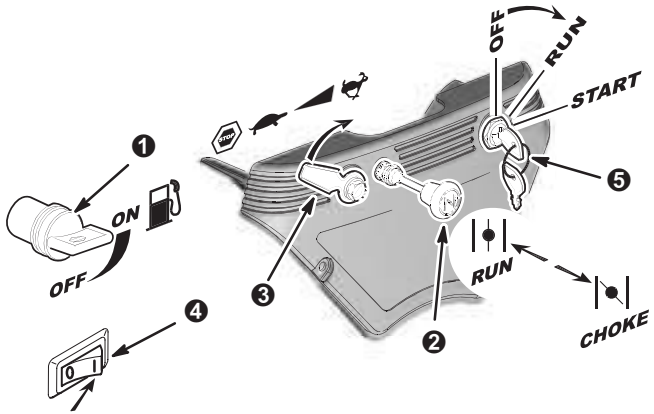
**Fig. 2**



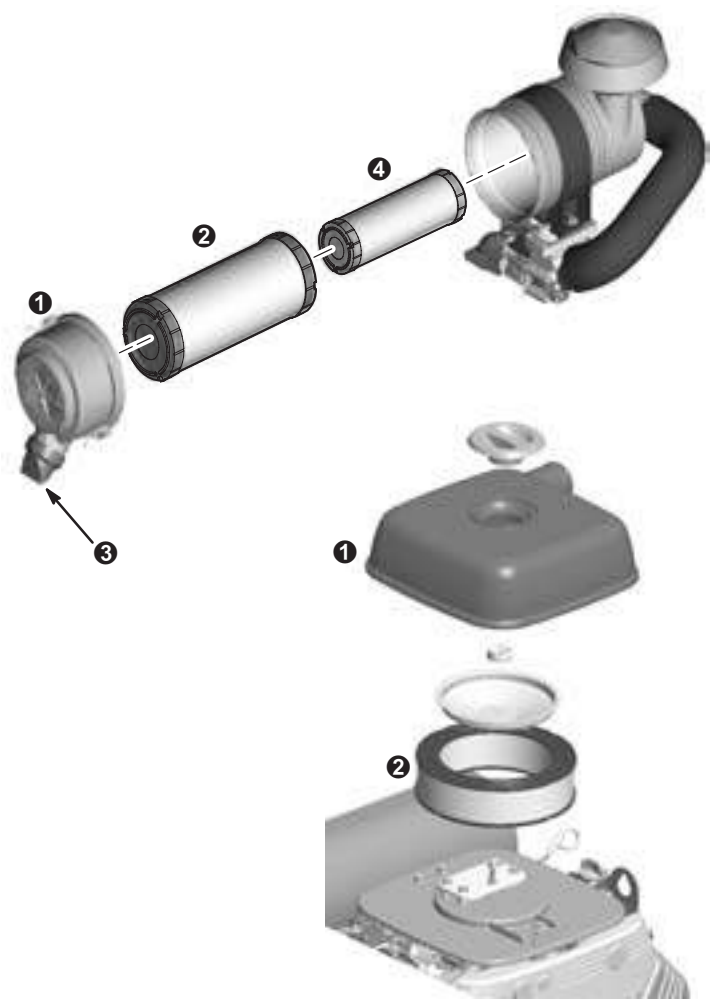
**Fig. 3**



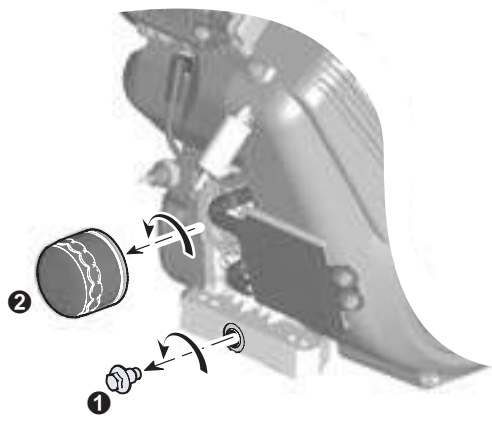
**Fig. 4**



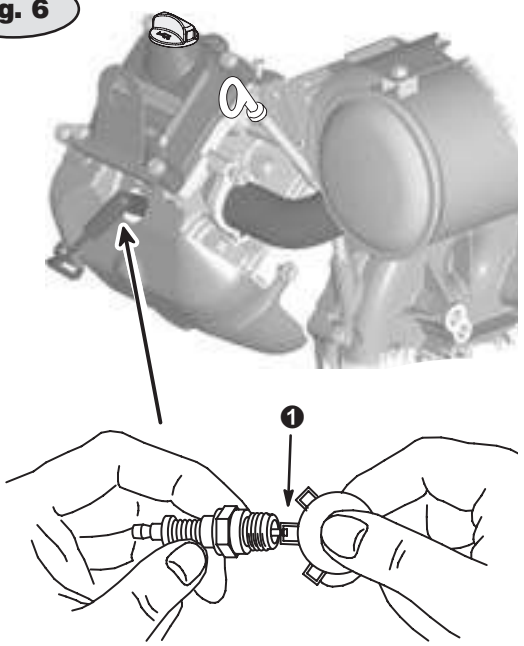
**Fig. 7**



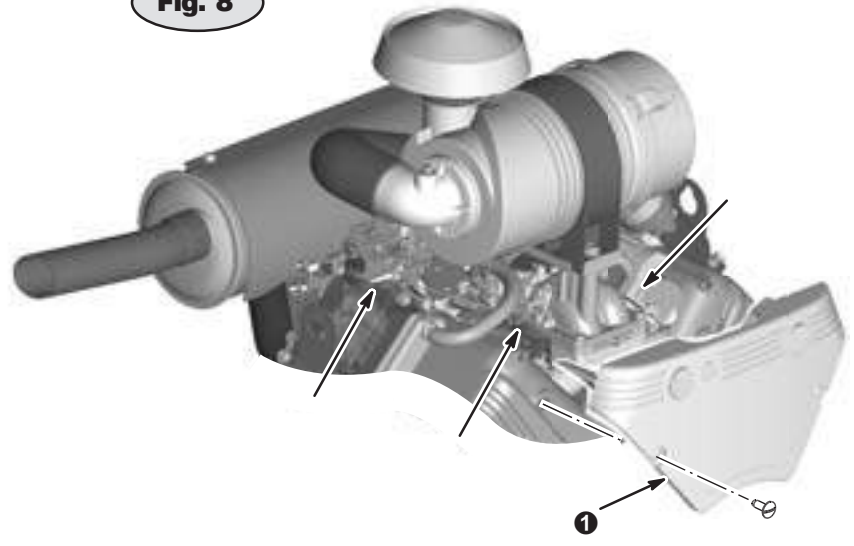
**Fig. 5**



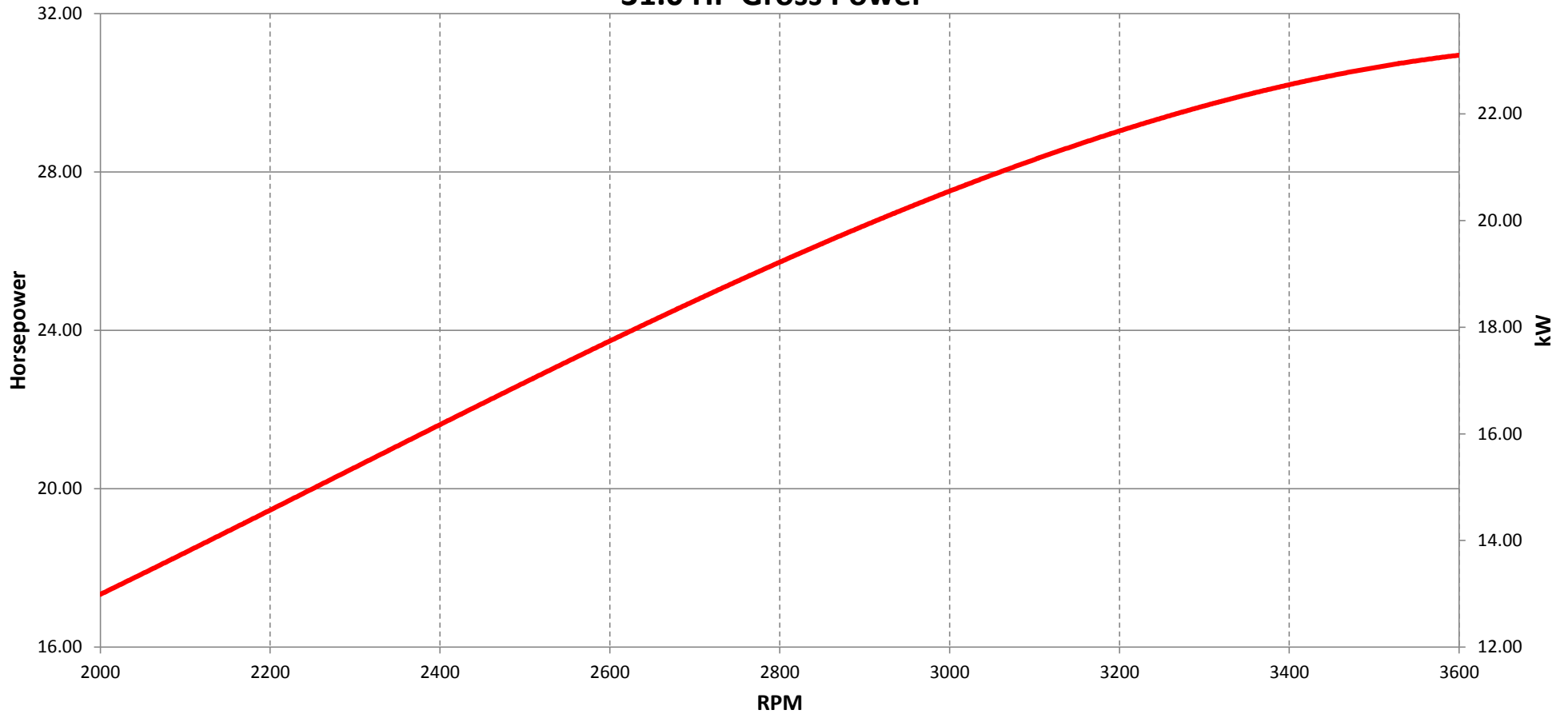
**Fig. 6**



**Fig. 8**



## 31.0 HP Gross Power



Power Ratings: The gross power rating for individual gasoline engine models is labeled in accordance with SAE (Society of Automotive Engineers) code J1940 Small Engine Power & Torque Rating Procedure, and is rated in accordance with SAE J1995. Torque values are derived at 2600 RPM for those engines with “rpm” called out on the label and 3060 for all others; horsepower values are derived at 3600 RPM. The gross power curves can be viewed at [www.BRIGGSandSTRATTON.COM](http://www.BRIGGSandSTRATTON.COM). Net power values are taken with exhaust and air cleaner installed whereas gross power values are collected without these attachments. Actual gross engine power will be higher than net engine power and is affected by, among other things, ambient operating conditions and engine-to-engine variability. Given the wide array of products on which engines are placed, the gasoline engine may not develop the rated gross power when used in a given piece of power equipment. This difference is due to a variety of factors including, but not limited to, the variety of engine components (air cleaner, exhaust, charging, cooling, carburetor, fuel pump, etc.), application limitations, ambient operating conditions (temperature, humidity, altitude), and engine-to-engine variability. Due to manufacturing and capacity limitations, Briggs & Stratton may substitute an engine of higher rated power for this engine.

6294Y Rev A 09/02/15

# POLARIS 20 SERIES

## Hydraulic Gear Pumps and Motors

Replaces edition: 02.2996

PRESSURE	
Max. continuous	4060 psi (280 bar)
Max. intermittent	4350 psi (300 bar)
Max. peak	4640 psi (320 bar)

DISPLACEMENT	
From	0.29 in <sup>3</sup> /rev (4,8 cm <sup>3</sup> /rev)
To	1.99 in <sup>3</sup> /rev (32,6 cm <sup>3</sup> /rev)



SPEED	
Min. speed	500 rpm
Max. speed	4000 rpm

POLARIS 20 gear pumps and motors meet a wide range of mobile and industrial applications. SAE and EUROPEAN mounting flanges and rear covers are available in both cast iron and aluminum for reduced weight. The extruded aluminum body houses single piece gear, journal, shaft assemblies with a pressure balancing system that provides the highest volumetric and overall efficiencies available. Exceptionally large bearings make possible the most complete range of drive shafts in spline, parallel keyed, and tapered versions to meet all SAE, DIN, and EUROPEAN standards.

Edition: 02.1998

	POLARIS pump size	POLARIS motor size	Theoretical displacement		Min. (1) speed	Max. (1) speed	Max. (2) continuous pressure p <sub>1</sub>		Pump flow (3) @ 1800 rpm @ p <sub>1</sub>	Motor torque (4) @ 100 psi	Approx. (5) weight	
			in <sup>3</sup> /rev	cm <sup>3</sup> /rev	rpm	rpm	psi	bar			US gpm	lbf in
<b>POLARIS 20</b>	<b>PLP 20-4</b>	<b>PLM 20-4</b>	0.29	4.8	600	4000	4060	280	2.14	4.03	3.80	8.38
	<b>PLP 20-6,3</b>	<b>PLM 20-6,3</b>	0.39	6.5	600	4000	4060	280	2.90	5.45	3.85	8.48
	<b>PLP 20-8</b>	<b>PLM 20-8</b>	0.50	8.3	600	3500	4060	280	3.75	6.96	3.90	8.60
	<b>PLP 20-9</b>	<b>PLM 20-9</b>	0.55	9	600	3500	4060	270	4.06	7.52	3.98	8.78
	<b>PLP 20-11,2</b>	<b>PLM 20-11,2</b>	0.67	11.1	600	3500	3900	270	5.01	9.31	4.05	8.93
	<b>PLP 20-14</b>	<b>PLM 20-14</b>	0.87	14.4	500	3500	3770	260	6.61	12.08	4.15	9.15
	<b>PLP 20-16</b>	<b>PLM 20-16</b>	1.01	16.6	500	3000	3625	250	7.67	13.92	4.30	9.48
	<b>PLP 20-20</b>	<b>PLM 20-20</b>	1.27	20.8	500	3000	2900	200	9.61	17.44	4.45	9.81
	<b>PLP 20-25</b>	<b>PLM 20-25</b>	1.58	26	500	2500	2465	170	11.8	21.80	4.70	10.36
	<b>PLP 20-31,5</b>	<b>PLM 20-31,5</b>	1.99	32.6	500	2000	1855	130	15.11	27.34	4.90	10.80

- (1) Minimum speeds can be reduced, maximum speeds can be increased. For specific operating conditions consult CASAPPA technical dept. for recommendations and approval.
- (2) Significantly higher intermittent pressures are allowed. Consult catalog or contact CASAPPA technical dept.
- (3) Flow shown is minimum allowed for production pump at rated pressure with 10 wt oil at 110° Fahrenheit and can be used to calculate minimum volumetric efficiency under these conditions.
- (4) Indicated torque is obtained by considering the average mechanical efficiency.
- (5) Weight shown is for standard pump and motor with cast iron end-covers. There is a weight reduction for aluminum covers. Please contact your CASAPPA distributor for further assistance.





# Hydraulics

S  
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## Char-Lynn® Disc Valve Hydraulic Motors

11-01-878  
EN-0201



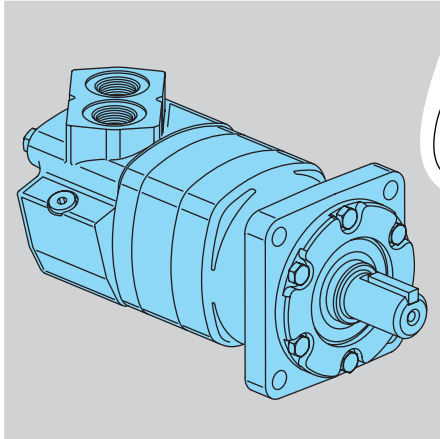
2000, 4000, 6000, and 10,000 Series  
Hydraulic Motors

We Manufacture

Solutions



# 6000 Series



# 6000

## 6000 Series

Geroler® Element .....	9 Displacements
Flow LPM [GPM] .....	150 [40] Continuous**
	225 [60] Intermittent*
Speed .....	Up to 866 RPM
Pressure Bar [PSI] ...	200 [ 3000] Cont.
	300 [ 4500] Inter.
Torque Nm [lb-in]....	1685 [14920] Cont.
	1875 [16580] Inter.

6000 Series Displacement Size = cubic centimeter per shaft revolution (  $\text{cm}^3/\text{r}$  )  
 = cubic inch per shaft revolution ( [  $\text{in}^3/\text{r}$  ] )

- 195 [11.9]
- 245 [15.0]
- 310 [19.0]
- 390 [23.9]
- 490 [30.0]
- 625 [38.0]
- 740 [45.0]\*\*\*
- 805 [49.0]\*\*\*
- 985 [60.0]

### Mounting Flange

- 4 Bolt (Bearingless) 127,0 [5.00] Pilot Dia. and 14,3 [.56] Dia. Mounting Holes on 161,9 [6.38] Dia. B.C.
- 4 Bolt (SAE CC)(Standard) 127,0 [5.00] Pilot Dia. and 14,3 [.56] Mounting Holes on 161,9 [6.38] Dia. B.C.
- 4 Bolt (Wheel) 139,7 [5.50] Pilot Dia. and 14,3 [.56] Dia. Mounting Holes on 184,1 [7.25] Dia. B.C.

### Output Shaft

- Bearingless
- 1-1/2 inch Dia. Straight with Straight Key, 3/8-16 Threaded Hole and 56,7[2.23] Max. Coupling Length
- 1-3/4 inch Dia. Tapered with Straight Key and 1-1/4—18 UNEF Slotted Hex. Nut
- 1-1/2 inch Dia. Splined 17 T with 40,3 [1.59] Min. Full Spline Length and 3/8-16 Threaded Hole
- 40 mm Dia. Straight with Straight Key, M12 x 1,75-6H Threaded Hole

### Port Type

- 1-5/16-12 O-ring with 7/16-20 O-ring Case Drain and Shuttle Valve
- G 1 (BSP) O-ring with G 1/4 (BSP) O-ring Case Drain and Check Valve
- 3/4 inch 4 Bolt Split Flange with 7/16-20 O-ring Case Drain and Check Valve

### Special Features

- Viton Shaft Seal
- Viton Seals
- Hot Oil Shuttle
- Corrosion Protected

\*\*\* For performance and dimension data contact your Eaton Hydraulics representative.

\*\* Continuous— (Cont.) Continuous rating, motor may be run continuously at these ratings.

\* Intermittent— (Inter.) Intermittent operation, 10% of every minute.



# M+S HYDRAULIC

## HYDRAULIC MOTORS

MS  
MT  
MV

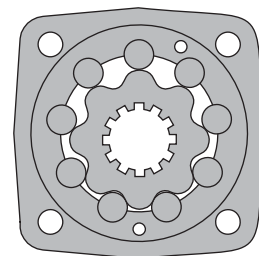
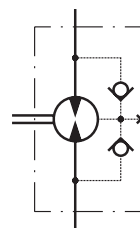


# HYDRAULIC MOTORS MT



## APPLICATION

- » Conveyors
- » Metal working machines
- » Agriculture machines
- » Road building machines
- » Mining machinery
- » Food industries
- » Special vehicles
- » Plastic and rubber machinery etc.



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## OPTIONS

- » Model- Disc valve, roll-gerotor
- » Flange with wheel mount
- » Short motor
- » Tacho connection
- » Speed sensing
- » Side and rear ports
- » Shafts- straight, splined and tapered
- » Metric and BSPP ports
- » Other special features

## GENERAL

<b>Max. Displacement,</b> cm <sup>3</sup> /rev. [in <sup>3</sup> /rev.]	725 [44.24]
<b>Max. Speed,</b> [RPM]	775
<b>Max. Torque,</b> daNm [lb-in]	cont.: 130 [11500] int.: 148 [13100]
<b>Max. Output,</b> kW [HP]	40 [54]
<b>Max. Pressure Drop,</b> bar [PSI]	cont.: 200 [2900] int. 240 [34850]
<b>Max. Oil Flow,</b> lpm [GPM]	150 [39.6]
<b>Min. Speed,</b> [RPM]	5
<b>Permissible Shaft Loads</b> daN [lbs]	P <sub>a</sub> =1000 [2250]
<b>Pressure fluid</b>	Mineral based- HLP(DIN 51524) or HM(ISO 6743/4)
<b>Temperature range,</b> °C [°F]	-40÷140 [-40÷284]
<b>Optimal Viscosity range,</b> mm <sup>2</sup> /s [SUS]	20 ÷ 75 [98 ÷ 347]
<b>Filtration</b>	ISO code 20/16 (Min. recommended fluid filtration of 25 micron)

### Oil flow in drain line

Pressure drop bar [PSI]	Viscosity mm <sup>2</sup> /s [SUS]	Oil flow in drain line lpm [GPM]
140[2030]	20[98]	2,5[.660]
	35[164]	1,5[.396]
210[3045]	20[98]	5[1.321]
	35[164]	3[.793]

### Pressure Losses

