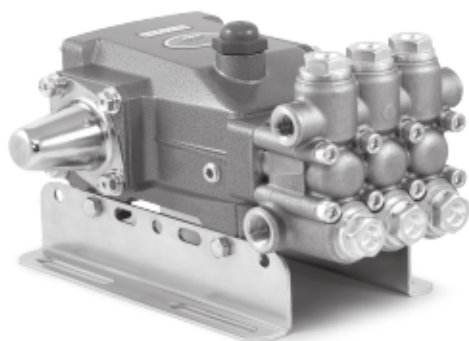


# DATA SHEET

## 5CP PLUNGER PUMPS



### Brass Models: **5CP5120, 5CP5120CSS**



Model 5CP5120 Shown  
(Shaft protector and mounting rails sold separately)

#### FEATURES

- Industrial triplex design delivers reliability and versatility.
- Direct-drive option offers a compact footprint for electric motors with a NEMA or IEC frame, or SAE hydraulic motor with a bell housing/flexible coupler assembly.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

#### COMMON SPECIFICATIONS

	U.S.	Metric
Bore	0.709"	18 mm
Stroke	0.709"	18 mm
Crankcase Capacity	17 oz	0.51 l
Max. Liquid Temperature	160° F	71° C

#### Alternative seals available for higher temperatures up to 190° F

Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.9 lbs	9 kg
Dimensions	10.89 x 10.0 x 5.78"	277 x 254 x 147 mm

#### SPECIFICATIONS

#### U.S. Measure

#### Metric Measure

#### 5CP5120, 5CP5120CSS

Flow	5.0 gpm	19 lpm
Pressure Range	100–3000 psi	6.9–207 bar
Pump RPM*	1415 rpm	1415 rpm
Inlet Pressure Range	–2.5–60 psi	–.2–4 bar

#### 5CP5120, 5CP5120CSS ALTERNATE SPECIFICATIONS

Flow	6.0 gpm	23 lpm
Pressure Range	100–2500 psi	6.9–172 bar
Pump RPM*	1750 rpm	1750 rpm
Inlet Pressure Range	10–60 psi	1–4 bar

\*Pump minimum is 100 RPM.

#### ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE
NBR	—	160° F (71° C)
FPM	.0110	180° F (82° C)
EPDM	.0220	160° F (71° C)
HT	.3000	180° F (82° C)
STHT	.3400	190° F (88° C)

See **Tech Bulletin 002** for inlet conditions and RPM at high-temperature.

#### DETERMINING THE PUMP RPM

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

#### DETERMINING THE REQUIRED HP

$$\frac{\text{hp}}{(\text{Electric Brake})} = \frac{\text{gpm} \times \text{psi}}{1460}$$

#### DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

Refer to pump **Service Manual** for repair procedure and additional technical information.

# PARTS LIST

ITEM	PART NUMBER		DESCRIPTION	QTY
	<b>SCP5120</b>			
	<b>SCP5120CSS</b>	<b>MATL</b>		
5	126542	STCP R	Screw, HHC, Sems (M8 x 16) (See Tech Bulletin 074)	8
8	46910	AL	Cover, Bearing	2-1
10	14028	NBR	O-Ring, Bearing Cover-70D	2
11	43222	NBR	Seal, Oil, Crankshaft	2-1
15	14480	STL	Bearing, Ball	2
20	48742	TNM	Rod, Connecting Assembly [10/01] (See Tech Bulletin 074)	3
25	<b>46928</b>	FCM	Crankshaft, Dual End M18 - SCP5120	1
	<b>48233</b>	FCM	Crankshaft, Single End M18 - SCP5120CSS	1
30	<b>49776</b>	AL	Cover, Bearing - SCP5120CSS	1
32	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	O-Ring, Oil Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	1-2
38	44428	NBR	Gasket, Flat, Oil Gauge-80D	1-2
40	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug-70D	1
50	46940	AL	Cover, Rear	1
51	14044	NBR	O-Ring, Rear Cover	1
53	48617	AL	Crankcase	1
64	46746	CM	Pin, Crosshead	3
65	48458	BBNP	Rod, Plunger	3
70	46838	NBR	Seal, Oil, Crankcase	3
75	43328	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18 x 10)	3
90	49655	CC	Plunger (M18 x 50)	3
98	46730	NBR	Washer, Seal-90D	3
99	48201	SS	Retainer, Plunger with Stud (M6) (See Tech Bulletin 074)	3
100	46749	PVDF	Retainer, Seal	3
106	43243	NBR	Seal, LPS with S-Spring	3
120	49657	BB	Case, Seal (Press-in-Style)	3
121	13978	NBR	O-Ring, Seal Case-70D	3
127	44549	SNG	V-Packing	6
128	45618	BB	Adapter, Male	3
139	22179	BBCP	Plug, Inlet (1/2" NPT(M))	1
163	17547	NBR	O-Ring, Seat-85D	6
164	45790	S	Seat	6
166	46429	S	Valve	6
167	43750	S	Spring	6
168	44565	PVDF	Retainer, Spring	6
172	17549	NBR	O-Ring, Valve Plug-70D	6
173	48365	D	Backup Ring, Valve Plug	6
174	45900	BB	Plug, Valve (See Tech Bulletin 074)	6
185	46895	FBB	Manifold, Head	1
188	126513	STCP R	Screw, HSH (M8 x 70) (See Tech Bulletin 074)	8
196	22187	BBCP	Plug, Discharge (3/4" NPT(M))	1

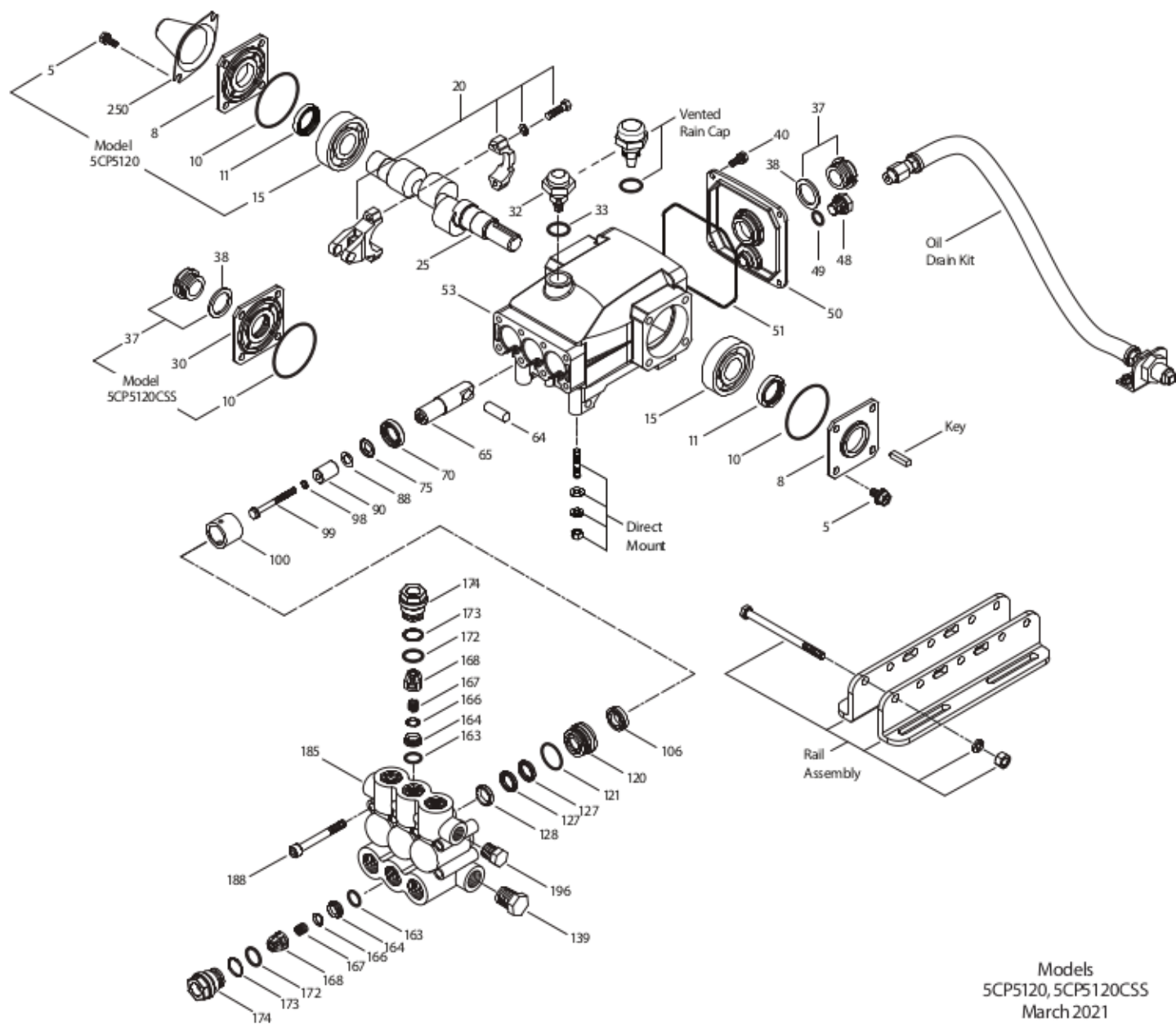
**Bold print part numbers are unique to a particular pump model. Italics are optional items.** [ ] Date of latest production change.

◆ Silicone oil/grease required. † Production parts are different than repair parts. R Components comply with RoHS Directive.

\*Review individual parts in each kit for material code identification. For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).  
MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly  
D=Acetal EPDM=Ethylene Propylene Diene Monomer FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative)  
NBR=Medium Nitrile (Buna-N) PC=Poly Carbonate PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SNG=Special Blend (Buna) SFG=Special Blend (FPM)  
STG=Special Blend PTFE White ST2=Special Blend PTFE Grey STL=Steel STCP=Steel/Chrome Plated SHT=Special PTFE High Temp  
STZP=Steel/Zinc Plated TNM=Special High Strength

**Standard and optional Seal Kits and Valve Kits listed on pages 3 and 4. Optional Parts and Accessories and Service parts listed on Page 3.**

## EXPLODED VIEW



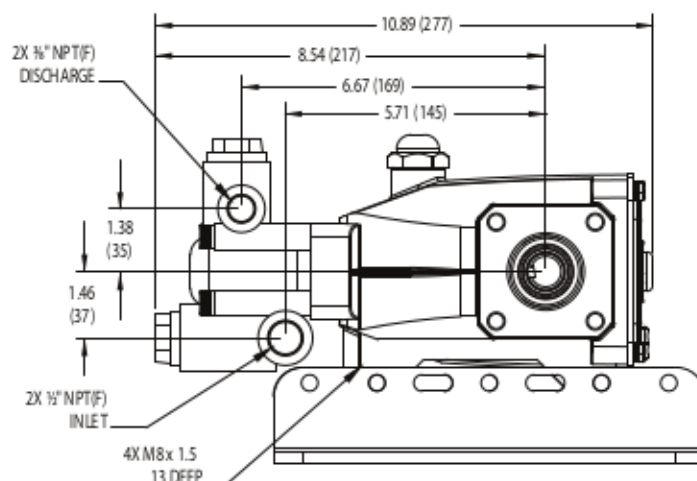
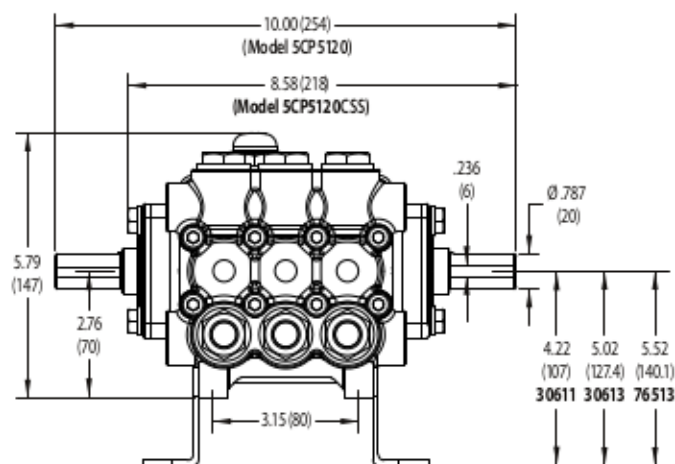
Models  
5CP5120, 5CP5120CSS  
March 2021

### OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key, M6 x 6 x 25	1
30611	Assembly, Rail (4.22" See Dimensional Drawing)	1
30613	Assembly, Rail (5.02" See Dimensional Drawing)	1
76513	Assembly, Rail (5.52" See Dimensional Drawing)	1
30637	Mount, Rail Assembly (Retro Fit - See Tech Bulletin 078)	1
30243	Mount, Direct	1
127409	Cap, Vented with O-Ring (Rain Cap)	1
118672	Protector, Shaft (Model 5CP5120)	1
34334	Kit, Oil Drain	1
30944	Assembly, Hub and Key	1

### SERVICE PARTS

PART	DESCRIPTION	QTY
33630	Kit, Seal - Standard NBR	1
33060	Kit, Valve - Standard NBR	2
6107	Oil, Bottle (21 oz) ISO 68 Hydraulic (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
814844	Head, Complete with NBR Seals and O-Rings	1



Model 5CP5120

## SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	HT (.3000)	STHT (.3400)
5CP5120, 5CP5120CSS	33630	31350	76630	76645	76960

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
98	46730	48394	48432	46730	46730	O-Ring, Plunger Retainer	3
106	43243	44926	46651	43243	76243	Seal, LPS with SS-Spring	3
121	13978	14329	48904	13978	13978	O-Ring, Seal Case	3
127	44549	45617	48300	48300	48300	V-Packing	6

◆ Silicone oil/grease required

## VALVE KITS One (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	HT (.3000)	STHT (.3400)
5CP5120, 5CP5120CSS	33060	31345	31735	33060	33060

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
163	17547	11685	46648	17547	17547	O-Ring, Seat	3
164	45790	45790	45790	45790	45790	Seat	3
166	46429	46429	46429	46429	46429	Valve	3
167	43750	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	44565	Retainer, Spring	3
172	17549	26996	49133	17549	17549	O-Ring, Valve Plug	3
173	48365	48365	48365	48365	48365	Backup Ring, Valve Plug	3

◆ Silicone oil/grease required

## ⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at [www.catpumps.com/dynamic-literature/cautions-and-warnings](http://www.catpumps.com/dynamic-literature/cautions-and-warnings) or can be requested directly from Cat Pumps.

## WARRANTY

View the Limited Warranty on-line at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty)


**CAT PUMPS** 1681 94th Lane N.E., Minneapolis, MN 55449-4324 P: (763) 780-5440 F: (763) 780-2958 E: [techsupport@catpumps.com](mailto:techsupport@catpumps.com) [www.catpumps.com](http://www.catpumps.com)

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Stand is 30" long x 18" wide x 26.5" high. With pump/motor mounted 37" high and 32" long



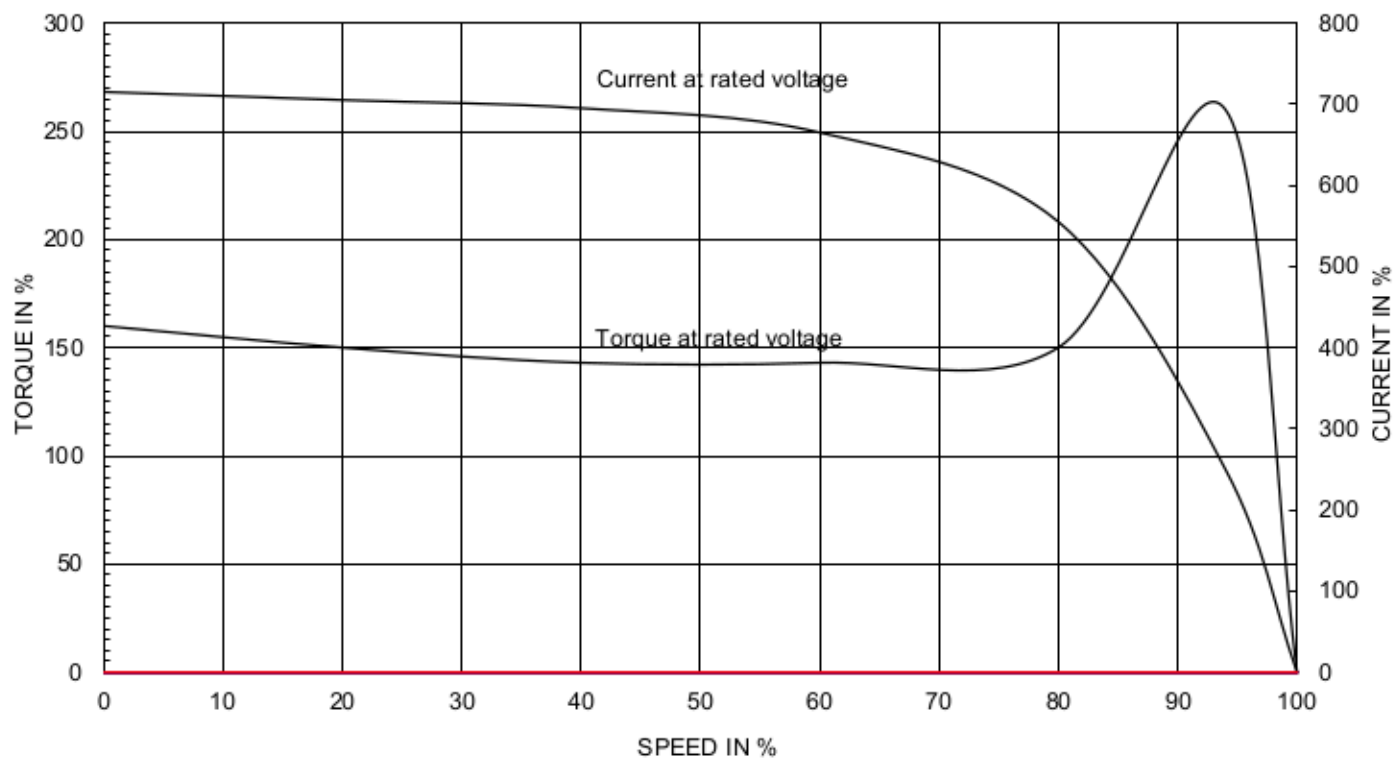
		AC INDUCTION MOTOR DATA SHEET					
Model No. or RFQ No.		Item No.		Rev. No. [     ]			
Project Name		Project No.		Quantity     sets			
GENERAL SPECIFICATION			PERFORMANCE DATA				
Frame Size	213TC		Rated Output	5.5 kW     7.5 HP			
Type	PJP		Number of Poles	2			
Enclosure(Protection)	Totally Enclosed / IP55		Rotor Type	Squirrel Cage			
Method of Cooling	IC411(FC)		Starting Method*	<input checked="" type="checkbox"/> D.O.L <input type="checkbox"/> Y-Δ			
Rated Frequency	60 Hz		Rated Voltage	575 V     460 V     230 V			
Number of Phases	3		Current	Full Load     7.2 A     9.0 A     17.9 A			
Insulation Class	<input checked="" type="checkbox"/> F <input type="checkbox"/> B <input type="checkbox"/> H			Locked-rotor**     715 %     715 %     715 %			
Temp. Rise at full load (by resistance method)			Efficiency				
at 1.0 S.F     80 deg. C			50% Load     87.0 %				
Motor Location	<input checked="" type="checkbox"/> Indoor <input type="checkbox"/> Outdoor		75% Load     89.7 %				
Altitude	Less than 1000 meter		100% Load     89.5 %				
Relative Humidity	Less than 80 %		Power Factor(p.u)				
Ambient Temp.	40 deg. C (Max.)		50% Load     0.780				
Duty Type	Continuous (S1)		75% Load     0.835				
Service Factor	1.15		100% Load     0.860				
Mounting	B34		Speed at Full Load     3520 r.p.m				
Bearing	Type	Anti-Friction	Torque				
	DE/N-DE	6208ZZC3 / 6208ZZC3	Full Load     11.0 lb.ft				
	Lubricant	Grease	Locked-rotor**     160 %				
External Thrust	Not applicable		Breakdown**     260 %				
Coupling Method	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-Belt		Moment of Inertia (J)				
Shaft Extension	<input checked="" type="checkbox"/> Single <input type="checkbox"/> Double		Load(Max.)     8.183 lb.ft2				
Terminal	Main	<input checked="" type="checkbox"/> Aluminum <input type="checkbox"/> Cast Iron	Motor     0.332 lb.ft2				
Box	Aux.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sound Pressure Level (No-load & mean value at 1m from motor)				
	Location	Refer to Outline Drawing	73 dB(A)				
Application			Vibration     3.8 mm/sec (peak)				
Area classification	Class I, Division 2		Permissible number of consecutive starts				
Type of Ex-Protection	Groups A,B,C and D T3A		Cold     3 times				
Applicable Standard	NEMA MG1, CSA C390		Hot     2 times				
ACCESSORIES			Paint     Munsell No.     4.0PB5.4/5.5(VL-451)				
			SUBMITTAL DRAWING				
			Outline Dimension Drawing \ Motor Weight(Approx.)				
			B34	LM-T2213C4PLV01	150 lb.		
SPARE PARTS			REMARK				
			*. Premium efficiency acc. to NEMA MG1 *. For use on PWM VFD 20:1VT, 10:1CT@S.F. 1.0&F Temp.rise *. S.F. 1.25(When 100HP or less, Temp rise F & Non-Hazardous) *. CROWN TRITON G2 Series				
			Date	DSND	CHKD	CHKD	APPD
			2020-12-24	R.G. Kim	S.K. Han	O.J. kim	S.Y. Kim

Note: Others not mentioned in this data sheet shall be in accordance with maker standard.  
 Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.  
 Inspection and performance test shall be maker standard, if not mentioned.

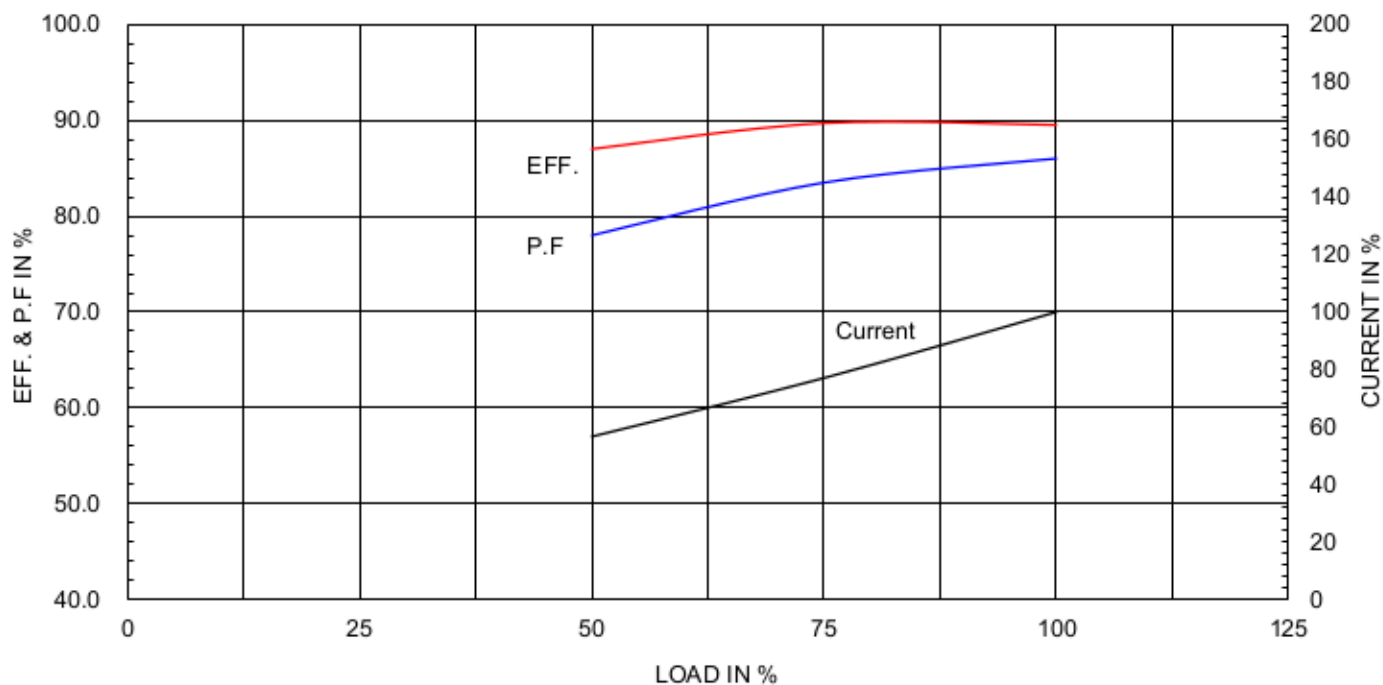
Type :	PJP
Full Load Torque :	11.0 lb.ft
Load moment of Inertia (J) :	- lb.ft <sup>2</sup>
Motor moment of Inertia (J) :	0.332 lb.ft <sup>2</sup>

5.5 kW	7.5 HP	2 P	60 Hz
Speed at Full Load :			3520 RPM
Rated Voltage	575V	460V	230V
Full Load Current	7.2A	9.0A	17.9A

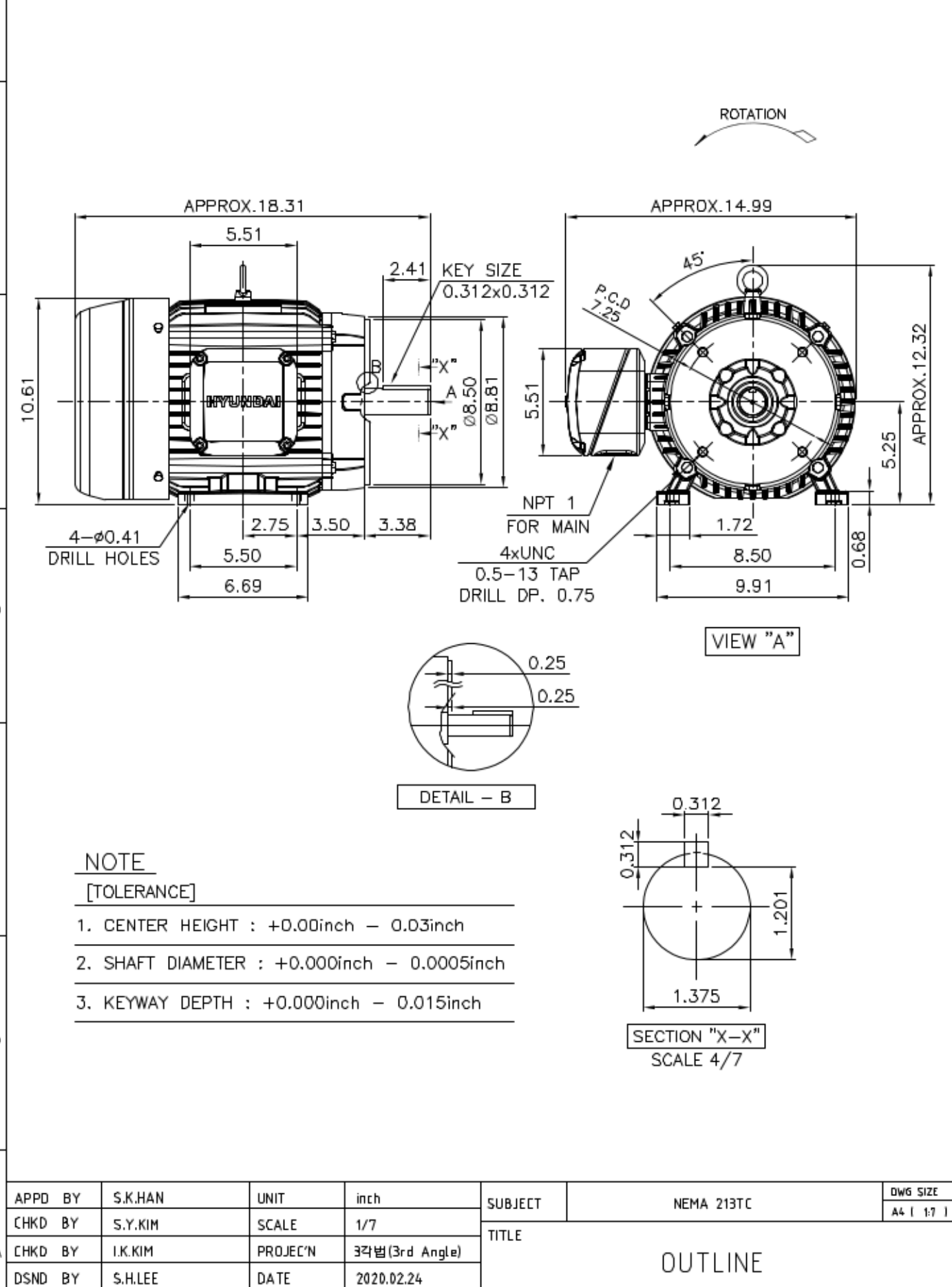
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



1	2	3	4
▽	50S	REV	DATE
▽▽	12.5S		
▽▽▽	3.2S		
▽▽▽▽	0.4S		



G  
F  
E  
D  
C  
B  
A