



<b>No. : 6H.SPEC.113.0.B</b>  SHEET NO. : A/1	<b>BROAD SPECIFICATIONS</b> <b>6R1040T Engine</b> <b>Industrial Power pack</b> <b>Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
---	--	------------------------------	--

BROAD SPECIFICATIONS OF ENGINE SUITABLE FOR INDUSTRIAL APPLICATION			
S. NO.	PARAMETER	UNIT	VALUE
1.1	Engine Model	--	4R1040T
1.2	Emission compliance	--	Not applicable
1.3	Engine cooling	--	Water Cooled
1.4	Bore x Stroke	mm x mm	105 x 120
1.5	No. of cylinders	--	4
1.6	Total displacement	cc	4156
1.7	Valves per cylinder – intake/exhaust	--	1/1
1.8	Compression Ratio	--	17:1
1.9	Firing order (starting from flywheel end)	--	1-3-4-2
1.10	Combustion system	--	Direct Injection
1.11	Aspiration	--	Turbocharged
1.12	Engine crankcase vent system	--	Open to atmosphere
1.13	Rated speed	rpm	2500
1.14	Rated Power / Speed for the lead rating <i>Production Tolerance : <math>\pm</math> 5%</i>	hp @ rpm	110 /2500
1.15	<b><i>All intermediate &amp; lead rating engine performance parameter mentioned in the following table.</i></b>		

Engine performance			High Idle Speed Range		BMEP
RPM	Gross Power	Gross Torque	Min.	Max.	
	(HP)	(Nm)	RPM	RPM	Bar
2500	110	308	2700	2750	9.5


Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	CRE

<b>No. : 6H.SPEC.113.0.B</b>  SHEET NO. : A/2	<b>BROAD SPECIFICATIONS</b> <b>6R1040T Engine</b> <b>Industrial Power pack</b> <b>Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
---	--	------------------------------	--

2300	106	323	2484	2530	10.0
2200	105	335	2376	2420	10.3
2000	98	344	2160	2200	10.6
1800	91	355	1944	1980	10.9
1500	78	365	1620	1650	11.3

1.20	Max. Crank-Case pressure	mm of H <sub>2</sub> O (kPa)	15 (0.147)
1.21	Lubricating oil pressure	At low idle speed	1.5 min
		At rated speed and full load	3.5 min
1.22	Lubricating oil change period for K Oil Premium (* First oil change at 50 hrs.)	hours	500
1.23	Max. oil temperature in sump	°C	75° above ambient
1.24	Lubricating oil consumption (As per KOEL std. test cycle and test procedure. Subject to change.)	% of fuel consumption	0.3max
1.25	Fuel Injection Pump	--	Mechanical Inline Pump
1.26	Fuel filter	--	1.1 Liter duel fuel filter
1.27	Max. allowable back pressure of exhaust system at rated power (at exhaust manifold outlet)	mm of Hg	50
1.28	Max exhaust temperature	° C	550
1.29	Max. air inlet restriction	mm H <sub>2</sub> O	200
	- Clean air cleaner - Used air cleaner		500

Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	CRE

<b>No. : 6H.SPEC.113.0.B</b>  SHEET NO. : A/3	<b>BROAD SPECIFICATIONS</b> <b>6R1040T Engine</b> <b>Industrial Power pack</b> <b>Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
---	--	------------------------------	--


1.30	Maximum Inlet Airflow	kg/hr	508
1.31	Maximum Exhaust Flow	kg/hr	527

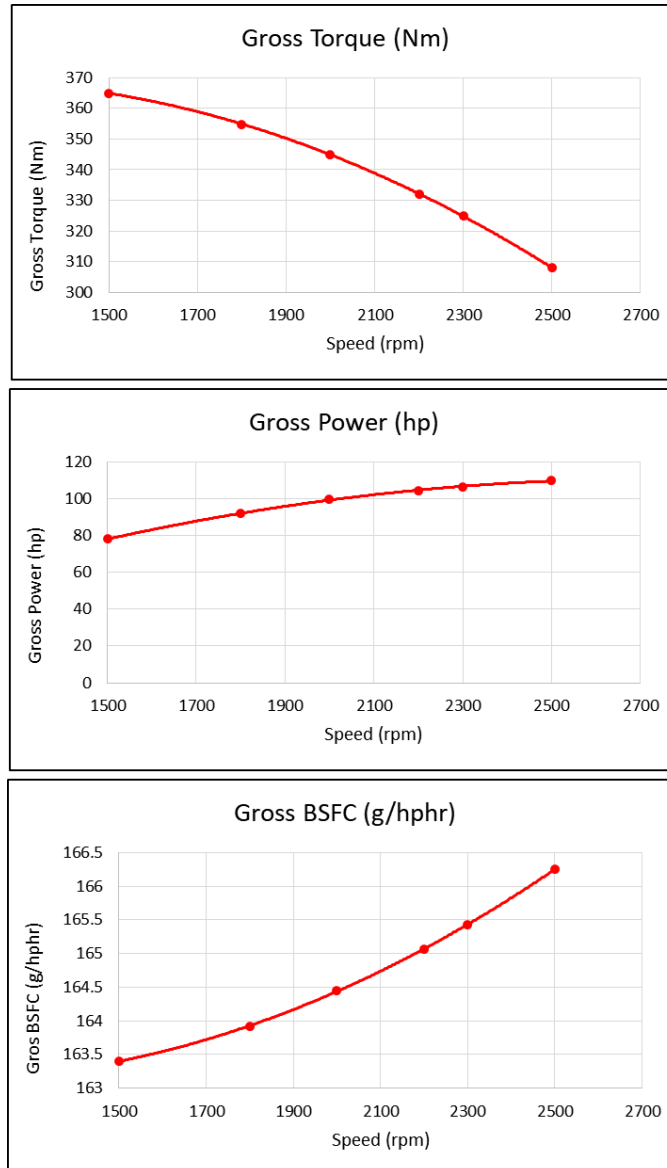
#### ENGINE PERFORMANCE CURVES

*Production tolerance : +/-5% for Gross Torque & Gross Power, +5% for Gross*


FC

Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	<b>CRE</b>

<p>No. : 6H.SPEC.113.0.B</p> <p>SHEET NO. : A/4</p>	<p><b>BROAD SPECIFICATIONS</b></p> <p><b>6R1040T Engine</b></p> <p><b>Industrial Power pack</b></p> <p><b>Application</b></p>	<p><b>SECT.</b></p> <p><b>A</b></p>	 <p>Enriching Lives</p>
---	---	-------------------------------------	--



Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	CRE


No. : 6H.SPEC.113.0.B  SHEET NO. : A/5	<b>BROAD SPECIFICATIONS</b> <b>6R1040T Engine</b> <b>Industrial Power pack</b> <b>Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
--	--	------------------------------	--

#### HEAT BALANCE AT 100% LOAD CONDITION

Heat Balance Sheet						
	110hp @ 2500 rpm	106hp @ 2300 rpm	105hp @ 2200 rpm	98hp @ 2000 rpm	91hp @ 1800 rpm	78hp @ 1500 rpm
Heat released by fuel (kW)	227.3	219.0	216.9	200.2	189.9	160.4
Brake Power (kW)	80.9	78.0	77.2	72.1	68.4	58.1
Heat lost to cooling water (kW)	65.9	63.5	62.9	58.0	55.1	46.5
Heat lost to exhaust (kW)	68.2	65.7	65.1	60.0	57.0	48.1
Unaccounted / Radiation losses (kW)	12.3	11.8	11.7	10.0	9.5	7.7

Note:- Heat balance is calculated at NTP conditions

Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	CRE

<b>No. : 6H.SPEC.113.0.B</b>  SHEET NO. : A/6	<b>BROAD SPECIFICATIONS</b> <b>6R1040T Engine</b> <b>Industrial Power pack</b> <b>Application</b>	<b>SECT.</b>  <b>A</b>	 Enriching Lives
---	--	------------------------------	--

Prepared by	Checked & approved by	Revision No.	Date	Issued by
HTD/VMT	YVA	00	02.12.2020	<b>CRE</b>