

PUMP MECHANICAL DATA SHEET

PROJECT NAME		3NE PROJECT		PROJECT NO.																							
CUSTOMER		LG화학(주)		REQ. NO.		RQ-R-J-003																					
LOCATION		DAESAN, KOREA		DATE		13-Jul-17																					
SERVICE		WATER CIRCULATION PUMP		PUMP CODE		API 610 OH2																					
ITEM NO.	S207-JA/JB	QUANTITY	2	set(s)	MODEL	TSP	SIZE																				
				3 X 2 - 9																							
OPERATING CONDITIONS				PUMP PERFORMANCE																							
PUMPING LIQUID				WATER																							
PUMPING TEMPERATURE(MAX./NORMAL/MIN)				- / 43 / - °C																							
SPECIFIC GRAVITY(MAX./NORMAL/MIN.)				- / 0.992 / -																							
VISCOSITY(MAX./NORMAL/MIN.)				- / 0.62 / - cP																							
VAPOR PRESSURE(MAX./NORMAL)				- / 0.088 (kg/cm ² a)																							
CAPACITY(NORMAL/RATED)				21.2 / 25.4 m ³ /hr																							
DISCHARGE PRESSURE(RATED/MAX.)				13.57 / - (kg/cm ² g)																							
SUCTION PRESSURE(RATED/MAX.)				11.86 / - (kg/cm ² g)																							
DIFFERENTIAL PRESSURE				1.71 (kg/cm ² g)																							
DIFFERENTIAL HEAD				17.2 m																							
NPSH AVAILABLE @ C.O.I				128.1 m																							
INSTALLATION				<input type="checkbox"/> INDOOR <input checked="" type="checkbox"/> OUTDOOR																							
MOTOR POWER				3.7 kW 4 P RPM 1750																							
IMPELLER DIA.(RATED/MAX./MIN.)				216 / 240 / 160 (mm)																							
IMPELLER TYPE				ENCLOSED																							
RATED POWER				2.18 KW EFFICIENCY 54 %																							
MINIMUM CONTINUOUS FLOW				8.5 m ³ /hr																							
PREFERRED OPERATING REGION				19.46 / 33.36 m ³ /hr																							
ALLOWABLE OPERATING REGION				8.5 / 35.0 m ³ /hr																							
SHUT-OFF HEAD				20.8 m																							
MAX. POWER @ RATED IMPELLER				2.38 KW																							
NPSHr AT RATED FLOW(WATER @ C.O.I)				1.25 m																							
SUCTION SPECIFIC SPEED				7400 (m ³ /hr.m.rpm)																							
MAX.SOUND PRESSURE LEVEL				85 dBA																							
CONSTRUCTIONS				MATERIAL																							
MAIN NOZZLE CONNECTIONS :				CASING A216 Gr. WCB IMPELLER A743 Gr. CA6NM SHAFT SCM440(AISI4140eq) WEARING A479 Tp. 410+H.T SHAFT SLEEVE N/A BEARING FRAME A216 Gr. WCB BASE PLATE SS400(A36 EQ.)																							
PRESSURE CASING AUXILIARY CONNECTION NOZZLES :				INSPECTION & TEST																							
NOZZLE	SIZE	RATING	FACING	LOCATION	TEST	NON-WITNESS	WITNESS																				
SUCTION	3 "	ASME #300	R.F	END	HYDROSTATIC PRESSURE TEST	<input checked="" type="checkbox"/>	<input type="checkbox"/>																				
DISCHARGE	2 "	ASME #300	R.F	TOP	PERFORMANCE TEST	<input type="checkbox"/>	<input checked="" type="checkbox"/>																				
PUMP MODEL TSP 3 X 2 - 9 NO. OF STAGE ONE(1)				NPSHr TEST (IF REQUIRED)																							
CASING MOUNTING				MECHANICAL RUNNING TEST																							
<input checked="" type="checkbox"/> CENTERLINE <input type="checkbox"/> FOOT <input type="checkbox"/> OTHER				SOUND LEVEL TEST																							
PUMP TYPE				NDE																							
<input type="checkbox"/> OH1 <input checked="" type="checkbox"/> OH2 <input type="checkbox"/> OH3 <input type="checkbox"/> OH4 <input type="checkbox"/> OH5				OTHER																							
<input type="checkbox"/> BB1 <input type="checkbox"/> BB2 <input type="checkbox"/> BB3 <input type="checkbox"/> BB4 <input type="checkbox"/> BB5																											
<input type="checkbox"/> VS1 <input type="checkbox"/> VS2 <input type="checkbox"/> VS4 <input type="checkbox"/> VS6 <input type="checkbox"/> OTHER																											
ROTATING DIRECTION (VIEWED FROM COUPLING END)				<input type="checkbox"/> CW <input checked="" type="checkbox"/> CCW																							
MAXIMUM ALLOWABLE WORKING PRESSURE																											
40.80 (kg/cm ² g) @ 43 °C																											
HYDROSTATIC TEST PRESSURE				62.10 (kg/cm ² g) @38 °C																							
LUBRICATION				OIL RING TYPE																							
<input type="checkbox"/> GREASE <input checked="" type="checkbox"/> OIL (ISO VG#46)																											
BEARING				7310B DB																							
<input checked="" type="checkbox"/> THRUST(TYPE/NO.) <input type="checkbox"/> BALL /																											
<input checked="" type="checkbox"/> RADIAL(TYPE/NO.) <input type="checkbox"/> BALL /				6210																							
OILER				TRICO																							
BASEPLATE				<input type="checkbox"/> COMMON <input type="checkbox"/> SOLE <input checked="" type="checkbox"/> DRAIN PAN																							
TRANSMISSION				<input checked="" type="checkbox"/> DIRECT <input type="checkbox"/> V-BELT <input type="checkbox"/> CLOSED COUPLED																							
COUPLING & SAFETY GUARD				WEIGHT(kg)																							
MANUFACTURER THOMAS OR EQ. SERVICE FACTOR MIN. 1.5				PUMP 190 MOTOR 40 BASE PLATE 250 TOTAL 480																							
TYPE FLEXIBLE DISK WITH SPACER COUPLING GUARD MATERIAL ALUMINIUM				PUMP PACKAGE DIMENSION																							
SHAFT SEALING																											
<input checked="" type="checkbox"/> MECHANICAL SEAL <input type="checkbox"/> GLAND PACKING				PUMP DRAWING DIMENSION TABLE (Unit : mm) <table border="1"> <tr> <th>A</th> <th>B</th> <th>D</th> <th>E</th> <th>F</th> <th>SP</th> <th>G</th> <th>BW</th> <th>BL</th> <th>M</th> </tr> <tr> <td>183</td> <td>601</td> <td>370</td> <td>260</td> <td>143</td> <td>127</td> <td>150</td> <td>760</td> <td>1400</td> <td>382</td> </tr> </table>				A	B	D	E	F	SP	G	BW	BL	M	183	601	370	260	143	127	150	760	1400	382
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GLAND PACKING				REMARKS																							
<table border="1"> <tr> <th>SIZE</th> <th>MATERIAL</th> <th>TURN</th> <th>MAKER</th> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </table>				SIZE	MATERIAL	TURN	MAKER	-	-	-	-																
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-	-	-	-																								
MECHANICAL SEAL																											
<input checked="" type="checkbox"/> MANUFACTURER FLOWERVE INTERNATIONAL (KOREA SEAL MASTER) OR EQ.																											
<input checked="" type="checkbox"/> TYPE / MODEL SGL,CART																											
<input checked="" type="checkbox"/> API CLASS CODE LATER																											
<input checked="" type="checkbox"/> SEAL FLUSHING PLAN NO. #11/61																											
DRIVER																											
DRIVER TYPE				<input checked="" type="checkbox"/> INDUCTION MOTOR <input type="checkbox"/> STEAM TURBINE																							
<input type="checkbox"/> GEAR <input type="checkbox"/> OTHER																											
MANUFACTURER				HYUNDAI HEAVY INDUSTRIES OR EQ.																							
RATED OUTPUT				3.7 kW 4 P 1750 RPM																							
ARRANGEMENT				<input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/> VERTICAL																							
SERVICE FACTOR				1.00 STARTING METHOD D.O.L																							
VOLT/PHASE/HERTZ				460 / 3 / 60																							
ENCLOSURE				TEFC EX. PROOF GRADE Exe II T3 IP 55																							
INSULATION				F TEMPERATURE RISE B																							
LUBRICANT				GREASE BEARING TYPE BALL																							

PUMP PERFORMANCE CURVE

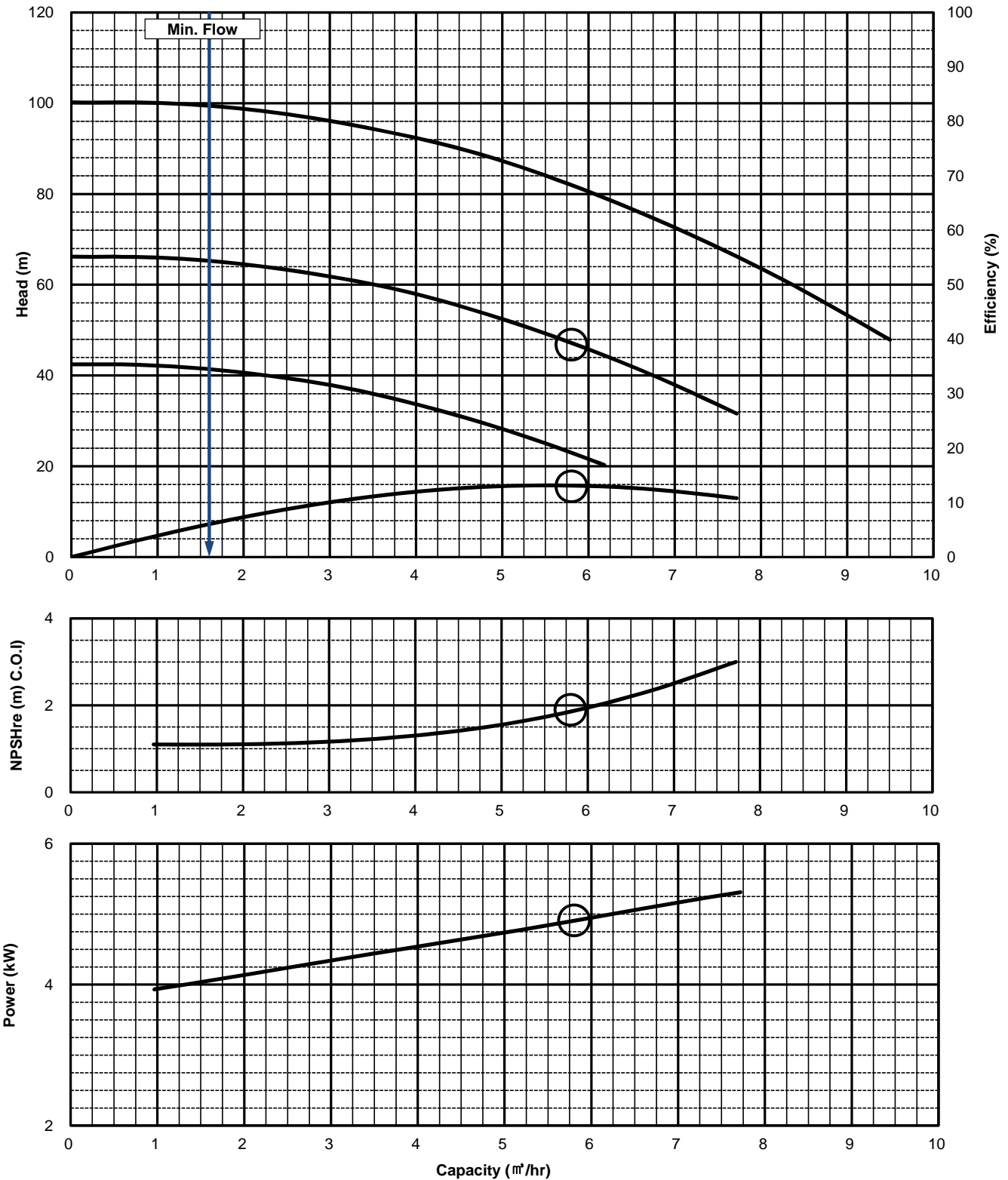
Curve No.

TSP219S

S106-JA/JB

C00

CUSTOMER	LG화학(주)	LIQUID	HYDROCARBONS			
ITEM NO.	S106-JA/JB	CAPACITY	5.8	m³/hr	SP.GR.	0.866
SERVICE NAME	GASOLINE PUMP	HEAD	46.8	m	VISCOSITY	0.54 cP
PUMP MODEL	TSP 2 X 1 - 9S	POWER	7.5	kW	TEMPERATURE	87.5 ℃



M.C.F.	1.6	m³/hr	SHUT-OFF HEAD	66.2	m	B.E.P	5.6	m³/hr	RATED CAPACITY / B.E.P	103.57	%
NPSHr @ C.O.I	1.9	m	EFFICIENCY	13	%						
RATED POWER	4.91	kW	MAX. POWER	5.31	kW						
IMPELLER DIA.(RATED/MAX./MIN.)	191	/	235	/	153	(mm)	0	FOR PROPOSAL	18-Jul-17	H.J.K	Y.S.HA S.G.NO
SUCTION SPECIFIC SPEED	5000	(m³/hr.m.rpm)	Rev.	DESCRIPTION	DATE	DWN	CH'K	APP'D			