

# PUMP DATA SHEET

**GPX**

## CENTRIFUGAL PUMP DOUBLE SUCTION(BB1)

REV.NO.	DATE	BY	CHK'D	APP'D
1	2018.01.11	HJSHIN	KHLEE	CHPARK
0	2017-12-14	HJSHIN	KHLEE	CHPARK

PROJECT	: 6AA Project	JOB NO.	:
CLIENT	: LG화학 여수	DOCUMENT NO.	:
LOCATION	: YEOSU, KOREA	PO NO.	: PA2017J2895-016
UNIT	: -	ITEM NO.	: F-GA-820 A/B/C/D
LOCATION	: <input type="checkbox"/> INDOOR <input checked="" type="checkbox"/> OUTDOOR	SERVICE	: COOLING WATER CIRCULATION PUMP
		NO. REQ'D	WORKING 2 STAND-BY 2 TOTAL 4

OPERATING CONDITION						MATERIAL	
LIQUID	:	WATER				API MATERIAL CODE	:
		Max.	Nor.	Min.	CAPA'(m³/h)	Nor.	1871.40
					DIS. P. (kg/cm²G) Max:	Rated	2000.00
TEMP. (°C)			32.0		SUC. P. (kg/cm²G) Max:	Rated	4.50
SP.GR.			0.995		DIFF. P. (kg/cm²)	:	4.77
V.P. (kg/cm²A)			0.050		DIFF. HEAD. (m)	:	47.90
VISCOSITY. (cP)			0.764		NPSHa. (m)	:	7.10

CONSTRUCTION					PERFORMANCE	
APPLIED CODE	<input type="checkbox"/> API 610 <input type="checkbox"/> API 682 <input type="checkbox"/> ASME B73.1				CURVE NO. :	2016DS22-60-6
MFR.	: YOUNG POONG	PUMP SIZE :	GP4 20X16DS-22			RATE. BHP
TYPE	: HOR. CENTRIFUGAL(Double suction)				NPSHr.(WATER)	: 4.75 m
CASING	MOUNT <input checked="" type="checkbox"/> MOUNT <input type="checkbox"/> FOOT <input type="checkbox"/> CENTERLINE <input type="checkbox"/> VERTICAL				DES. EFF.	: 83.15 %
	SPLIT <input type="checkbox"/> RADIAL <input checked="" type="checkbox"/> AXIAL				MIN. CONTINUOUS FLOW	: 903.12 m³/h
CONNECTION	SIZE(in)	RATING(LB)	FACING	POSITION	MAX. BHP @RATED IMPELLER	: 333.91 kw
SUCTION	20	150	RF	SIDE	SHUT OFF HEAD	: 62.29 m
DISCHARGE	16	150	RF	SIDE		
DRAIN	3/4	150	RF	-		
VENT	1/2	150	RF	-		

NO. OF STAGE	: 1	SPEED :	1180	RPM		
IMPELLER	TYPE <input checked="" type="checkbox"/> CLOSED <input type="checkbox"/> SEMI-OPEN <input type="checkbox"/> OPEN					
	DIA RATED 20.625 in MAX 23.000 in MIN. 19.000 in					TEST & INSPECTION
	DIA RATED 523.9 mm MAX 584.2 mm MIN. 482.6 mm					HYDRO. <input type="checkbox"/> WITNESS <input checked="" type="checkbox"/> NON-WIT.
BEARING	TYPE <input checked="" type="checkbox"/> RADIAL NO. : 3322					MECH. RUN <input checked="" type="checkbox"/> WITNESS <input type="checkbox"/> NON-WIT.
	<input checked="" type="checkbox"/> THRUST NO. : 6322					PERFORM. <input checked="" type="checkbox"/> WITNESS <input type="checkbox"/> NON-WIT.
LUBRICATION	TYPE <input checked="" type="checkbox"/> CONSTANT LEVEL OILERS					NPSH <input type="checkbox"/> WITNESS <input type="checkbox"/> NON-WIT.
	<input type="checkbox"/> RING OIL <input type="checkbox"/> FLINGER <input type="checkbox"/> OIL MIST					<input type="checkbox"/> DYNAMIC BALANCE TEST
	<input checked="" type="checkbox"/> OIL BATH <input type="checkbox"/> GREASE <input type="checkbox"/> EXTERNAL					<input checked="" type="checkbox"/> VIB. MEASUREMENT TEST
POWER TRANSMISSION	<input checked="" type="checkbox"/> DIRECT <input type="checkbox"/> GEAR <input type="checkbox"/> V-BELT					<input type="checkbox"/> DISMANTLE & INSPECTION AFTER TEST

COUPLING	TYPE <input checked="" type="checkbox"/> FLEXIBLE <input checked="" type="checkbox"/> SPACER <input type="checkbox"/> GEAR <input type="checkbox"/> RIGID	N.D.E TEST				
	MFR. : HWASUNG MODEL NO. : F4-55	PT	MT	RT	UT	PMI
SHAFT SEAL TYPE	<input checked="" type="checkbox"/> MECH. SEAL <input type="checkbox"/> GLAND PACKING	CASING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MECH. SEAL	MFR. : FLOWSERVE KSM TYPE : QBW	COVER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	MATERIAL CODE 5UDX SLEEVE MAT'L : SUS316	IMPELLER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		SHAFT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

ACCESSORIES				
ROTATION VIEWED	<input checked="" type="checkbox"/> CW <input type="checkbox"/> CCW FROM CPL'G END	DRAIN (	<input checked="" type="checkbox"/> VALVE <input checked="" type="checkbox"/> PLUG )	
BASEPLATE	TYPE <input checked="" type="checkbox"/> COMMON <input type="checkbox"/> SOLE <input type="checkbox"/> CHANNEL	<input checked="" type="checkbox"/> COUPLING GUARD		
		<input checked="" type="checkbox"/> ANCHOR B/N		

DRIVER				PAINT	
SUPPLIED BY	: VENDOR	MOTOR POWER	: 370	kw	
MFR.	: HYUNDAI	SERVICE FACTOR	: 1.0		Color : 4.9B 6.7/0.2(GRAY)
TYPE	: TEFC	RPM	: 1180		
FRAME NO.	: HME6 351	Vol. / Ph / Hz	: 6600/3/60		
EXPLOSION PROOF	: EXE II T3	BEARING	: sleeve		
ENCLOSURE	: IP55	LUBRICATION	: OIL		
FULL LOAD AMP.	: -	INSULATION CL.	: F		
LOCKED ROTOR AMP.	: -	INSULATION TEMP. RISE.	: B		

AUXILIARY PIPING									
SEAL FLUSHING	: 11/61	<input checked="" type="checkbox"/> TUBE <input type="checkbox"/> PIPE <input type="checkbox"/> CS <input type="checkbox"/> SS <input type="checkbox"/> FLANGED <input type="checkbox"/> THREADED <input type="checkbox"/> UNION							
COOLING	: -	<input type="checkbox"/> TUBE <input type="checkbox"/> PIPE <input type="checkbox"/> CS <input type="checkbox"/> SS <input type="checkbox"/> FLANGED <input type="checkbox"/> THREADED <input type="checkbox"/> UNION							

1. CASING VENT: BLOCK VV+GOOSE NECK

NOTES

S/N : PA2017J2895-1-001

DATE : 2017-12-14

CUSTOMER ORDER NO(Inq#)	JOB NO	ITEM NO.	QTY	MFGR ORDER NO	PAGE
		F-GA-161	1	PA2017J2895	1/1
CUSTOMER (주)엘지화학여수공장			SERVICE F-FA-161 TRANSFER PUMP		
DESTINATION YEOSU, KOREA			LIQUID WATER		
PROJECT 6AA Project			SOLID DESCRIP		
PUMP SERIES & ALLOY - code : PFAF01KA_Y1 CF8M			TEMP(°C) 63.000		
1Y 1.5X1-6 S #150 / 42			SG.GR. 0.982		
			VIS.(Cp) 0.446		
SIZE RATE/FACE POSITION			DISC.PRESS. kg/cm <sup>2</sup> G 1.900		
SUCT 1.5" 150# RF END			SUCT.PRESS. kg/cm <sup>2</sup> G -0.100		
DISC 1" 150# RF TOP			DIFF.PRESS. kg/cm <sup>2</sup> G 2.000		
VIEW @CPLG END CW			VAPOR. PRESS. kg/cm <sup>2</sup> A 0.232		
DRIVER VOLTS 440 KW 3.7			CAPACITY m <sup>3</sup> /hr 5.20		
			MIN. FLOW 1.39		
			TDH m 20.40		
			OFFD 20.58		
			NPSH m 7.10		
			REQD 0.61		
			BHP Kw 1.27		
			@OP 1.95		
			PERF.CURVE NO P2SP03ST10001101		
			EFF.% 22.53		

TEST / INSPECTION	
-HYDRO.(PARTS ONLY)	HYDRO TEST (30 MIN.) ALL NON-WITNESS
-PERFORMANCE	PERFORMANCE (30 MIN.) 1Y WITNESS
-NPSHr	
-CERTIFIED VIBRATION	
-SPECIAL	

FURN.BY MTD.BY			FURN.BY MTD.BY		
PUMP	YPPC	YPPC	COUPLING	YPPC	YPPC
SEAL	YPPC	YPPC	BASE	YPPC	YPPC
DRIVER	YPPC	YPPC	AUX.PIPE	YPPC	YPPC

☒ LUBRICANT FOR INITIAL CHARGE ☐ NOT PFR. TEST

☐ TEST LEVEL "A" ☒ TEST LEVEL "B" ☐ API610  
☐ JOB MOTOR TEST ☒ SHOP MOTOR TEST ☐ ORIFICE PLATE TEST

ITEM NAME	SIZE & TYPE	Q'TY	MATERIAL	ADD-ON SPEC
1 ASME(S) STANDARD PUMP	1Y 1.5X1-6 S		CF8M	
2 CASING-FOOT MOUNT	1Y 1.5X1-6 S #150 RF	1	CF8M	TAP1 PT1/2" WITH ELBOW+V/V+CAP
3 BALL VALVE	PT 1/2" BUTTERFLY HANDLE	1	316	
4 IMPELLER	1Y 1.5X1-6 S OPEN	1	CF8M	
5 GASKET-IMPELLER	1Y	1	TFR	
6 CASING COVER	1Y 8" TL	1	CF8M	
7 GASKET-CASING COVER	1Y(2Y) 8" STD	1	TFE	
8 M/SEAL-SINGLE CARTRIDGE	APX 1Y KSM	1	-	X-100, (IE)R4E(F/V)PP
9 POWER END(H)	ASME 1Y 8"		DCI	
10 B/R.HOUSING	ASME 1Y	1	DCI2	
11 SHAFT	1Y APX DBL STD-SLEEVED	1	SCM440	
12 BALL BEARING	SRD #6207	1	SR	
13 BALL BEARING	DRA #5306	1	SR	
14 LABYRINTH SEAL	ASME 1Y I/B YPPC	1	PTGM	
15 LABYRINTH SEAL	ASME 1Y O/B YPPC	1	PTGM	
16 B/R.H.CARRIER	ASME 1Y STD	1	DCI2	
17 OILER-CONSTANT LEVEL	4 OZ TRICO #40061	1	SS400/ZN/GL	
18 SHAFT SLEEVE	1Y LONG	1	CF8M	
19 MOTOR(H) KS EXE II	3.7kW(5HP) 2P 60Hz		SR	
20 MOTOR(H) KS EXE II	3.7kW(5HP) 2P 60Hz 112M HHI	1	SR	EXE II T3, INS.F,IP55,OUTDOOR
21 COUPLING-THOMAS	71-150		S400	
22 COUPLING-THOMAS	71-150	1	SS400	88.9
23 COUPLING GUARD-DOOR	1Y R- 76.2 / C-210mm	1	ALUMINUM	
24 BASE-APX STD	BASE-APX STD		S400	
25 BASE-APX STD	#51 1B	1	SS400	
26 BASE-OPTION	ASME EARTH LUG	2	304	
27 BASE-OPTION	#50~#57 LIFT LUG	4	SS400	
28 ANCHOR BOLT(TYPE-L)	5/8"X 11 UNC-2A L=10" NUT(1) & F/W(1)	4	SRZN	
29 PIPING PLAN	1Y #01/61		316	
30				
31				
32				
33				
34				
35				
36				
37				

PAINT	MUNSELL or RAL NO		4.9B 6.7/0.2(GRAY)				PACKING	Bundle				
	TYPE		하도 : 에폭시, 상도 : 에나멜				WTs kg	PUMP	44	CPLG	4	
	THICKNESS(μm)		하 :30μm, 상:30μm					DRIVER	40	BASE	45	
	SCOPE		N204				REMARK	1 CPLG GUARD:5Y/8.5/12(YELLOW)				
소재 하도 도장						2						
NDE TEST	CASING COVER IMPELLER SHAFT WELD PART SLEEVE	PT	UT	RT	PMI	3						
						4						
		5										
		1										
		2										
		3										
		4										
		Total Amount/										
		<input checked="" type="checkbox"/> NON-WIT										
<input type="checkbox"/> WIT												

경고! 상기 용도 이외 사용시 펌프의 성능 및 품질을 보증할수없으므로 반드시 영업사원과 협의하여 주시기 바랍니다.



# PUMP PERFORMANCE CURVE

CUSTOMER

YPPI

DOCUMENT NO.

NAME	(주)엘지화학여수공장		
JOB NO.		UNIT/PJT	PA2017J2895
ITEM NO.	F-GA-820 A/B/C/D		

QUOTE NO.	PA2017J2895	DATE	2017-12-12
PO NO.		DATE	
SERIAL NO.			

## PERFORMANCE

CURVE NO.	2016DS22-60-6				
BHP	RATED	316.44	SPEED	RPM	1180
(kW)	MAX.	333.91			
TDH	RATED	48.55	Flow % of BEP	88.6	
(m)	MAX.	62.29	MIN. CONT. FLOW	903.12	
Head Rise (%)	28.30	NPSH	REQUIRED	4.75	
EFF. %	83.15	(m)	AVAILABLE	7.10	

## PUMP

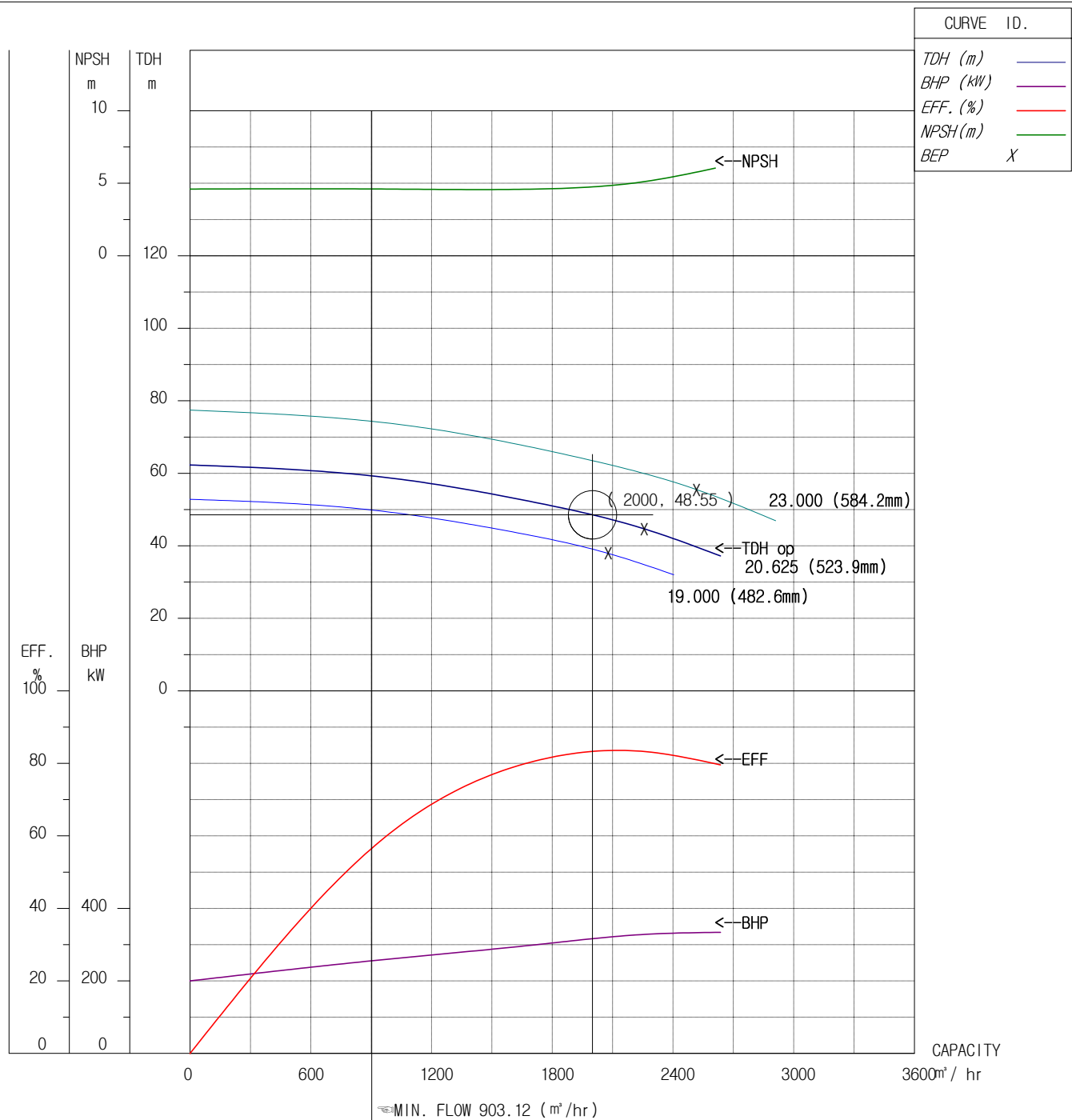
TYPE	AG05 GPX DOUBLE SUCTION(A) PUMP				
SIZE	GP4 20X16DS-22				
IMPELLER					
TYPE	DIA.	RATED	20.625		
_CVT	(in)	MAX.	23.000		
		MIN.	19.000		

## LIQUID PUMPED

NAME	WATER		
SG.@PT	0.995	PT °C	32.0
VIS.cP	0.764	VP ( kg /cm <sup>2</sup> )	.05
OP. CONDITIONS			
CAPACITY ( m <sup>3</sup> /hr )	RATED	2,000.000	
	NORM		
TOTAL HEAD (m)		47.900	

## PERFORMANCE CURVE

TEST ID. :



Comments :