





KSB Aktiengesellschaft Engineered Pumps Division

Inspection Report

11/30/1993

Order code....: Customer.....: KSB INC. U S A Pp-Type/-Stages: HGC 4/5 Code....: NEW YORK KSB serial no..: 2-G24-028 211/2 Tolerances to..: HI

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Test code..... TEST RUN HGC 4/5
                                                                                                        <u>design point</u>
= 3578.00
= 60.68
Guaranteed value:
                                                                           Nn [rpm]=
Rho [lb/cuft]=
Tss [F]=
                                        at rated speed at density
                                        at temperature
                                                                                                                 177.00
                                                                                Og
Hg
Etag
                                                                                         [USgpm]=
[ft]=
[%]=
                                                                                                               792.00
3620.00
73.90
                                        capacity
                                        head Hg
efficiency Eta
power of the pump Pp
power of the mot. Pm
                                                                                                [hp]=
                                                                                                                 954.00
                                                                                                [hp]=
                                        NPSH
                                                                                                 [ft]=
                                                                                                                    25.50
                                        minimum capacity Omin [USopm] = minimum head Hmin [ft] =
                                        test speed Nv [rpm] = 3640.000 design capacity Qa [USgpm] = 791.200 number of pump stages [/] = 5 pipe surface roughness Br [/] = 1.0000000 thermal expan-) steel al[1/C] =1.1100E-05 sion factor )austenit a2[1/C] =1.7500E-05 pressure loss factor Zeta [/] = 0.0000000
Constants....: test speed Nv design capacity Qa number of pump stages
Diameters....: 1.discharge nozzle Ddsl [mm]= 100.0000 l.suction nozzle Dssl [mm]= 150.0000 impellers vane tips are obliquely cut back
Vertical differ: tapping - reference SS z1 [m]=
tapping - reference DS z2 [m]=
tapping -indication SS z1'[m]=
tapping -indication DS z2'[m]=
ref SS-center impeller z1 [m]=
reference SS-ref DS h12 [m]=
                                                                                                                 .750000
                                                                                                               -.250000
                                                                                                              -.050000
                                                                                                              0.000000
                                                                                                               0.000000
                                        number between pump<>motor = 1
gear no.22 ;designation:AD 40
i=1:.82192 ; measured : pump speed =1:1
Gear..... number between
Power | motor...: determination input power
                                                                                                        =Md + Drez
```

G. frace

Signature

Customer:



KSB Aktiengesellschaft Engineered Pumps Division

Inspection Report

71	Valves Engineered Pumps Division							Inspection Report					
Customer : KSB INC. U S A						Operat	Operating Conditions			Serial no : 2-624-028 211/2			
Typ / no of stages: HGC 4/5					n	n 3578.0 rpm			Frankenthal 11/30/1993				
Code		:	NEW YOU	RK		t	177.	0 ⁻ F		:			
Tolera	ances to	:	HI			ļρ	60.	688 lb/cu ft	atm. pre	ssure :	14.65		
Test		: TEST	RUN HG	2 4/5					measuri	ng point:	15		
Meas	suring resu				,								
No	N rpm	Q gp	m T	;	PS psi	व्ये ः	2 g 7	H #	NPSH ft	Ruppl 6	np p	-'3 Q∈ 9	
1	3642.4	1016	.4 (54.0	53.6	1561.	8.95	3481.72		1210.0	73.9	29.0	
2	3642.9	801.	.2	54.5	55.6	1725.	5.56	3851.80		1070.9	72.8	30.0	
3	3643.3	682.	.2	55.0	56.5	1800.	4.03	4020.26		982.0	70.5	30.2	
4	3643.9	503	.2	55.0	57.5	1871.	2.19	4179.54		835.3	63.6	29.9	
5	3645.6	194	.2	55.3	59.2	1878.	.33	4188.61		583.8	35.2	2 31.:	
	· ,												
	7												
Conv	ersion to C	perating	Condit	ions					-				
No	Q gpm	a	:b/s		H #	H osı	NPSH	t Poold	ohp F	warm bhp	η cold %	$\eta_{\text{ warm}}$	
* 1	998_4	.	34.84	1 3	359.62	1414.	lis Logist Herricons	114	6.9	1094.6	73.87	75.2	
2			06.28			1564.		101		968.4	72.79	74.1	
3			90_48			1632.			0.2	887.8	70.53	71.8	
4			66.72	1	029.72	1696.			0.8	754.8	63.58	64.7	
5			25.74	_	4	1698.	1.		1.9 526.8		35.19	35,8	
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				1	1								
										V	2		
										V	. 1	-	
										V	. 1		

Customer:

KSB-Form 500 133.1/E 2