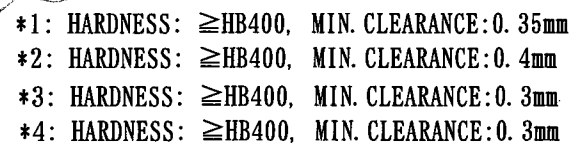



ISO VG 46 mixed with rust preventive oil leaks outer bearing housing .

APPLICABLE CODE: API610 10th EDITION
(NOTE) AS TO MECHANICAL SEAL DETAIL,
REFER TO MECHANICAL SEAL ASSEMBLY DRAWING.



-MECHANICAL SEAL MAKE: JOHN CRANE
-TYPE: 3604 HTCDP DOUBLE CARTRIDGE (API682 3rd ED.)
-API SEAL PLAN: 53B
-SIZE: $\phi 1.75"$

PART NO.	NAME OF PARTS	MATERIAL	REMARKS	Q' TY	PART NO.	NAME OF PARTS	MATERIAL	REMARKS	Q' TY	PART NO.	NAME OF PARTS	MATERIAL	REMARKS	Q' TY
18	NUT	S45C		12	778	SHAFT SLEEVE	SUS316		1	2020	NUT	S45C		4
19	BOLT	SNB7		12	785	HEAD	SCPH2		1	2100	OIL BAFFLE	FC250		1
43	BEARING ADAPTER	SCM440		1	791	IMPELLER	SCPH2		1	2121	OILER	ZDC2/GLASS		1
44	ADAPTOR LOCK NUT	SCM440		1	793	LOWER BEARING WEARING	SUS420J2	≥HB400	1	2123	GAS BREATHER	FCMB		2
45	BEARING ADAPTER KEY	S45C		1	902	COUPLING KEY	S45C		1	2712	RAD. IMP. WRG. - DIS SIDE	SUS420J2	*3	7
135	BALL BEARING		7314BL1DB	1S	908	COUPLING KEY	S45C		1	2791	SUC. IMP. WRG. - DIS SIDE	SUS420J2	*4	1
137	BALL BEARING LOCKNUT & WASHER	SS400		1S	916	BOWL WEARING	SUS420J2	≥HB400	8	3000	MECHANICAL SEAL			1
212	BEARING HOUSING COVER	SS400		1	933	PRESSURE REDUCING BEARING	S25C/CARBON		1	3003	BEARING HOUSING COVER-BOTTOM	SS400		1
393	BEARING HOUSING	S25C		1	968	COLUMN ASSEMBLY WITH BRG	STPG370/SM400B		2	3010	BOLT (MOTOR MOUNT)	SS400		4
492	OIL STACK	SS400		1	969	LINE SHAFT BEARING	CARBON		2					
701	SHAFT	SUS420J2		1	1010	O-RING	NBR		1					
706	BOWL	SCPH2		8	1020	O-RING	NBR		1					
707	LOWER BEARING	SCPH2		1	1025	COOLING FAN	ALUMINUM		1					
710	BOWL BUSHING	CARBON		8	1026	COOLING FAN COVER	SS400		1					
711	LOWER BEARING BUSHING	CARBON		1	1101	DRAIN PIPE & FLANGE	STPG370/SFVC2A		1S					
712	IMPELLER	SCPH2		7	1151	SOLE PLATE	SS400		1					
713	IMPELLER KEY	SUS403		8	1712	RAD. IMP. WRG - SUC. SIDE	SUS420J2	*1	7					
714	BOWL WEARING	SUS420J2	≥HB400	7	1791	SUC. IMP. WRG - SUC. SIDE	SUS420J2	*2	1					
716	ADJUSTING SCREW	SUS316		1	2010	BOLT & NUT (BOWL-BOWL)	SUS316		84					
717	ADJUSTING SCREW LOCKNUT	SUS316		1	2011	BOLT & NUT (BOWL-LOW BEARING)	SUS316		12					
728	COLUMN	STPG370/SM400B		1	2013	BOLT & NUT (COLUMN-BOWL)	SUS316		12					
731	PACKING HOUSING	SF440A		1	2014	BOLT & NUT (COLUMN-COLUMN)	SUS316		24					
772	OUTER CASE	STPG370/SM400B		1	2015	BOLT & NUT (HEAD-COLUMN)	SUS316		12					
773	DRIVER MOUNT	SS400		1	2016	BOLT & NUT (P. REDUC. BRG. -HEAD)	SUS316		4					
774	DRIVER SHAFT			1	2017	BOLT (PACKING HSG. -HEAD)	SNB7		8					
775	HEAD GASKET	SUS304/GRAFOIL		1	2018	NUT	S45C		8					
776	PACKING HOUSING GASKET	SUS304/GRAFOIL		1	2019	BOLT (MECH. SEAL-PACKING HSG.)	SNB7		4					

SNM ORDER NO.		SON-1X-47324			
PUMP TYPE		CZ 5/813-8			
MAT'L CODE		S-5			
3					
2					
1					
0	2012/06/01				FOR APPR.
REV NO.	DATE	CHEK' D	REV' D	APP' D	NOTE
					
PUMP DESIGN SECTION					
CROSS SECTIONAL DRAWING					
DWG. NO.	3PS-47324				

JIS/ASTM MATERIAL EQUIVALENT LIST

p. 2

MATERIAL CLASS	JIS MATERIAL	APPLICATION	ASTM MATERIAL	NOTE
CAST IRON	G5501/FC250	PRESSURE CASTINGS	A278CLASS40	
		GENERAL CASTINGS	A48CLASS40	
CARBON STEEL	G5151/SCPH2	CASTINGS	A216Gr.WCB	
	G5152/SCPL1	CASTINGS	A352Gr.LCB	FOR LOW TEMP.
	G3201/SF440A	FORGINGS	A668CLASS C	
	G3202/SFVC2A	FORGINGS	A266CLASS2	
		FITTINGS	A105	
	G3205/SFL2	FORGINGS,FITTINGS	A350Gr.LF2	FOR LOW TEMP.
	G4051/S25C	BAR	A576Gr.1025	
		FITTINGS	A105	
	G4051/S45C	BAR	A576Gr.1045	
		NUT	A194Gr.2H	
	G4051/S50C	BAR	A576Gr.1049	
	G4107/SNB7	BOLT	A193Gr.B7	
	G4105/SCM440	BAR	A434CLASS BB	
	G4105/SCM435	BOLT	A322Gr.4137	
	G3106/SM400B	PLATE	A516Gr.65/70	
	G3101/SS400	PLATE	A36	
		BOLTING	A307Gr.B	
	G3454/STPG370	PIPE	A53Gr.A	
	G3456/STPT370	PIPE	A106Gr.A	
	G3460/STPL380	PIPE	A524Gr.II	FOR LOW TEMP.
	-	BOLT	A320Gr.L7	FOR LOW TEMP.
	-	NUT	A194Gr.4	FOR LOW TEMP.
	G4107/SNB16	BOLT	A193Gr.B16	
1%CHROME STEEL	G3203/SFVA F11A	FORGINGS,FITTINGS	A182Gr.F11CLASS2	
	G3458/STPA23	PIPE	A335Gr.P11	
5%CHROME STEEL	G3203/SFVA F5C	FORGINGS,FITTINGS	A182Gr.F5a	
	G3458/STPA25	PIPE	A335Gr.P5	
12%CHROME STEEL	G5121/SCS1T2	PRESSURE CASTINGS	A217Gr.CA15	
		GENERAL CASTINGS	A743Gr.CA15	
	G5121/SCS6	PRESSURE CASTINGS	A487Gr.CA6NM	
		GENERAL CASTINGS	A743Gr.CA6NM	
	G5121/SCS2	GENERAL CASTINGS	A743Gr.CA40	
	G3214/SUSF410B	FORGINGS,FITTINGS	A182Gr.F6aClass2	
	G4303/SUS420J2	BAR	A276TYPE420	
	G4303/SUS403	BAR	A276TYPE403	
	G4303/SUS410	BAR	A276TYPE410	
	G4303/SUS403	PLATE,SHEET,STRIP	A176TYPE403	

JIS/ASTM MATERIAL EQUIVALENT LIST

p. 3

MATERIAL CLASS	JIS MATERIAL	APPLICATION	ASTM MATERIAL	NOTE
AUSTENITIC STAINLESS STEEL	G5121/SCS13A,SCS13	PRESSURE CASTINGS	A351Gr.CF8	
		GENERAL CASTINGS	A743Gr.CF8	
	G5121/SCS14A,SCS14	PRESSURE CASTINGS	A351Gr.CF8M	
		GENERAL CASTINGS	A743Gr.CF8M	
	G5121/SCS16A,SCS16	PRESSURE CASTINGS	A351Gr.CF3M	
		GENERAL CASTINGS	A743Gr.CF3M	
	G5121/SCS19A,SCS19	PRESSURE CASTINGS	A351Gr.CF3	
		GENERAL CASTINGS	A743Gr.CF3	
	G3214/SUSF304	FORGINGS,FITTINGS	A182Gr.F304	
	G3214/SUSF316	FORGINGS,FITTINGS	A182Gr.F316	
	G4303/SUS304	BAR	A276TYPE304	
		BOLT	A193Gr.B8	
		NUT	A194Gr.8	
	G4303/SUS316	BAR	A276TYPE316	
		BOLT	A193Gr.B8M	
		NUT	A194Gr.8M	
AUSTENITIC CAST IRON	NIRESIST NO.2 (G5510/FCA-NiCr202)	CASTINGS	A436TYPE2	
AUSTENITIC DUCTILE IRON	NIRESIST NO.D2 (G5510/FCDA-NiCr202)	CASTINGS	A439TYPE D2	
ALLOY20	ALLOY20	CASTINGS	A744Gr.CN7M	
		BAR	B473	
BRONZE	H5111/BC3	CASTINGS	B584 C90500	
	H5111/BC6	CASTINGS	B584 C83600	
17%CHROME STEEL	G4303/SUS440C	BAR	S44004	
PRECIPITATION HARDENING STAINLESS	G5121/SCS24	CASTINGS	A747CB 7CU-1	
	17-4 PH	BAR	17-4 PH	
HASTELLOY C	HASTELLOY C	BAR	HASTELLOY C	
MALLEABLE IRON CASTINGS	G5702/FCMB	CASTINGS	A47	GAS BREATHER
		FITTINGS	A338	
WHITE METAL	H5401/WJ2	WHITE METAL	B23	SLEEVE BEARING

